

# 2012 Winter Conference on Plasma Spectrochemistry

## Preliminary Program

Monday, January 9, 2012

07:55 Opening and Welcome

**08:00 PL01 Advances in Plasma Spectrochemistry**, Gary M. Hieftje, Indiana University, Department of Chemistry, 800 E. Kirkwood Avenue, Bloomington IN 47405-7102, hieftje@indiana.edu; Steven J. Ray, George Chan, Jacob T. Shelley, Alexander W.G. Graham, Elise Dennis, Andrew Schwartz, Zheng Wang, *et al.*

### 1. Sample Introduction and Transport Phenomena

**09:00 IL01 Recent Developments in Sample Introduction**, Nicolas Bings, Johannes Gutenberg - University of Mainz, Inorganic and Analytical Chemistry, Laboratory for Inorganic Trace Analysis, Duesbergweg 10-14, D-55128 Mainz, Germany, bings@uni-mainz.de; Jan O. Orlandini v. Niessen, J. Niklas Schaper, Jan H. Petersen

**09:30 IL02 Analyzing Petroleum Derivatives Through ICP-AES**, José Todolí, University of Alicante, Department of Analytical Chemistry, Nutrition and Food Science, P.O. Box 99, E-03080 Alicante, Spain, jose.todoli@ua.es; Raquel Sánchez, Charles P. Lienemann, Jean-Michel Mermet

**10:20 IL03 Recent Advances in Sample Introduction for Plasma Emission and Mass Spectrometry**, Margaretha de Loos-Vollebregt, Delft University of Technology, Faculty of Applied Sciences, Analytical Biotechnology, Julianalaan 67, NL-2628 BC Delft, The Netherlands, m.t.c.delooos-vollerbregt@tudelft.nl

**10:50 M01 Development of New Sample Introduction Systems for Single Cells Based on Direct Injection and Laser Ablation**, Kaori Shigeta, Tokyo Institute of Technology, Department of Energy Sciences, Okino Lab, J2-32, 4259 Nagatsuta-cho, Midori, Yokohama 226-8502, Japan, kaori.shigeta@bam.de; Larissa Wäntig, Yuki Kaburaki, Takshiro Iwai, Hidekazu Miyahara, Akitoshi Okino, Norbert Jakubowski

**11:05 M02 Development and Characterization of Aerosol Entrainment Devices for Atmospheric Sampling LA-ICPMS**, Daniel Tabersky, ETH Zurich, Department of Chemistry and Applied Biosciences, Wolfgang-Pauli-Strasse 10, CH-8093 Zurich, Switzerland, tabersky@inorg.chem.ethz.ch; Ivo de Maddalena, Rolf Dietiker, Sebastian Breitenbach, Detlef Günther

**11:20 M03 Direct Molecular Analysis of Complex Liquid Micro-Volume Samples with the Flowing Atmospheric-Pressure Afterglow Desorption/Ionization Source Coupled to a Drop-on-Demand Generator**, J. Niklas Schaper, Johannes Gutenberg-University Mainz, Institute for Inorganic and Analytical Chemistry, Duesbergweg 10-14, D-55128 Mainz, Germany, schapern@uni-mainz.de; Jacob T. Shelley, Kevin P. Pfeuffer, Jan H. Petersen, Jan O. Oriandini v. Niessen, Nicholas H. Bings, Gary M. Hieftje

**11:35 M04 Comparison of Novel and Conventional Calibration Techniques for the Analysis of Real Samples Using Plasma Source Mass Spectrometry Combined with a Novel Drop-on-Demand Aerosol Generator**, Jan O. Orlandini v. Niessen, Johannes Gutenberg-University Mainz, Institute for Inorganic and Analytical Chemistry, Duesbergweg 10-14, D-55128 Mainz, Germany, orlandini.von.niessen@uni-mainz.de; Jan H. Petersen, J. Niklas Schaper, Nicholas H. Bings

**11:50 M05 Electrothermal Vaporization - ICP-MS Analysis of Cigarette Smoke for Chromium, Manganese, Cobalt, Nickel, Arsenic, Cadmium, and Lead**, R. Steven Pappas, Centers for Disease Control & Prevention, Emergency Response & Air Toxicants Branch, 4770 Buford Hwy NE Mail Stop F44, Atlanta GA 30341-3717, rpappas@cdc.gov; Mark R. Fresquez, Clifford H. Watson

### 2. Nanomaterial Analyses and Characterization

**1:00 IL04 Determination of Trace Elements in Airborne Nano-Particles (ANPs) and Real Time Monitoring by Direct Introduction into ICP-MS**, Naoki Furuta, Chuo University, Department of Applied Chemistry, 1-13-27 Kasuga, Bunkyo-ku, Tokyo 112-8551, Japan, nfuruta@chem.chuo-u.ac.jp; Hikaru Sato, Yoshinari Suzuki

**1:30 IL05 Liquid Chromatography and Gel Electrophoresis Coupled to ICP-MS as an Alternative Tool for the Determination of Gold and Silver Nanoparticles**, Jörg Bettmer, University of Oviedo, Department of Physical and Analytical Chemistry, Julian Claveria 8, Chemistry, E-33006 Oviedo, Spain, bettmerjorg@uniovi.es; Juan Soto Alvaredo, Francisco Javier Alonso Garcia, Maria Montes-Bayón, Elisa Blanco González

**2:00 M06 Size-Based Elemental Speciation Strategies for the Characterisation of Nanomaterials Relevant to Life Sciences Using Asymmetric Field Flow Fractionation Coupled to ICP-MS**, Heidi Goenaga-Infante, LGC Limited, Queens Road, Teddington, Middlesex TW11 OLY, United Kingdom, heidi.goenaga-Infante@lgc.co.uk; Julien Heroult, Volker Nischwitz

**2:20 M07 FFF-LS-UV-FL-ICP-MS of Silver and Gold Nanoparticles**, Katrin Loeschner, Technical University of Denmark, National Food Institute, 19, Mørkhøj Bygade, Bldg B, Rm B, DK-2860 Soborg, Denmark, ehlar@food.dtu.dk

**2:40 M08 Laser Ablation ICP-MS for Nanoparticle Toxicology Studies**, Brian Jackson, Dartmouth College, Department of Earth Sciences, Trace Element Analysis Lab, HB 610, Fairchild Bldg., Hanover NH 03755, bpj@dartmouth.edu; James Ranville, Celia Chen

**3:20 M09 Analysis of Metal-Containing Nanoparticles Using Single-Particle ICP-MS**, James F. Ranville, Colorado School of Mines, Department of Chemistry and Geochemistry, Golden CO 80401, jranvill@mines.edu; R. Reed, D. Mitrano, H. Pace, H. Fairbrither, C. Higgins

- 3:40 M10 New Approaches to Biodistribution Studies of Inorganic Nanoparticles by Inductively Coupled Plasma Mass Spectrometry (ICPMS)**, Petra Krystek, Institute for Environmental Studies (IVM), VU University Amsterdam, De Boelelaan 1087, NL-1081 HV Amsterdam, The Netherlands, petra.krystek@ivm.vu.nl
- 4:00 M11 Exploration of the Uptake of Functionalized-Gold Nanoparticles by Rice Plants Using Laser Ablation-Inductively Coupled Plasma - Mass Spectrometry (LA-ICP-MS)**, Dula Amarasiriwardena, Hampshire College, School of Natural Science, 893 West Street, Amherst MA 01002-5001, dula@hampshire.edu; Jeremy Koelmel, Thomas Leland, Huanhua Wang, Baoshan Xing
- 4:20 M12 Characterization of Au and Ag Nanoparticles Using FFF-ICP-MS**, James F. Ranville, Colorado School of Mines, Department of Chemistry and Geochemistry, Golden CO 80401, jranvill@mines.edu; E. Gray, D. Mitrano, A. Bednar, A. Podar, C. Higgins, P. Westerhoff
- 4:40 M13 A New Trace Metal Enrichment Procedure for ICP-OES Analysis Based on Renewable Surface Approach**, Gerald Bauer, Vienna University of Technology, Institute of Chemical Technologies and Analytics, Getreidemarkt 9/164-IAC, A-1060 Vienna, Austria, e05260@student.tuwien.ac.at; Andreas Limbeck
- 5:00 M14 Novel Methods for Quantification/Speciation of Silver Nanoparticles and Their Biproducts Using Induced Toxicity of Algae in Simulated Sea Water**, Traci Hanley, University of Cincinnati, Department of Chemistry, Mail Location 0172, 404 Crosley Tower, PO Box 210172, Cincinnati OH 45221-0172, hanleyta@mail.uc.edu; Cheolho Yoon, Cierra Bell, Ryan Saadawi, Joseph Caruso

### *Heritage Lecture*

- 5:30 HL01 Flow Injection Analysis -- From Beaker to Microfluidics**, Jaromir Ruzicka, University of Hawaii, 7229 Makaa St, Honolulu HI 96825, jarda@flowinjection.com

*Tuesday, January 10, 2012*

### **3. Laser Assisted Plasma Spectrochemistry and Laser-Induced Breakdown Spectroscopy**

- 08:00 PL02 Laser Ablation: 50 Years New**, Rick E. Russo, Lawrence Berkeley National Laboratory, 1 Cyclotron Road, MS 70-108B, Berkeley CA 94720, rerusso@lbl.gov
- 09:00 IL06 Fundamental Studies on Laser-Generated and Engineered Nanoparticles by ICP-MS**, Detlef Günther, ETH Zürich, Department of Chemistry and Applied Biosciences, HC, G113, Wolfgang-Pauli Str. 10, CH-8093 Zürich, Switzerland, guenther@inorg.chem.ethz.ch; S. Gschwind, O. Borovinskaya, J. Koch, L. Flamigni
- 09:30 IL07 New Directions in Laser Ablation - Inductively Coupled Plasma Mass Spectrometry**, Barry L. Sharp, Loughborough University of Technology, Department of Chemistry, Centre for Analytical Science, Loughborough, Leicestershire LE11 3TU, United Kingdom, b.l.sharp@lboro.ac.uk
- 10:20 T01 Capabilities of a Portable Laser Ablation Sampling Device -- Accessing Objects Outside the Lab by LA-ICPMS**, Reto Glaus, ETH Zürich, Department of Chemistry and Applied Biosciences, Wolfgang-Pauli-Strasse 10, CH-8093 Zurich, Switzerland, glaus@inorg.chem.ethz.ch; Joachim Koch, Detlef Günther
- 10:40 T02 Combined LIBS/LA-ICP-MS Analysis of Extraterrestrial Materials**, Jemma Davidson, University of Arizona, Department of Planetary Science, Lunar and Planetary Laboratory, Tucson AZ 85721, davidson@lpl.arizona.edu; Dante S. Lauretta, William Verts, Alexandre Andronikov
- 11:00 T03 Laser-Induced Breakdown Spectroscopy for the Determination and Characterization of Counterfeit Drugs**, Lydia Breckenridge, Bristol-Myers Squibb Co., Pharmaceutical Research Institute, Mail Stop 107-1-1250, 1 Squibb Drive, New Brunswick NJ 08903-0191, lydia.breckenridge@bms.com; Nancy Lewen
- 11:20 T04 Fundamental Time-Resolved Mass Spectrometry of Laser-Induced Plasmas for Organic Analysis**, CheonHa Jeon, University of Central Florida, Townes Laser Institute, CREOL, College of Optics and Photonics, 4000 Central Florida Blvd, Orlando FL 32816, cheonhajeon@creol.ucf.edu; Mattieu Baudelet, Martin Richardson
- 11:40 T05 A LA-ICP-MS Calibration Strategy Using Matrix-Matched Standards for the Quantitative Imaging of Iron in Biological Tissues**, Jennifer O'Reilly, LGC Ltd., Queens Road, Teddington, Middlesex TW11 0LY, United Kingdom, jennifer.oreilly@lgcgroup.com; Po-Wah So, Julian Braybrook, Heidi Goenaga-Infante

### **4. Imaging Plasma Mass Spectrometry**

- 1:00 IL08 Advanced Mass Spectrometry Imaging (MSI) of Metals and Biomolecules in Brain -- BrainMet**, J. Sabine Becker, Research Centre Jülich, Central Division of Analytical Chemistry, D-52425 Jülich, Germany, s.becker@fz-juelich.de
- 2:00 IL09 Quantitative Determination and Mapping of Trace Element Concentrations in Geochemistry**, Simon Jackson, Geological Survey of Canada, 601 Booth St, Ottawa, ON K1A 5P5, Canada, simon.jackson@nrcan.gc.ca; Steve Shuttleworth, Louis J. Cabri
- 2:30 T06 Histopathological Imaging by LA-ICP-MS**, Charlotte Giesen, BAM Federal Institute for Materials Research and Testing, Richard-Willstätter-Str. 11, D-12489 Berlin, Germany, charlotte.giesen@bam.de; Larissa Wäntig, Thomas Mairinger, Ulrich Panne, Norbert Jakubowski
- 2:50 T07 Three-Dimensional Elemental Bio-Imaging of the Mouse Brain: Will the Trace Element Atlas Be a Useful Tool for Functional Neuroscience?** Dominic Hare, University of Technology, Sydney, Element Bio-imaging Facility, PO Box

## Tuesday Poster Session

### Sample Introduction and Transport Phenomena

- 3:00 TP01 CFD Calculations for Design of Fast Washout Ablation Cells**, Doetiker Rolf, ETH Zurich, HCI G109, Wolfgang-Pauli Strasse 10, CH-8093 Zurich, Switzerland, dietiker@inorg.chem.ethz.ch; Detlef Günther
- 3:00 TP02 Characterization of the Frame Cell and Its Application to Mapping**, Dhinesh Asogan, CETAC Technologies, 14036 Industrial Road, Omaha NE 68144-3334, dasogan@cetac.com; Fred Smith, Steve Shuttleworth
- 3:00 TP03 Plasma Dynamics and Aerosol Transport Phenomena in fs-LA-ICP-MS**, Nicole L. LaHaye, Purdue University, School of Nuclear Engineering, 500 Central Dr. Room #374, West Lafayette IN 47907, nlahaye@purdue.edu; Sivanandan S. Harilal, Ahmed Hassanein
- 3:00 TP03b ICP Diagnostic Studies for the Determination of Complete Vaporization Point for LA-Produced Aerosols**, Luca Flamigni, ETH Zurich, Department of Chemistry and Applied Biosciences HCI G141, Wolfgang-Pauli Strasse 10, CH-8093 Zurich, Switzerland, flamigni@inorg.chem.ethz.ch; Joachim Koch, Detlef Günther
- 3:00 TP04 Development of a Novel Calibration Strategy for Laser Ablation Inductively Coupled Plasma Mass Spectrometry Based on the Ablation of Dried Residues of Standard Solution Generated by a Picolitre Drop-on-Demand Generator**, Jan H. Petersen, Johannes Gutenberg-University Mainz, Institute for Inorganic and Analytical Chemistry, Duesbergweg 10-14, D-55128 Mainz, Germany, petersen@uni-mainz.de; Jan O. Oriandini v. Niessen, J. Niklas Schaper, Nicholas H. Bings
- 3:00 TP05 Improving the Analytical Performance of ICP-AES by Using a High-Temperature Single Pass Spray Chamber and Segmented Injections Micro-Sample Introduction**, José Luís Todolí, University of Alicante, Department of Analytical Chemistry, Nutrition and Food Science, P.O. Box 99, E-03080 Alicante, Spain, jose.todoli@ua.es; Raquel Sanchez, Francisco Ardini, Marco Grotti
- 3:00 TP06 Optimization and Comparison of Detection Modes and Operating Parameters in the Optical Inductively Coupled Plasma with Individual Monodisperse Droplets**, George Chan, Indiana University, Department of Chemistry, 800 E. Kirkwood Ave., Bloomington IN 47405, gcchan@indiana.edu; Zhenli Zhu, Gary Hieftje
- 3:00 TP07 Use of Enhanced Nebulizer Systems for Very Hard Water Analysis Using ICP-AES Detection**, Fred G. Smith, CETAC Technologies, 14036 Industrial Road, Omaha NE 68144-3334, fsmith@cetac.com
- 3:00 TP08 Introduction of Naphtha Using an Enhanced Temperature Controlled Nebulizer System with ICP-AES Detection**, Fred G. Smith, CETAC Technologies, 14036 Industrial Road, Omaha NE 68144-3334, fsmith@cetac.com
- 3:00 TP09 Transient Sample Introduction into ICP-MS with a Novel Flow Drop-on-Demand Aerosol Generator**, J. Niklas Schaper, Johannes Gutenberg-University Mainz, Institute for Inorganic and Analytical Chemistry, Duesbergweg 10-14, D-55128 Mainz, Germany, schapern@uni-mainz.de; Jan H. Petersen, Jan O. Oriandini v. Niessen, Nicholas H. Bings
- 3:00 TP10 Analysis of Multi-Elements in a Single Cell Using Droplet Direct Injection ICP-TOFMS**, Yuki Kaburaki, Tokyo Institute of Technology, 4259-J2-32 Nagatsuta-cho, Midori-ku, Yokohama 226-8502 Kanagawa, Japan, kaburaki@plasma.es.titech.ac.jp; Tomokazu Kozuma, Takahiro Iwai, Kaori Shiegit, hidekazu Miyahara, Akitoshi Okino
- 3:00 TP11 Mass Distribution of Metal and Metal Oxide Nanoparticles Embedded in Microdroplets by ICP-MS**, Sabrina Gschwind, ETH Zurich, Department of Chemistry and Applied Biosciences HCI G141, Wolfgang-Pauli Strasse 10, CH-8093 Zurich, Switzerland, gschwind@inorg.chem.ethz.ch; Daniel A. Frick, Luca Flamigni, Joachim Koch, Detlef Günther
- 3:00 TP12 Direct Inject Nebulization with ICP-OES for the Determination of Trace Elements Including Silicon in Crude Oils**, Maura Rury, Teledyne Leeman Labs, 6 Wentworth Drive, Hudson NH 03051, mrury@teledyne.com; Manuel Almeida, Peter Brown
- 3:00 TP13 Characteristics of a Syringe Driven Sample Introduction Accessory for ICP Spectrometry**, Ryan Brennan, Glass Expansion, Inc., 4 Barlows Landing Road, Suite 2A, Pocasset MA 02559-1983, jdulude@geicp.com; Jerry Dulude, Scott Bridger, Vesna Dolic
- 3:00 TP14 Fully Automated High Throughput Analysis with Intelligent Auto-Dilution for Multielement Quantification in Aqueous and Organic Matrices with ICP-W-MS**, Tomoko Oki, Thermo Fisher Scientific Bremen, Hanna-Kunath Str. 11, D-28199 Bremen, Germany, tomoko.oki@thermofisher.com; Jianfeng Cui, Meike Hamester, Dan Wiederin

### Nanomaterial Analyses and Characterization

- 3:00 TP15 The Quantification of TiO<sub>2</sub> Nano Particles in Sunscreen with ICP-OES**, Uwe Oppermann, Shimadzu Europa GmbH, D-47269 Duisburg, Germany, uo@shimadzu.eu; Juergen Schram, Markus Ortlieb
- 3:00 TP16 Characterization of Doped Polymeric Single and Multilayer Systems as Reference Materials**, Gregor Christoph Schwartze, Leibniz University of Hannover, Institute of Inorganic Chemistry, Callinstrasse 9, D-30167 Hannover, Germany, schwartze@acc.uni-hannover.de; Ina Schaumann, Lars Lühl, Birgit Kanngiesser, Carla Vogt
- 3:00 TP17 Single Particle Analysis Using Inductively Coupled Plasma Mass Spectrometry**, Craig S. Westphal, DuPont Experimental Station, Corporate Center for Analytical Sciences, Bldg E228/143, Rt. 141 and Henry Clay Road., Wilmington DE 19880-0228, craig.westphal@usa.dupont.com

- 3:00 TP18 Studying Environmental Transformations of Silver Nanoparticles by Single-Particle Inductively Coupled Plasma Mass Spectrometry**, Edward M. Heithmar, U.S. Environmental Protection Agency, Office of Research and Development, 944 E. Harmon Avenue, Las Vegas NV 89119, heithmar.ed@epa.gov; Emily Siska
- 3:00 TP19 Advances in the Quantitative Analysis of Nanomaterials Using Plasma Source Mass Spectrometry**, Tobias Fiedler, Johannes Gutenberg-University Mainz, Institute for Inorganic and Analytical Chemistry, Duesbergweg 10-14, D-55128 Mainz, Germany, tobias.fiedler@uni-mainz.de; Jan-Hendrik Arndt, Jan O. Orlandini von Niessen, Nicolas H. Bings
- 3:00 TP20 Nanoparticles, the Products of Combustion**, Abdollah Esmaeili, Islamic Azad University, Omidieh Branch, Omidieh, Iran, esmaily\_ab@yahoo.com
- 3:00 TP21 Optical and Electrical Properties of RNA Mediated Ag-Polymer Nanobiocomposites**, Vidhi Chaudhary, Indian Institute of Technology Patna, Patliputra Colony, Patna-13, Bihar, India, nutan.tomar@gmail.com; Anil Kumar Bhowmick
- 3:00 TP22 Investigation in the Use of Agricultural Waste Nanocrystals for Natural Rubber Compounding**, Adeola Shobo, Moshood Abiola Polytechnic, Department of Pharmaceutical Technology, P.M.B. 2210, Ojere, Abeokuta 234, Ogun State, Nigeria, ashobo2003@yahoo.com; Akinlabi Akinola

### **Laser Assisted Plasma Spectrochemistry and Laser-Induced Breakdown Spectroscopy**

- 3:00 TP23 Towards Accurate LA-ICPMS Analysis: Assessing the Extent of Laser-Induced Matrix Effects**, Leonid Danyushevsky, University of Tasmania, CODES, Private Bag 79, Hobart, TAS 7001, Australia, l.dan@utas.edu.au; Sarah Gilbert, Marcel Guillong
- 3:00 TP24 Laser Ablation - Inductively Coupled Plasma - Mass Spectrometry (LA-ICP-MS) in Undergraduate Analytical Chemistry Curriculum**, Dula Amarasiriwardena, Hampshire College, School of Natural Science, 893 West Street, Amherst MA 01002-5001, dula@hampshire.edu
- 3:00 TP25 The Fate of Carbon in LA-ICP-MS -- Implications for the Analysis of Biomaterials**, Daniel A. Frick, ETH Zurich, Department of Chemistry and Applied Biosciences HCI G120, Wolfgang-Pauli Strasse 10, CH-8093 Zurich, Switzerland, frick@inorg.chem.ethz.ch; Steffen Allner, Joachim Koch, Detlef Günther
- 3:00 TP26 Reduced Detection Limits Enhanced Sensitivity for Fluid Inclusion Analysis with Laser Ablation ICP-MS Using a Dynamic Reaction Cell and Hydrogen Addition to the Carrier Gas**, Markus Wälle, ETH Zurich, Inst. Isotopengeologie und Mineralische Rohstoffe, Clausustr. 25, NW F 86.1, CH-8092 Zürich, Switzerland, waelle@erdw.ethz.ch; Christoph A. Heinrich
- 3:00 TP27 Stable Isotope Ratio Measurements on Biological Samples by Cryo-LA-ICP-TOF-MS**, Stephen M. Monk, Towson University, Dept of Physics, Astronomy, and Geosciences, Urban Environmental Biogeochemistry Laboratory, 8000 York Rd, Towson MD 21252-0001, smonk@towson.edu; Steven M. Lev
- 3:00 TP28 Analysis of Visible and Invisible Defects in High Purity Silica by LA-ICP-MS**, Ela Bakowska, Corning Incorporated, CMP SP-FR-06, Corning NY 14831, bakowskae@corning.com; Stephen Kuenzli, Tatiana Trejos, Amir Liba, Steven Shuttleworth, Simon Jackson
- 3:00 TP29 Application of LA-ICP-MS for Quality and Quantity Evaluation of Elements Migration in Human Teeth**, Danuta Baralkiewicz, Adam Mickiewicz University, Department of Trace Elements Analysis by Spectro, 6 Grunwaldzka St, PL-60-780 Poznan, Poland, danutaba@amu.edu.pl; Anetta Hanc, Aneta Olszewska
- 3:00 TP30 Analysis of Optical Breakdown in Tap and Pure Water by  $\lambda = 1064$  nm Nanosecond Pulses**, Valery Bulatov, Technion - Israel Institute of Technology, Schulich Faculty of Chemistry, Haifa 32000, Israel, chr21bv@technion.ac.il; Tatiana Kovalchuk, Grigory Toker, Israel Schechter
- 3:00 TP31 Wavelength Optimization in Dense Wavelength Division Multiplexing (DWDM) to Enhance Free-Space Optical Communications (FSO)**, Mohamed El-Faham, Egyptian Armed Forces, 1 Said Dawood Street Elmaadi, Cairo 11728, Egypt, osaka\_0101@yahoo.com; Osama Mostafa Khalil, Mohamed Abd El-Hareth
- 3:00 TP32 Analysis and Pre-Concentration of Aqueous Samples for Laser-Induced Breakdown Spectroscopy**, Scott R. Goode, University of South Carolina, Department of Chemistry and Biochemistry, 631 Sumter Street, Columbia SC 29208, goode@sc.edu; Amelia Taylor-Perry
- 3:00 TP33 Gas Analysis by Laser-Induced Breakdown Spectroscopy**, Abdollah Esmaeili, Islamic Azad University, Omidieh Branch, Omidieh, Iran, esmaily\_ab@yahoo.com
- 3:00 TP34 Water Analysis by Laser Induced Breakdown Spectroscopy**, Maryam Dehghani, National Iranian South Oil Company, NISOC, Omidieh, Iran, esmaily\_ab@yahoo.com
- 3:00 TP35 Advanced LIBS Methodology for Food and Environment Monitoring**, Yuan Liu, University of Central Florida, Townes Laser Institute, CREOL, College of Optics and Photonics, 4000 Central Florida Blvd, Orlando FL 32816, yuanliu@creol.ucf.edu; Marc Koehler, Matthieu Baudelet, Martin Richardson

### **Imaging Plasma Mass Spectrometry**

- 3:00 TP36 Identification and Application of Internally Normalizing Trace Element for Quantitative LA-ICP-MS Analysis of Rat Brain Thick Sections**, Nicole J. Tibbetts, GE Global Research, One Research Circle, K1-2D39, Niskayuna NY 12309, tibbetts@ge.com; Denise A. Anderson, Srabani Bhaumik, Nicole E. LaPlante, Brian D. Lee, Christine A. Morton, Dan E. Meyer

- 3:00 TP37 Quantitative Bioimaging of Neurodegenerative-Diseased Brain Tissues via LA and LMD-ICP-MS**, Alessandra Sussulini, Research Centre Jülich, Central Division of Analytical Chemistry, D-52425 Jülich, Germany, a.sussulini@fz-juelich.de, s.becker@fz-juelich.de; J. Sabine Becker
- 3:00 TP38 Imaging of Metals on Eye Sections Using LA-ICP-MS: A New Tool for the Study of Age-Related Eye Diseases**, María Luisa Fernández Sanchez, University of Oviedo, Faculty of Chemistry, Department of Physical and Analytical Chemistry, Julian Claveria, 8, E-33006 Oviedo, Spain, marisafs@uniovi.es; Alfredo Sanz-Medel, Beatriz Fernandez, Rosario Pereiro, Ioanna King
- 3:00 TP39 Structural, Elemental and Isotopic Mapping Analysis with Laser Ablation ICP-MS and LIBS Instruments**, Jong H. Yoo, Applied Spectra Inc., 46661 Fremond Blvd., Fremont, CA 94538; jyoo@appliedspectra.com, Alexander A. Bol'shakov, Jhanis J. Ganzalez, Richard E. Russo

### **(WS1) Workshop New Plasma Instrumentation**

- 3:10 WS101 Analytical Performance Comparison of Spray Chamber Design for ICP-MS**, Jerry Dulude, Glass Expansion, Inc., 4 Barlows Landing Road, Suite 2A, Pocasset MA 02559-1983, jdulude@geicp.com; Ryan Brennan, Vesna Dolic
- 3:25 WS102 Evaluation of a Sample Introduction System for ICP-OES Than Can Simultaneously Determine Hydride and Non-Hydride Forming Elements with a High Efficiency Nebulizer**, Glyn Russell, Agilent Technologies Australia Pty Ltd, 679 Springvale Rd, Mulgrave Victoria 3170, Australia, glyn.russell@agilent.com; Dennis Hoobin
- 3:40 WS103 Small Sampling Volume LA-MC-ICP-MS**, Nicholas S. Lloyd, Thermo Fisher Scientific, Hanna-Kuanth Str. 11, D-28199 Bremen, Germany, nicholas.lloyd@thermofisher.com; Steve Shuttleworth, Claudia Bouman, John Roy, Johannes B. Schwieters
- 3:55 WS104 MP-AES -- A Revolution in Atomic Spectroscopy**, Michael Hammer, Agilent Technologies Pty Ltd, 679 Springvale Rd, Mulgrave, Melbourne 3170, Australia, mike.hammer@agilent.com; Craig Taylor
- 4:10 WS105 The Next Step in Reaction Cell ICP-MS -- Advancing the Technology**, Noriyuki Yamada, Agilent Technologies International Japan, Ltd., 9-1, Takakura-cho, Hachioji-shi, Tokyo 192-0033, Japan, noriyuki.yamada@agilent.com; Takeo Kuwabara, Hironori Yamada, Takashi Kondo
- 4:25 WS106 Eliminating Challenging Interferences on As, Se, and Ti Using ICP-MS Incorporating Novel Next Generation Cell Technology**, Amir Liba, Agilent Technologies, 2850 Centerville Road, Wilmington DE 19808, amir\_liba@agilent.com
- 4:40 WS107 Fundamental Performance of a Benchtop Single Reaction Chamber Microwave Digestion System**, Timothy Michel, Milestone, Inc., 25 Controls Drive, Shelton CT 06484, tjm@milestonesci.com
- 4:55 WS108 Critical Assessment of Closed Microwave Digestion Vessels with Controlled Pressure Release**, Reynhardt Klopper, Anton Paar USA Inc., 10215 Timber Ridge Drive, Ashland VA 23005, reynhardt.klopper@anton-paar.com; Markus Michaelis
- 5:10 WS109 CEM's Experiences with Microwave Sample Preparation of Pharmaceutical Samples for the Approaching USP Method 233**, Jason Keith, CEM Corporation, PO Box 200, Matthews NC 28106, jason.keith@cem.com; Tina Restivo, Elaine Hasty, Ivana Mrvalj, Bob Lockerman, Michael Collins Jr.

### **Heritage Lecture**

- 5:30 HL02 Inductively Coupled Plasma Mass Spectrometry: A Personal Odyssey, Trials, Tribulations, Problems, and Successes**, Henry P. Longerich, Memorial University of Newfoundland, Department of Earth Sciences, St. John's, NL A1B 3X5, Canada, henryl@mun.ca

### **Wednesday, January 11, 2012**

#### **5. Fundamentals, Instrumentation, and Mechanisms**

- 08:00 PL03 Microfabricated Devices for Analytical and Bioanalytical Chemistry**, J. Michael Ramsey, University of North Carolina, 251 Chapman Hall, Chapel Hill NC 27599-3216, jmramsey@unc.edu
- 09:00 IL10 Matrix Effects in Inductively Coupled Plasma Spectroscopies Revisited**, Paul B. Farnsworth, Brigham Young University, Department of Chemistry and Biochemistry, C104B BNSN, Provo UT 84602-5700, paul\_farnsworth@byu.edu; Nicholas Taylor, Kyli Bishop, Alisa Edmund, Ross Spencer
- 09:30 IL11 Analyte Transport Processes: New Insight and Implications**, John W. Olesik, The Ohio State University, School of Earth Sciences, 125 S. Oval Mall, 275 Mendenhall, Columbus OH 43210, olesik.2@osu.edu; Joshua R. Dettman, Fang Liu
- 10:20 W01 Probing an Analytical Microwave Plasma by 2D Imaging and Ion/Atom Thermometry**, Richard Morrison, Agilent Technologies Pty Ltd, 679 Springvale Rd, Mulgrave, Melbourne 3170, Australia, richard.morrison@agilent.com; Peter Doidge, Mike Hammer
- 10:40 W02 Role of Helium-Dimer Ion in the Low-Temperature Plasma Probe Ambient Mass Spectrometry Source**, George Chan, Indiana University, Department of Chemistry, 800 E. Kirkwood Ave., Bloomington IN 47405, gcchan@indiana.edu; Jacob Shelley, Joshua Wiley, Carsten Engelhard, Ayanna Jackson, Graham Cooks, Gary Hieftje
- 11:00 W03 Diagnostics of a Flowing Atmospheric Pressure Afterglow (FAPA) Ambient Desorption/Ionization Source**, Kevin Pfeuffer, Indiana University, Department of Chemistry, 800 E. Kirkwood Avenue, Bloomington IN 47405, kpfeuffer@indiana.edu; Jacob T. Shelley, Steven J. Ray, Gary M. Hieftje

- 11:20 W04 Asymmetric Charge Transfer Involving Trace Gas Ions in Grimm-Type Glow Discharges in Argon and Neon**, Sohail Mushtaq, London Metropolitan University, 166-220 Holloway Rd, London N7 8DB, United Kingdom, smushtaq@live.co.uk; E.B.M. Steers, J.C. Pickering
- 11:40 W05 Development of a Glow-Discharge Distance-of-Flight Mass Spectrometer: Incorporation of a Focal-plane Camera for Simultaneous Ion Detection**, Alexander W.G. Graham, Indiana University, Department of Chemistry, 800 E. Kirkwood Avenue, Bloomington IN 47405, alexgrah@indiana.edu; Steven Ray, Christie Enke, David Koppelaar, Charles Barinaga, Gary Hieftje

## 6. High-Resolution Plasma Instrumentation and Advanced Plasma Detectors

- 1:00 IL12 Automation, Plasma Instrumentation, Detector Systems**, M. Bonner Denton, University of Arizona, Department of Chemistry and Biochemistry, P.O. Box 210041, Tucson AZ 85721-0041, mbdenton@u.arizona.edu
- 1:30 IL13 High Resolution Plasma Systems**, David Koppelaar, Pacific Northwest National Laboratory, P.O. Box 999, MSIN K1-46, Richland WA 99352, david.koppelaar@pnl.gov
- 2:00 IL14 Advanced Optical Detection with State-of-the-Art CMOS**, Gene Atlas, ImagerLabs, Inc., 1995 S. Myrtle Avenue, Monrovia CA 91016, gatlas@imagerlabs.com
- 2:30 IL15 Element and Isotope Ratio Mass Spectrometry: New Capabilities with Fully Simultaneous ICP-MS**, Dirk Ardel, Spectro Analytical Instruments GmbH, Boschstrasse 10, D-47800 Kleve, Germany, dirk.ardelt@ametec.com; Will Barger, Ulrich Heynen, Alaksandra Polatajko, Oliver Primm

## Wednesday Posters

### Fundamentals, Instrumentation, and Mechanisms

- 83:00 WP01 Determination of Temperature in Non Stationary ICP-AES Plasma Torch**, Rafkat Toukhvatouline, Kazan State Technical University, Kazan, Russia, rafkat05@mail.ru; D. Timerkaeva, I. Zakirov, F. Zaliyeva
- 3:00 WP02 Numerical Study of an Inductively Coupled Plasma in the Presence of a Mass Spectrometric Sampling Interface**, Maryam Aghaei, University of Antwerp, Plasmat - Plasma, Laser Ablation & Surface Modelling Antwerp, Universiteitsplein 1, B-2610 Antwerpen, Belgium, maram.ghaei@ua.ac.be; Helmut Lindner, Annemie Bogaerts
- 3:00 WP03 Modeling of Multi-Phase Rotating Field Helium Microwave Plasma for Using As an Excitation Source**, Edward Reszke, Ertec-Poland, Rogowska 146/5, PL-54440 Wroclaw, Poland, ertec@wp.pl; Krzysztof Jankowski, Andrzej Ramsza
- 3:00 WP04 Digitally Controlled Rotating Field Plasma Source for Analytical Spectrometry**, Edward Reszke, Ertec-Poland, Rogowska 146/5, PL-54440 Wroclaw, Poland, ertec@wp.pl; Krzysztof Jankowski, Andrzej Ramsza
- 3:00 WP05 Simple Line-Ratio Method for the Instrument Diagnostics of a Microwave Plasma Radiation Source**, Krzysztof Jankowski, Warsaw University of Technology, Faculty of Chemistry, ul. Noakowskiego 3, PL-00664 Warsaw, Poland, kj@ch.pw.edu.pl; Stanislaw Kus
- 3:00 WP06 Study of Pulsed Radiofrequency Glow Discharge - Time of Flight Mass Spectrometry for Simultaneous Elemental and Molecular Analysis of Volatile Organic Compounds**, Auristela Solà-Vázquez, University of Oviedo, Faculty of Chemistry, Department of Physical and Analytical Chemistry, Julian Claveria, 8, Faculty of Chemistry, E-33006 Oviedo, Asturias, Spain, auristelasv@uniovi.es; B. Fernandez, J.M. Costa, R. Pereiro, Alfredo Sanz-Medel
- 3:00 WP07 Reaction Cell Frontier: Removing Oxide Polyatomic Ion Interferences Using an Innovative Reaction Cell ICP-MS**, Katsuo Mizobuchi, Agilent Technologies Japan Ltd., 9-1, Takakura-cho, Hachioji-shi, Tokyo 192-8510, Japan, katsuo\_mizobuchi@agilent.com; Naoki Sugiyama
- 3:00 WP08 New Reaction Cell ICP-MS with Improved Ion Optics Arrangement and Vacuum System**, Takeo Kuwabara, Agilent Technologies International Japan, Ltd., Tokyo Analytical Division, Takaura-cho 9-1, Hachioji-shi, Tokyo 192-0033, Japan, takeo\_kuwabara@agilent.com; Noriyuku Yamada, Jun Kitamoto, Hironori Yamada, Takashi Kondo
- 3:00 WP09 Thermal Mechanism for the Electrical Prepeak Formation in Microsecond dc Pulsed Glow Discharge in a Grimm Type Source**, Maxim Voronov, IFW Dresden, Institute for Complex Materials, PO Box 270116, D-01171 Dresden, Germany, voronovmv@mail.ru; V. Hoffmann, W. Buscher, C. Engelhard, S.J. Ray, G.M. Hieftje
- 3:00 WP10 Fundamental Studies of Sampling Process in Atmospheric Plasma Soft Ablation Method (APSA)**, Takahiro Iwai, Tokyo Institute of Technology, Department of Energy Sciences, J2-32, 4259 Nagatsuta, Midori-ku, Yokohama 226-8502, Japan, t-iwat@plasma.es.titech.ac.jp; Yuta Suzuki, Yuta Negishi, Hidekazu Miyahara, Akitoshi Okino
- 3:00 WP11 Exploring the Spectral Background in a N<sub>2</sub> Atmospheric Microwave Plasma**, Richard Morrison, Agilent Technologies Pty Ltd, 679 Springvale Rd, Mulgrave, Melbourne 3170, Australia, richard.morrison@agilent.com; Phil Wilson, Mike Hammer
- 3:00 WP12 Ultra High Sensitivity Analyses of Flue Gas Desulfurization (FGD) Wastewaters Using Mixed Plasma and Octopole Reaction System**, Derek A. Eggert, Southern Research Institute (SRI), 2000 9th Ave South, Birmingham AL 35355, kelinske@southernresearch.org; Mark Kelinske, Abe Gutierrez, Steve Wilbur

## High-Resolution Plasma Instrumentation and Advanced Plasma Detectors

## Elemental Speciation, Metallomics

- 3:00 WP13 Arsenosugars Determination in Biological Samples by High Temperature Liquid Chromatography Coupled to Inductively Coupled Plasma Mass Spectrometry**, José Luis Todolí, University of Alicante, Department of Analytical Chemistry, Nutrition and Food Sciences, P.O. Box 99, E-03080 Alicante, Spain, jose.todoli@ua.es; Amanda Terol, Francisco Ardini, Marco Grotti
- 3:00 WP14 Determination of Organo-Sn Compounds in Human Blood Using ICP-MS Coupled with Gas Chromatography**, Amir Liba, Agilent Technologies, 2850 Centerville Road, Wilmington DE 19808, amir\_liba@agilent.com; Mina Tanoshima, Steve Wilbur, Francesco Cubadda, Marilena D'Amato
- 3:00 WP15 Titanium Binding to Human Transferrin in Human Serum: Preferential Binding Sites and Glycosilation Effects**, Yosna Neuvo-Ordóñez, University of Oviedo, c/ Julian Claveria No. 8, E-33006 Oviedo, Spain, yoananeuvo@gmail.com; M. Montes-Bayón, E. Blanco González, A. Sanz-Medel
- 3:00 WP16 Hg Speciation at ppq Levels by Hydride Generation FAST with Sector Field ICP-MS and Jet Interface**, Torsten Lindemann, Thermo Fisher Scientific, Hanna-Kunath-Str. 11, D-28199 Bremen, Germany, torsten.lindemann@thermofisher.com; Patrick Sullivan, Austin Schultz, Dan Wiederin, Meike Hamester
- 3:00 WP17 Easy and Fast Method Development for the Mercury Speciation in Food by HPLC-ICP-MS**, Sébastien Sannac, Agilent Technologies France, 1, rue Galvani, F-91745 Massy Cedex, France, sebastien\_sannac@agilent.com; Yu-Hong Chen, Raimund Wahlen, Ed McCurdy
- 3:00 WP18 Chromium Speciation and Preservation in US Drinking Waters Using Collision Cell IC-ICP-MS**, Robert Wilson, US Environmental Protection Agency, Student Services Contractor, 26 W. Martin Luther King Dr, Cincinnati OH 45268, wilson.roberta@epa.gov; Patricia Creed, Tatyana Pinyayev, Carol Schwegel, John Creed
- 3:00 WP19 Rapid Routine Speciation of Organotin Compounds and Metabolites in Oyster Tissue by GC/ICP-MS Using Speciated Isotope Dilution**, Joaquin Castro Georgi, ORQUE/UT2A, Bat Da Vinci, Technopole Helioparc, 2 Ave Pierre Angot, F-64052 Pau Cedex 9, France, joaquin.castrogeorgi@univ-pau.fr; Emmanuel Tessier, Ekaterina Epova, Olivier F.X. Donard
- 3:00 WP20 Determination of Hexavalent Chromium in Corrosion Preventing Coatings by Alkaline Extraction and the Use of Isotope Dilution FPLC-ICP-MS Procedure**, Breda Novotnik, Jozef Stefan Institute, Jamova 39, SI-1000 Ljubljana, Slovenia, breda.novotnik@gmail.com; Tea Zuliani, Radmila Milacic, Janez Scancar
- 3:00 WP21 Beryllium Uptake and Species Distribution in Plants**, René Frankfurter, Leibniz University of Hannover, Institute of Inorganic Chemistry, Callinstrasse 9, D-30167 Hannover, Germany, frankfurter@acc.uni-hannover.de; Jürgen Mattusch, Carla Vogt
- 3:00 WP22 Selenium, Copper, and Zinc Serum Part 2: Attenuation of Interferences by Collision/Reaction Cell ICP-MS**, Matthew M. Hanley, Mayo Clinic, Department of Laboratory Medicine and Pathology, 200 First St. SW, Rochester MN 55905, hanley.matthew@mayo.edu; Thomas P. Moyer, Steve Eckdahl, Michelle Wermers, Sarah Cambern, Melissa Maras
- 3:00 WP23 Analysis of Arsenic in Chickens Treated with Roxarsone: Extraction, Clean-Up, Chromatography, and Identification of Species**, Sean D. Conklin, FDA/CFR/ORS, Chemical Contaminants Branch, 5100 Paint Branch Pkwy, College Park MD, sean.conklin@fda.hhs.gov; Mary Carson, Anita Morris
- 3:00 WP24 Selenium Effects on Arsenic Cytotoxicity and Identification, Characterization of Protein Phosphorylation in HUV-EC Cells**, Karnakar Chitta, University of Cincinnati, Department of Chemistry, 2600 Clifton Ave, Cincinnati OH 45221-0172, chittakr@mail.uc.edu
- 3:00 WP25 Multidimensional Liquid Chromatography Separation and NanoESI-Ion Trap Detection of Plasma Proteins for the Search of Stroke Biomarkers**, Kodali Phanichand, University of Cincinnati, Department of Chemistry, 2600 Clifton Ave ML 0172, Cincinnati OH 45221-0172, kodalipd@mail.uc.edu; Julio Landero, Adeoye Opeolu, Joseph Caruso
- 3:00 WP26 Initial Studies of the Mn, Fe, Cu, and Zn Metalloproteome of the Pathogen - *Histoplasma Capsulatum***, Anna Daigle, University of Cincinnati, Department of Chemistry, ML 0172, Cincinnati OH 45221-0172, andaigle4@gmail.com; Joe Caruso, George Deepe
- 3:00 WP27 The Role of Zn in Macrophage Protection Against *Histoplasma Capsulatum***, Julio Landero, University of Cincinnati, Department of Chemistry, 404 Crosly Tower ML 0172, Cincinnati OH 45221-0172, landerjo@ucmail.uc.edu; Kavitha Subramanian, Jorge Deepe, Joseph Caruso

## (WS2) Workshop Clinical ICP-MS

- 3:10 WS201 Spectral Interferences from Human Urine Following Administration of Gd-Based MRI Contrast Agents: Clinical Observations from a Urine Biomonitoring Study Using Q-ICPMS**, Patrick J. Parsons, New York State Department of Health, Laboratory of Inorganic and Nuclear Chemistry, Wadsworth Center, PO Box 509, Albany NY 12201-0509, pip03@notes.health.state.ny.us; Germaine Buck Louis, Amy J. Steuerwald
- 3:25 WS202 A CDC Biomonitoring Method for Measurement of Mercury Species in Human Blood**, Yuliya L. Sommer, Battelle, Atlanta Analytical Services, Century Plaza 1, 2987 Clairmont Rd Suite 450, Atlanta GA 30329, jyy3@cdc.gov; Carl P. Verdon, Kathleen L. Caldwell, Robert L. Jones
- 3:40 WS203 Improved Biomonitoring Method for the Multi-Elemental Analysis (Cd, Hg, Pb, Se, and Mn) of Whole Human Blood by Inductively Coupled Plasma Dynamic Reaction Cell Mass Spectrometry (ICP-DRC-MS)**, Deanna R. Jones, Battelle, Atlanta Analytical Services, 4770 Buford Highway MS F-18, Atlanta GA 30341-3724, dmjones1@cdc.gov, hii4@cdc.gov; Jeff M. Jarrett, Kathleen L. Caldwell, Robert L. Jones

- 3:55 WS204 Toxic and Essential Elements in Urine Using DRC-ICP-MS**, Dean Bass, Doctor's Data Inc., 3755 Illinois Ave, St. Charles IL 60174, dbass@doctorsdata.com; Anita Shah
- 4:10 WS205 Developing a New Generation of Standard Reference Materials (SRM) for Clinical Measurements of Toxic Elements, Elemental Speciation, and Anions in Urine**, Lee Yu, National Institute of Standards and Technology, 100 Bureau Dr., Mail Stop 8391, Gaithersburg MD 20899-6391, leeyu@nist.gov
- 4:25 WS206 Selenium, Copper, and Zinc Serum Part 1: Grouping Antioxidant Metals Analysis by ICP-MS**, David L. Murray, Mayo Clinic, Department of Laboratory Medicine and Pathology, 200 First St. SW, Rochester MN 55905, hanley.matthew@mayo.edu; Matthew M. Hanley, Thomas P. Moyer, Steve Eckdahl, Michelle Wermers, Sarah Cambern, Melissa Maras
- 4:40 WS207 Clinical and Analytical Challenges of Serum and Urine Chromium Analysis**, Michelle L.M. Wermers, Mayo Clinic, Metals Laboratory, 200 First St. SW, Rochester MN 55905-0001, hanley.matthew@mayo.edu; David L. Murray, Thomas P. Moyer, Steve Eckdahl
- 4:55 WS208 Measuring Depleted Uranium (DU) Exposure in Workers and Neighborhood Residents of the Former NL Industries Factory, Colonie, NY, USA**, John G. Arnason, New York State Department of Health, Wadsworth Center, Biggs Laboratory, Empire State Plaza, PO Box 509, Albany NY 12201-0509, jga02@wadsworth.org; Patrick Parsons
- 5:10 WS209 Direct Trace-Elemental Analysis of Urine Samples by LA-ICPMS After Sample Deposition on Clinical Filter Paper**, Maite Aramendia Marzo, Centro Universitario de la Defensa, Academia General Militar, Carretera de Huesca s/a, E-50090 Zaragoza, Spain, maiteam@unizar.es; Luis Rello, Martin Resano, Frank Vanhaecke
- 5:25 WS210 The Measurement of Trace Elements in Clinical Matrices by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES)**, Matthew Cassap, Thermo Fisher Scientific, SOLAAR House, 19 Mercers Row, Cambridge CB5 8BZ, United Kingdom, matthew.cassap@thermofisher.com; Chris F. Harrington, Patricia Coelho, Craig McKibbin, Andrew Taylor

### *Heritage Lecture*

- 5:40 HL03 Paradigm Shifts in Analytical Plasma Spectrometry**, Gary Horlick, University of Alberta, Department of Chemistry, W3-03C Chemistry West, Edmonton AB T6G 2G2, Canada, gary.horlick@ualberta.ca

### *Thursday, January 12, 2012*

### **7. Elemental Speciation, Metalomics**

- 08:00 PL04 ICP MS and -omics: Exploring the Role of Elements in the Chemistry of Life**, Joanna Szpunar, LCABIE, CNRS UMR 5254, Hélioparc, 2, Av. Pierre Angot, F-64053 Pau-Pyrénées, France, joanna.szpunar@univ-pau.fr
- 09:00 IL16 In the Search for Multiplex Absolute Concentrations and Activities Determination of Metalloproteins with ICP-MS Detection**, Alfredo Sanz-Medel, University of Oviedo, Faculty of Chemistry, Department of Physical and Analytical Chemistry, Julian Claveria, 8, E-33006 Oviedo, Asturias, Spain, asm@uniovi.es; A.R. Montoro, L. Trapiella, M.T. Fernandez-Arguelles, J. Ruiz Encinar, J.M. Costa-Fernandez
- 09:30 IL17 ICP MS-Based Speciation Analyses in Answers to Regulations and Industrial Problems**, Ryszard Lobinski, CNRS UMR 5254, Laboratoire de Chimie Analytique Bio-inorganique, Helioparc, 2, Av. Pierre Angot, F-64053 Pau-Pyrénées, France, ryszard.lobinski@univ-pau.fr
- 10:20 IL18 Quantitative Peptide Analysis via Elemental Mass Spectrometry: A Hepcidin, the Key Species in Iron Homeostasis**, Maria Montes-Bayón, University of Oviedo, Department of Physical and Analytical Chemistry, Julian Claveria 8, Chemistry, E-33006 Oviedo, Spain, montesmaria@uniovi.es; Tobias Konz, Alfredo Sanz-Medel
- 10:50 Th01 Elemental Speciation Analysis for Quantitative Studies in Cell Models**, Gunda Köllensperger, University of Natural Resources and Applied Life Sciences, BOKU Wien, Department of Chemistry, Division of Analytical Chem, Muthgasse 18, A-1190 Vienna, Austria, gunda.koellensperger@boku.ac.at; Gerrit Hermann, Stephan Hann
- 11:10 Th02 Development of Multiplex Immunoassays for Protein Detection by Laser Ablation (LA) ICP-MS**, Larissa Wäntig, BAM Federal Institute for Materials Research and Testing, Richard-Willstätter-Str. 11, D-12489 Berlin, Germany, larissa.waentig@bam.de; Norbert Jakubowski, Simona Hardt, Christian Scheler, Peter H. Roos
- 11:30 Th03 LC-ICP-MS and LC-MS for Speciation Analysis of Iron in the Rhizosphere**, Stephen Hann, University of Natural Resources and Applied Life Sciences, BOKU Wien, Department of Chemistry, Muthgasse 18, A-1190 Vienna, Austria, stephan.hann@boku.ac.at; M. Dell'mour, A. Regelsberger, W.D.C. Schenkeveld, S.M. Kraemer, E. Oburger, M. Puschenreiter, G. Koellensperger

### **8. Plasma Source Miniaturization, Sample Introduction, and Instrumentation**

- 1:00 IL19 The Microstrip Microwave Induced Plasma: A Contribution to Plasma Source Miniaturization**, José A.C. Broekaert, University of Hamburg, Institute for Inorganic and Applied Chemistry, Martin-Luther-King-Platz 6, D-20146 Hamburg, Germany, jose.broekaert@chemie.uni-hamburg.de
- 1:30 IL20 The Liquid Sampling - Atmospheric Pressure Glow Discharge (LS-APGD): A Practical Microplasma Alternative for Atomic Mass Spectrometry**, R. Kenneth Marcus, Clemson University, Department of Chemistry, Clemson SC 29634-

1905, marcusr@clemson.edu; C. Derrick Quarles Jr., Charles J. Barinaga, Anthony J. Carado, David W. Koppelaar, Richard Russo

**2:00 Th04 New Devices for Formation and Operation of Mini- and Micro Plasmas**, Akbar Montaser, The George Washington University, Department of Chemistry, 725 21st Street, NW, Washington DC 20052, montaser@gwu.edu

**2:20 Th05 Development of a New Hybrid Technique for Speciation Analysis by Microchip Capillary Electrophoresis Coupled with Hydride Generation Microwave Induced Plasma Optical Emission Spectrometry**, Henryk Matusiewicz, Politechnika Poznanska, Department of Analytical Chemistry, Piotrowo 3, PL-60-965 Poznan, Poland, henryk.matusiewicz@put.poznan.pl

**2:40 Th06 Development and Characterization of Plasma-Based Sources for Direct Molecular Mass Spectrometry**, Jacob T. Shelley, Indiana University, Department of Chemistry, 800 E. Kirkwood Avenue, Bloomington IN 47405, jtshelle@indiana.edu; Joshua S. Wiley, R. Graham Cooks, Gary M. Hieftje

### Thursday Posters

#### Advanced Materials, Surfaces, and Interfaces

##### Petroleum and Semiconductor Materials

**3:00 ThP01 Interference Standard Applied to Sulfur Determination in Biodiesel and Lubricating Oil by ICP-QMS**, Renata S. Amais, Federal University of Sao Carlos, Department of Chemistry, P.O. Box 676, Sao Carlos, SP 13565-905, Brazil, renata\_amais@yahoo.com.br; George L. Donati, Joaquim A. Nobrega

**3:00 ThP01b Determination of Elements in Oil Matrices by Direct Introduction in DRC-ICP-MS**. Jefferson Rodrigues de Souza, Christiane B. Duyck, cbduyck@vm.uff.br, Tatiana D. Saint Pierre, Departamento de Química, Pontifícia Universidade Católica do Rio de Janeiro (PUC-Rio), Rua Marquês de São Vicente 225, 22451-900 Rio de Janeiro, RJ, Brazil

**3:00 ThP01c Analysis of Wear Metals in Lubricating Oils by Microwave Plasma - Atomic Emission Spectrometry**, Craig Taylor, Agilent Technologies Pty Ltd, 679 Springvale Rd, Mulgrave, Melbourne 3170, Australia, craig.taylor@agilent.com

**3:00 ThP02 Measuring Si, Al, B, and Na Trace Levels in Solutions Containing High Metal Concentration with HF Acid Matrix**, Connie Hayes, High-Purity Standards, 4741 Franchise Street, Charleston SC 29418, crh@hps.net

**3:00 ThP03 Determination of Trace and Ultra Trace Levels of Impurities in Silica-Based Materials Using HR-ICP-MS and Q-ICP-MS Systems**, Ela Bakowska, Corning Incorporated, CMP SP-FR-06, Corning NY 14831, bakowskae@corning.com; Stephen Kuenzli, Anna Nached, and David Clark

**3:00 ThP04 Comparison of Microwave Digestion Choices**, William R. Mindak, US Food and Drug Administration, Center for Food Safety and Applied Nutrition Mail Stop HFS-716, 5100 Paint Brush Pkwy, College Park MD 20740, william.mindak@fda.hhs.gov

##### Clinical ICP-MS

**3:00 ThP05 Expanding Urine Biomonitoring to Include Manganese, Strontium, and Tin in a Urine Multi-Element Method by Inductively Coupled Plasma Dynamic Reaction Cell Mass Spectrometry (ICP-DRC-MS)**, Jeffery M. Jarrett, Centers for Disease Control & Prevention (CDC), NCEH DLS ITN, 4770 Buford Hwy NE Mail Stop F-18, Atlanta GA 30341-3724, jjarrett@cdc.gov; Deanna R. Jones, Denise S. Tevis, Kathleen L. Caldwell, Robert L. Jones

**3:00 ThP06 Robustness of Method for Separating and Quantifying Seven Arsenic Species in Urine by HPLC-ICP-DRC-MS**, Nolan D. Hilliard, Battelle Atlantic Analytical Services, Century Plaza 1, 2987 Clairmont Rd NE STE 450, Atlanta GA 30329, idv2@cdc.gov, nhilliard@cdc.gov; Cynthia D. Ward, Carl P. Verdon, Kathleen L. Caldwell, Robert L. Jones

**3:00 ThP07 Stability of Elements in Urine and Blood in Five Different Storage Temperatures by ICP-DRC-MS**, Denise S. Tevis, Battelle, 4770 Buford Hwy MS F-18, Atlanta GA 30341, dtevis@cdc.gov; Deanna R. Jones, Jeffery M. Jarrett, Kathleen L. Caldwell, Robert L. Jones

**3:00 ThP08 Speciation Analysis of Arsenic in Urine Using HPLC-ICP-MS Technique**, Malgorzata Trzcinka-Ochocka, Nofer Institute of Occupational Medicine, Laboratory of Biomonitoring, St. Teresy 8, 91-348 Lodz, Poland, ochocka@imp.lodz.pl; Beata Janasik, Renata Brodzka

**3:00 ThP09 Method Development for the Determination of 25 Elements in Human Follicular and Seminal Fluids by ICP-MS**, Pamela C. Kruger, New York State Department of Health, Laboratory of Inorganic and Nuclear Chemistry, Wadsworth Center, POB 509, Albany NY 12201-0509, pkruger@wadsworth.org; John G. Arnason, Michael S. Bloom, Patrick J. Parsons

**3:00 ThP10 The Development of a Robust Biomonitoring Method for the Determination of Methyl-, Ethyl-, and Inorganic Mercury in Whole Blood**, Christopher D. Palmer, New York State Department of Health, Wadsworth Center, Biggs Laboratory, Empire State Plaza, P.O. Box 509, Albany NY 12203-0509, palmer@wadsworth.org; Patrick J. Parsons, Michelle Morrissette

**3:00 ThP11 Issues of Accuracy, Traceability, and Interlaboratory Comparability for Whole Blood Mn Measurements in Biomonitoring Studies**, Meredith L. Praamsma, New York State Department of Health, Laboratory of Inorganic and Nuclear Chemistry, Wadsworth Center, PO Box 509, Albany NY 12201-0509, praamsma@wadsworth.org; Christopher D. Palmer, Mary F. Verostek, Patrick J. Parsons

**3:00 ThP12 A Triple-Isotope Method for Measurements of Inorganic, Methyl and Ethyl Mercury in Human Whole Blood by Solid Phase-Microextraction (SPME) Gas Chromatography Coupled to ICP-MS**, Carl P. Verdon, Centers for

Disease Control & Prevention, Inorganic and Radiation Analytical Toxicology Branch, 4770 Buford Hwy NE Mail Stop F-50, Atlanta GA 30341-3724, cverdon@cdc.gov; Yuliya Sommer, Mark Fresquez, Kathleen L. Caldwell, Robert L. Jones

- 3:00 ThP13 Analysis of Serum Samples by Microwave Plasma - Atomic Emission Spectroscopy**, Craig Taylor, Agilent Technologies Pty Ltd, 679 Springvale Rd, Mulgrave, Melbourne 3170, Australia, craig.taylor@agilent.com
- 3:00 ThP14 Content of Essential Metals in Man Blood and Sperm at Different Forms of Man Sterility**, Ivan Mazepa, Vassyl Stefanyk Precarpathian National University, Department of Biochemistry and Biotechnology, 57 Shevchenka Str., Ivano-Frankivsk 76000, Ukraine, ivmazepa@rambler.ru; Maria Mazepa, Andrij Mazepa
- 3:00 ThP15 Determination of Trace Elements in Infant Hair Samples by ICPMS for Stress Monitoring**, Maria del Rosario Flórez, University of Zaragoza, Department of Analytical Chemistry, Faculty of Sciences, S-50009 Zaragoza, Spain, charo.fz@gmail.com; Stefan de Henaun, Barbara Vanaelst, Esperanza Garcia-Ruiz, Lieve Balcaen, Maite Aramendia, Martin Resano, Frank Vanhaeck
- 3:00 ThP16 Trace Elements Level in Serum of Melanoma Patients by HR-ICP-MS**, Suene Bernardes, Cidade Uniersitaria, Butanta, Instituto de Fisica, 187 Rua do Matao Travessa R St, Sao Paulo, SP 05508-900, Brazil; Jorge Eduardo Souza Sarkis, Emesto Diaz, Talita Oliveira, Ivan Abranches Oliveira Santo, Fancisco de Assis Ribes Bosco,
- 3:00 ThP17 Determination of Elements in Caprine Brain by ICP-MS Following Oral Pb Exposure**, Amy J. Steurerwald, New York State Department of Health, Wadsworth Center, PO Box 509, Albany NY 12201-0509, asteuerw@wadsworth.org; Patrick J. Parsons
- 3:00 ThP18 Elemental Interference Attributed to Iodine in Human Urine**, James J. Travis, ARUP Laboratories, Institute for Clinical and Experimental Pathology, 500 Chipeta Way, Salt Lake City UT 84108-1221, james.travis@aruplab.com; Gwenodlyn A. McMillin
- 3:00 ThP19 Trace Metals Collection and Storage Devices in the Clinical Laboratory**, Denise L. Rokke, Mayo Clinic, 200 First Street SW, RO\_SU\_1\_332MTLS, Rochester MN 55905, rokke,densie@mayo.edu
- 3:00 ThP20 Clinical Evaluation of Chromium, Cobalt, and Titanium by ICP-MS for Metal on Metal Implants**, Anna Miller, Medtox Laboratories, 402 West Country Rd D, St Paul MN 55112, amir\_liba@agilent.com, amiller@medtox.com; Gregory Janis, Amir Liba
- 3:00 ThP21 Trans-Platinum (II) Complex with Flavanone Containing Ligand: Spectroscopic Identification and Evaluation of Apoptosis *in Vitro***, Justyn Ochocki, Medical University, Department of Pharmacy, Muszynski 1, PL-90-151 Lodz, Poland, justynochocki@yahoo.com; Malgorzata Malgorzata, Georg Raber, Andrea Raab, Barbara Cebula-Obrzut, Piotr Smolewski, Eva Knapp

### **Agricultural, Food, Pharmaceutical**

- 3:00 ThP22 Trace Metal Determination by ICP-AES in Alendronate Sodium API**, Denis Besic, PLIVA Croatia Ltd., Prilaz Baruna Filipovica 25, 10000 Zagreb, Croatia, denis.besic@pliva.com; Markus Martincic, Nina Vojcic, Ernest Mestrovic, Sanda Roncevic
- 3:00 ThP23 Determination of Selenium in Pharmaceuticals by Alkaline Dissolution and Alkaline Mode of HG-ICP/MIP-OES**, Krzysztof Jankowski, Warsaw University of Technology, Faculty of Chemistry, ul. Noakowskiego 3, PL-00664 Warsaw, Poland, kj@ch.pw.edu.pl; Anna Tyburska
- 3:00 ThP24 Validating ICP-MS Using USP <232>/<233> for Elemental Impurity Analysis in Pharmaceutical Products**, Ed McCurdy, Agilent Technologies Ltd, 5500 Lakeside, Cheadle Royal Business Park, Stockport, Cheshire SK8 2GR, United Kingdom, ed\_mccurdy@agilent.com; Amir Liba
- 3:00 ThP25 Use of Monolithic Chromatography for Speciation of Metal Based Chemotherapeutic Drugs**, Anze Martincic, Jozef Stefan Institute, Department of Environmental Sciences, Jamova 39, SI-1000 Ljubljana, Slovenia, anze.martincic@ijs.si; Maja Cemazar, Radmila Milacic, Gregor Sersa, Janez Scancar
- 3:00 ThP26 Enhancement of Productivity for the Analysis of Food Samples with the 7700x ICP-MS**, Sébastien Sannac, Agilent Technologies France, 1, rue Galvani, F-91745 Massy Cedex, France, sebastien\_sannac@agilent.com; Jean-Pierre, Jérôme Darrouzes
- 3:00 ThP27 Analysis of Food and Beverage Samples by Microwave Plasma - Atomic Emission Spectrometry**, Craig Taylor, Agilent Technologies Pty Ltd, 679 Springvale Rd, Mulgrave, Melbourne 3170, Australia, craig.taylor@agilent.com
- 3:00 ThP28 High Throughput Food Sample Preparation for Metals Analysis**, Jason Keith, CEM Corporation, PO Box 200, Matthews NC 28106, jason.keith@cem.com; Tina Restivo, Elaine Hasty, Ivana Mrvalj, Bob Lockerman, Michael Collins Jr.
- 3:00 ThP29 Analysis of Chinese Herbal Medicine Samples by Microwave Plasma - Atomic Emission Spectrometry**, Craig Taylor, Agilent Technologies Pty Ltd, 679 Springvale Rd, Mulgrave, Melbourne 3170, Australia, craig.taylor@agilent.com
- 3:00 ThP30 Atomic Absorption Spectrometry Used to Determine Cadmium Concentration in Cheese**, Vasile Viman, North University of Baia Marie, Faculty of Sciences, 62A Victor Babes Street, 430083 Baia Mare, Romania, vasileviman@yahoo.com; Mariana Dobra, Gheorghe Vatca, Mircea Man
- 3:00 ThP31 Determination of Trace Elements in Fertilizers Using ETV-ICP-OES**, Matheus A.N. Goncalves, Universidade Federal de Santa Maria, Departamento de Quimica, Av. Roraima 1000, 97.105-900 Camobi, Santa Maria, RS, Brazil, vdressler@gmail.com; Clarissa M.M. Santos, Fabiane G. Antes, Erico M.M. Flores, Dirce Pozebon, Valderi L. Dressler
- 3:00 ThP32 Electrothermal Vaporization System for Direct Sample Analysis: Bromide and Iodine Determination in Milk Powder and Cereals by ICP-MS**, Matheus A.N. Goncalves, Universidade Federal de Santa Maria, Departamento de

Quimica, Av. Roraima 1000, 97.105-900 Camobi, Santa Maria, RS, Brazil, vdressler@gmail.com; Clarissa M.M. Santos, Fabiane G. Antes, Erico M.M. Flores, Valderi L. Dressler

**3:00 ThP33 Total Metal Analysis in Hookah Tobacco Pre- and Post Consumption**, Ryan Saadawi, University of Cincinnati, Department of Chemistry, Mail Location 0172, Cincinnati OH 45221-0172, ryansaadawi@hotmail.com; Traci Hanley, Julio Landero, Joseph Caruso

### **(WS3) Workshop Speciation Methodology**

- 3:10 WS301 Protein Quantification and Quantitative Phosphorylation Analysis by Measuring Hetero Atoms (S and P) Using ICP-MS**, Yoshinari Suzuki, Chuo University, Department of Applied Chemistry, 1-13-27 Kasuga, Bunkyo-ku, Tokyo 112-8551, Japan, szkyoshi@kc.chuo-u.ac.jp; Ayumi Nobusawa, Junya Tsujino, Naoki Furuta
- 3:25 WS302 HPLC/ICP-MS in Combination with (Reverse) Isotope Dilution as a Tool in Drug Metabolism Studies**, Bjorn Meermann, Ghent University, Department of Analytical Chemistry, Krijgslaan 261 - S12, B-9000 Ghent, Belgium, bjorn.meermann@ugent.be; Cis Van Looveren, Filip Cuyckens, Frank Vanhaecke
- 3:40 WS303 Simple Method Using On-Line Continuous Leaching and Ion Exchange Chromatography Coupled to Inductively Coupled Plasma Mass Spectrometry for the Speciation Analysis of Bio-Accessible Arsenic in Rice**, Diane Beauchemin, Queen's University, Department of Chemistry, 90 Bader Lane, Kingston ON K7L 3N6, Canada, diane.beauchemin@chem.queensu.ca; Nolan S. Horner
- 3:55 WS304 Arsenic Speciation in US Consumed Rice with an Emphasis on Bioaccessibility and the Exposure Assessment Implications**, Madhavi Mantha, US Environmental Protection Agency, 26 W. Martin Luther King Dr, Mail Stop 564, Cincinnati OH 45268, mantha.madhavi@epa.gov; John Trent, Edward Yeary, Robert Wilson, Carol Schwegel, Patricia A. Creed, Kevin Kubachka, Traci Hanley, et al.
- 4:10 WS305 Exposure Assessment Considerations Associated with the Presystemic Biotransformation of Arsenic Oxides**, Tatyana Pinyayev, US Environmental Protection Agency, 26 W. Martin Luther King Dr, Cincinnati OH 45268, pinyayev.tatana@epa.gov; John T. Creed, Patricia A. Creed, Carol Schwegel, Jianping Xue, Michael Kohan, Karen Herbin-Davis, David Thomas
- 4:25 WS306 Arsenic Speciation in Reduced, Contaminated Groundwater**, Valerie Stucker, Colorado School of Mines, Department of Chemistry and Geochemistry, 1500 Illinois St, Golden CO 80401, vstucker@mines.edu; James F. Ranville, Kenneth H. Williams
- 4:40 WS307 Application of Advanced Technique HPLC-ICP-MS for Speciation Chromium and Arsenic in Environmental Samples**, Danuta Baralkiewicz, Adam Mickiewicz University, Department of Trace Elements Analysis by Spectro, 6 Grunwaldzka St, PL-60-780 Poznan, Poland, danutaba@amu.edu.pl; Izabela Komorowicz, Barbara Pikosz, Magdalena Belter
- 4:55 WS308 Cr(VI) Stability in Simulated Biofluids Used in *In Vitro* Bioaccessibility Studies**, Ruth Wolf, U.S. Geological Survey, Box 25046, Bldg 20, MS 964D, Denver Federal Center, Denver CO 80225, rwolf@usgs.gov; Suzette A. Morman
- 5:10 WS309 Quantification and Stability of Cr III and Cr VI in Urine Determined by HPLC-ICP-DRC-MS**, Elena N. Dodova, Battelle, Atlanta Analytical Services, Century Plaza 1, 2987 Clairmont Rd, Suite 450, Atlanta GA 30329, htq7@cdc.gov, edodova@cdc.gov; Carl P. Verson, Kathleen L. Caldwell, Robert L. Jones

### **Heritage Lecture**

**5:30 HL04 Spectrochromatography Elemental Speciation, Retrospect, Perspective and Prospects**, Peter Uden, University of Massachusetts, Department of Chemistry, Amherst MA 01003-9336, pcuden@chem.umass.edu

### **Friday, January 13, 2012**

**08:00 PL05 Provenancing: Data Collection and Forensic Interpretation**, Jurian Hoogewerff, Oritain Ltd., 8 Pacific Street, Dunedin 9010, New Zealand, jhoogewerff@oritain.com

## **9. Environmental and Biological Sciences**

- 09:00 IL21 Why Should We Care to Determine Minor and Unstable Element Species in Biological Samples?** Jörg Feldmann, University of Aberdeen, College of Physical Science, Department of Chemistry, Trace Element Speciation Laboratory, (TESLA), Aberdeen AB24 3UE Scotland, United Kingdom, j.feldmann@abdn.ac.uk; Eva M. Krupp, Andrea Raab
- 09:30 IL22 Influence of Algae on the Cycling and Fate of Selenium in Aquatic Ecosystems -- The Role of Speciation**, Dirk Wallschläger, Trent University, Environmental & Resource Studies Program Department of Chemistry, 1600 West Bank Dr, Peterborough ON K9J 7B8, Canada, dwallsch@trentu.ca
- 10:20 F01 ICP OES Determination of Antimony and Other Traffic-Related Elements in Size-Fractionated Road Dust Samples Collected in the Megacity of Buenos Aires, Argentina**, Patricia Smichowski, Comisión Nacional de Energía Atómica, Gerencia Química, Av. Gral. Paz 1499, B-1650KNA San Martín, Pcia. de Buenos, Argentina, smichows@cnea.gov.ar; Fabian Fujiwara, Dario Gomez, Raul Jimenez Rebagliati
- 10:40 F02 Investigation of Copper and Zinc Complexation by Fulvic Acid Using FFF-ICP-MS**, Bethany Baker, Colorado School of Mines, Department of Chemistry and Geochemistry, 1500 Illinois St, Golden CO 80401, bjobaker@mines.edu; Anthony J. Bednar, James F. Ranville

- 11:00 F03 High Throughput Tobacco Analyses for Arsenic, Selenium, Beryllium, Cadmium, Lead, Uranium, Chromium, Manganese, Cobalt, Nickel, and Mercury**, Mark R. Fresquez, Centers for Disease Control and Prevention, 4770 Buford Hwy, NE, MS F44, Atlanta GA 30341-3717, mfresquez@cdc.gov; R. Steven Pappas, Clifford H. Watson
- 11:20 F04 Quantification of Pb and Trace Level Cd in NIST SRM 3280 Multivitamin/Multielement Tablets**, Steven J. Christopher, NIST Charleston Laboratory, A201 Hollings Marine Laboratory, 331 Fort Johnson Road, Charleston SC 29412-9110, steven.christopher@nist.gov; Robert Q. Thompson
- 11:40 F05 Determination of 12 Elements in Nutritional Products by Inductively Coupled Plasma Mass Spectrometry**, Lawrence Pacquette, Abbott Nutrition, 3300 Stelzer Rd, Columbus OH 43219, lawrence.pacquette@abbott.com; Joseph Thompson

## 10. Stable Isotope Forensics Analyses

- 1:00 IL23 Whodunit - Solving Archaeological and Forensic Questions via Isotopic Analysis with Multicollector ICP - Mass Spectrometry**, Frank Vanhaecke, Ghent University, Department of Analytical Chemistry, Krijgslaan 281 - S12, B-9000 Ghent, Belgium, frank.vanhaecke@ugent.be; Martin Resano, Philippe Claeys, Kris Latruwe, Patrick Degryse
- 1:30 IL24 Isotope Analysis, Speciation in Petroleum**, Olivier Donard, Laboratoire de Chimie Analytique Bioinorganique et Environnement, UMR CNRS 5254 I.P.R.E.M., Hélioparc, F-64053 Pau, France, olivier.donard@univ-pau.fr; C. Pecheyran, A. Gurlan, E. Ricard, G. Sanabria, A. Prinzhoffert
- 2:00 F06 Isotopic Analysis of Sb via Multi-Collector ICPC-Mass Spectrometry**, Lara Lobo Revilla, University of Gent, Department of Analytical Chemistry, Krijgslaan 281-S12, B-9000 Gent, Belgium, loraloborevilla@ugent.be; Veerle Devulder, Eleonora Baliana, Dmitriy Malinovsky, Patrick Degryse, Frank Vanhaecke
- 2:20 F07 Provenience Studies of Metal Artifacts in Europe and Asia by Using LA-ICP-MCMS and na-LA-ICP-QMS**, Robert Lehmann, Leibniz University of Hannover, Institute of Inorganic Chemistry, Callinst. 9, D-30167 Hannover, Germany, lehmann@acc.uni-hannover.de; Carla Vogt, Ingo Horn
- 2:40 F08 Technique and Limits of Soil Analysis by LA-ICP-MS Applied to Forensic Science**, Claude Dalpé, Royal Canadian Mounted Police, Forensic Science and Identification Services, Materials Profilin, 1200 Vanier Pkwy, Ottawa, ON K1A 0R2, Canada, claudedalp@rcmp-grc.gc.ca; Chantal Blanchard, Michelle Chartrand, Gilles St-Jean

## Friday Posters

### Biological, Environmental, and Nuclear Sciences

### Stable Isotope, Forensics Analyses

### Aquatic, Earth, Marine, and Geological Sciences

- 3:00 FP01 Reaction Cell Frontier: Analysis of Radionuclides in Environmental Samples Using an Innovative Reaction Cell ICP-MS**, Yasuyuki Shikamori, Agilent Technologies International Japan, Ltd., 9-1, Takakura-cho, Hachioji-shi, Tokyo 192-0033, Japan, yasuyuki\_shikamori@agilent.com; Kazumi Nakano, Naoki Sugiyama, Shinichiro Kakuta
- 3:00 FP02 Biomonitoring of Radionuclide Contamination Near Nuclear Test Sites: Analysis of Tree Rings and Mussel Shells Using Laser Ablation and Solution ICP-MS**, Kaixuan Bu, University of Mississippi, Department of Chemistry and Biochemistry, Coulter Hall Rm 130, University MS 38655, kbu@olemiss.edu; James Cizdziel
- 3:00 FP03 Simultaneous Electrochemically Modulated Separation (EMS) with Dual U-Pb Isolation and Selective Stripping for On-Line Trace ICP-MS Analysis**, Martin Liezers, Battelle Pacific Northwest National Laboratory, 902 Battelle Blvd, PO Box 999, Richland WA 99352, martin.liezers@pnl.gov; Douglas C. Duckworth
- 3:00 FP04 Determination of Technetium 99 in Environmental Samples by ICP MS with TEVA On-Line or Off-Line Preconcentration**, Stanislaw Walas, Jagiellonian University, Faculty of Chemistry, Ingardena 3, PL-30-060 Krakow, Poland, walas@chemia.uj.edu.pl; Halina Mrowiec, Anna Tobiasz, Jerzy Wojciech Mietelski, Krzysztof Kleszcz
- 3:00 FP05 Trace Elemental Analysis of Museum-Archived Mussel Shells from the Upper Mississippi River Using Laser Ablation and Solution ICP-MS**, Kaixuan Bu, University of Mississippi, Department of Chemistry and Biochemistry, Coulter Hall Rm 130, University MS 38655, kbu@olemiss.edu; James Cizdziel
- 3:00 FP06 Determination of Chromium Species in the Workplace**, Beata Janasik, Nofer Institute of Occupational Medicine, Laboratory of Biomonitoring, St. Teresy 8, 91-348 Lodz, Poland, beatajan@imp.lodz.pl; Magdalena Stanislawska, Malgorzata Trzcinka-Ochocka
- 3:00 FP07 Fast and Accurate ETV-ICP-OES Analysis of Trace Metals in Fly Ash Originating From Waste Combustion**, Gerald Bauer, Vienna University of Technology, Institute of Chemical Technologies and Analytics, Getreidemarkt 9/164-IAC, A-1060 Vienna, Austria, e05260@student.tuwien.ac.at; Andreas Limbeck
- 3:00 FP08 The ICP-OES Determination of Cobalt and Phosphorus in Organic Streams Found in an Industrial Plant**, Johanna M. Nhlapo, Sasol Technology Pty Ltd, Analytical Science Group, Private Bag x1000, Secunda 2302, South Africa, johanna.nhlapo@sasol.com
- 3:00 FP09 ICP-MS Analysis of Lipstick for Heavy Metal Exposure**, Ralph Obenauf, Spex CertiPrep, Inc., 203 Norcross Rd, Metuchen NJ 08882, robenauf@spexcorp.com; Patricia Atkins, Vanaja Sivakumar, Huifang Lang
- 3:00 FP10 Determination of Pb, Cd and Cr in Produced Water Samples by ICP OES After Cloud Point Extraction**, Maria Tereza Weitzel Dias Carneiro, Universidade Federale do Espirito Santo, Department of Chemistry, Av. Fernando Ferrari,

514, Goiabeiras, 29075-910 Victoria, ES, Brazil, mariacarneiro@hotmail.com; Murilo de Oliveira Souza, Eustaquio Vinicius, Ribeiro de Castro, Geisamanda Pedrini Brando

- 3:00 FP11 Routine Analysis of Water Matrices According to US-EPA-Guidelines and European Water Directives**, Petar Ivanov, Spectro Analytical Instruments GmbH & Co KG, Boschstrasse 10, D-47533 Kleve, Germany, petar.ivanov@ametec.com; Dirk Ardel, Olaf Schulz
- 3:00 FP12 Component Analyses of Silver and Gold Brazing Filler Metals by Inductively Coupled Plasma Atomic Emission Spectrometry: A Collaborative Study for Standardization**, Michihisa Uemoto, Tokyo Metropolitan Industrial Technology Research Institute, Jonan Branch, Minami-kamata, Ota ku, Tokyo 144-0035, Japan, uemoto.michihisa@iri-tokyo.jp; Takeshi Kobayashi, Kengo Shimada, Yoshitery Tuchiya, Shin-ichi Hasegawa, Jyun-ichi Kobayashi, Kazuyoshi Izawa, Yasufumi
- 3:00 FP13 Application of Resonance Ionization Mass Spectrometry to Sodium Leak Detection and Failed Fuel Identification Techniques in the Fast Reactors**, Yoshihiro Iwata, Japan Atomic Energy Agency, Experimental Fast Reactor Department, 4002 Narita, Oarai, Ibaraki 311-1392, Japan, iwata.yoshihiro@jaea.go.jp; Chikara Ito, Hideki Harano, Takafumi Aoyama
- 3:00 FP14 Method Development for the Microseparations of Cesium and Barium from Glass**, Jennifer L. Steeb, Argonne National Laboratory, 9700 S. Cass Ave, Argonne IL 60439, steeb@anl.gov; Carol J. Mertz, Giselle Sandi, Dean A. Bass, Donald G. Graczyk, Margaret M. Goldberg
- 3:00 FP15 Pb, Sr, and Nd Isotopic Analyses in Provenance Studies of Ancient African Archeological Glasses**, Thomas R. Fenn, Katholieke Universiteit Leuven, Centre for Archaeological Sciences, Geology Section, Celestijnenlaan 200E- Bus 2410, B-3001 Leuven, Belgium, tom.fenn@ees.kuleuven.be; Patrick Degryse, David Killick, Joaquin Ruiz
- 3:00 FP16 On the Analysis of Lead Isotope Ratios of Bullets. A Forensic Approach**, Knut-Endre Sjøstad, University of Oslo, Department of Geosciences, PO Box 1047, N-0316 Oslo, Norway, knutesj@geo.uio.no; Siri Lene Simonsen, Tom Andersen
- 3:00 FP17 Reaction Cell Frontier: Selenium Isotope Dilution Analysis Using Innovative Reaction Cell ICP-MS**, Naoki Sugiyama, Agilent Technologies International Japan, 9-1 Takakura-cho, Hachioji-shi, Tokyo 192-0033, Japan, naoki\_sugiyama@agilent.com
- 3:00 FP18 Trace Elements Determination (Fe, Ni, Cd, Pb, Mn, Cr, Cu, and Zn) in Beach Sand from Espirito Santo, Brazil by ICP OES**, Maria Tereza Weitzel Dias Carneiro, Universidade Federale do Espirito Santo, Department of Chemistry, Av. Fernando Ferrari, 514, Goiabeiras, 29075-910 Victoria, ES, Brazil, mariacarneiro@hotmail.com; Rafael Mantovaneli, Eustaquio Vinicius, Ribeiro de Castro, Geisamanda Pedrini Brando
- 3:00 FP19 Reference Measurements for Cd, Pb, and Zn in Marine Candidate Reference Materials**, Emilia Vassileva, International Atomic Energy Agency, Environmental Laboratories, 4 Quai Antoine 1er, MC 98000 Monaco, Monaco, e.vassileva-veleva@iaea.org; S. Azemard, J. Oh, M. Betti
- 3:00 FP20 Determination of Low Level Mercury in Natural Waters by Isotope Dilution and Solid Phase Extraction**, Emilia Vassileva, International Atomic Energy Agency, Environmental Laboratories, 4 Quai Antoine 1er, MC 98000 Monaco, Monaco, e.vassileva-veleva@iaea.org; S. Azemard, J. Oh, M. Betti
- 3:00 FP21 Fingerprinting of Catfish Using Elemental Profiles Determined by ICP-MS and Chemometrics**, Lorlyn Reidy, University of Mississippi, Department of Chemistry and Biochemistry, 304 Coulter Hall, University MS 38677, lgpauib@olemiss.edu; James Cizdziel
- 3:00 FP22 Determination of Cu and Mn in U with ICP Atomizer in AAS Detection**, Neelam Goyal, Bhabha Atomic Research Centre, Radiochemistry Division, Radiological Laboratory, Tromby, Mumbai 400085, India, neelam@barc.gov.in; S.K. Thulasids, S.V. Godbole
- 3:00 FP23 Optimizing Ultra High Throughput Elemental Analysis for Geological Exploration and Mining Industries**, Steven M. Wilbur, Agilent Technologies, 1615 75th Street SW, Suite 210, Everett WA 98203, steven.wilbur@agilent.com; L. Craig Jones
- 3:00 FP24 Sulfur Isotopic Signatures of Mesoproterozoic Gold Deposits in Brazil: LA-ICP-MS Applications on Metallogenic Studies**, Mauro C. Geraldès, Faculty of Geology, UERJ, Maracana, Rio de Janeiro, RJ, 20559-900, Brazil, geraldès@uerj.br, mauro.geraldès@gmail.com; Anderson C. Santos, Bernhard Buhr, Antonio J.P. de Barros
- 3:00 FP25 The Challenge of Nd Isolation in Low Content Archaeological Glass**, Monica Ganio, Katholieke Universiteit Leuven, Department of Earth and Environmental Sciences, Celestijnenlaan 200e Box 2410, B-3001 Leuven, Belgium, monica.ganio@ees.kuleuven.be; Kris Latruwe, Patrick Degryse, Frank Vanhaecke
- 3:00 FP26 Analysis of Platinum Group Metals in Geological Samples by Microwave Plasma - Atomic Emission Spectrometry**, Craig Taylor, Agilent Technologies Pty Ltd, 679 Springvale Rd, Mulgrave, Melbourne 3170, Australia, craig.taylor@agilent.com
- 3:00 FP27 Analysis of Gold in Geological Cyanide Extracts by Microwave Plasma - Atomic Emission Spectrometry**, Craig Taylor, Agilent Technologies Pty Ltd, 679 Springvale Rd, Mulgrave, Melbourne 3170, Australia, craig.taylor@agilent.com
- 3:00 FP28 Analysis of Exchangeable Cations in Soils Using Ammonium Acetate Extracts by MP-AES**, Craig Taylor, Agilent Technologies Pty Ltd, 679 Springvale Rd, Mulgrave, Melbourne 3170, Australia, craig.taylor@agilent.com
- 3:00 FP29 Chromium Speciation in Drinking Waters Using LC(IC)-ICP-MS**, Mina Tanoshima, Agilent Technologies International Japan, Letd., 9-1, Takakura-cho, Hachioji-shi, Tokyo 192-0033, Japan, mina\_tanoshima@agilent.com; Tetsushi Sakai

- 3:00 FP30 ICPMS Determination of Total Iodine and Bromine in Water Samples**, Denis Bérubé, Health Canada, Environmental Health Centre, 50 Columbine Dr., 0800B3 Tunney's Pasture, Room B5, Ottawa ON K1A OL2, Canada, denis\_berube@hc-sc.gc.ca
- 3:00 FP31 Isotopic Studies of Uranium in the Environment Near a Nuclear Fuel Fabrication Facility**, Kara Saaty, University of Arizona, 1915 E. 2nd St, Tucson AZ 85719, ksaaty@email.arizona.edu; Alexandria J. Ruechel, Steven C. Mercer, Michael E. Ketterer
- 3:00 FP32 The Element Analysis of Minerals in GD-Mass Spectrometry**, George Sikharulidze, Institute of Microelectronics Technology, Russian Academy of Sciences, 142432 Chernogolovka Moscow District, Russia, sikharul@ipmt-hpm.ac.ru
- 3:00 FP33 New Analytical Tools for Geochemical Characterization of Formation Waters**, Heloisa Fontenelle, Departamento de Química, Pontifícia Universidade Católica do Rio de Janeiro (PUC-Rio), R. Marquês de São Vicente, 225, Gávea, 22451-900 Rio de Janeiro, RJ, Brazil, Tatiana D. Saint'Pierre, Norbert Miekeley, fontenel@esp.puc-rio.br
- 3:00 FP34 Analysis of Fuel Samples by Microwave Plasma - Atomic Emission Spectrometry**, Craig Taylor, Agilent Technologies Pty Ltd, 679 Springvale Rd, Mulgrave, Melbourne 3170, Australia, craig.taylor@agilent.com
- 3:00 FP35 Fluoroboric Acid: A "Safer" Alternative to Hydrofluoric Acid**, Jane Ramsey, E.I. DuPont de Nemours and Company, PO Box 80228, Wilmington DE 19880-0228, jane.b.ramsey@usa.dupont.com; Thomas Connell, Ivan Nanita, Raul Ruiz
- 3:00 FP36 Efficient Removal of Polyatomic Ions by ICP-MS Equipped with Novel Reaction Cell: Examples of Highly Purified Chemicals Used for Semiconductor Manufacturing**, Junichi Takahashi, Agilent Technologies International Japan Ltd, D3-3-1, 9-1 Takakura-cho, Hachioji-shi, Tokyo 192-0033, Japan, jun1119@st.rim.or.jp; Noriyuki Yamada
- 3:00 FP37 Bioaccumulation and Separation of Rare Earth Elements by Microorganisms**, Neal Julien, MRIGlobal, Florida Division, 1470 Treeland Blvd SE, Palm Bay FL 32909, njulien@mriglobal.org; Canny Bumgarner, Jennifer Jackman, Laura Whitten
- 3:00 FP38 Biogenesis of Volatile Selenium Compounds in Biosolids/Biofuels and Quantification by VD/GC/ICPMS**, Georges-Marie Momplaisir, US Environmental Protection Agency, ORD/NERL, 944 E. Harmon Ave, Las Vegas NV 89119, momplaisir.georges-marie@epa.gov; Michael H. Hiatt, Charlita Rosal
- 3:00 FP39 Obtaining High Quality ICP-MS Data at Ultratrace Levels by Using Ultrapure Water**, Maricar Tarun, EMD Millipore, 900 Middlesex Tpke, Billerica MA 01821, maricar.tarun@merckgroup.com; Stephane Mabic
- 3:00 FP40 Production of 111-Cd Labeled Rice and Direct Application for Quantification of Cd in Grains by Isotope Dilution**, Maria Fernanda Giné, Centro de Energia Nuclear na Agricultura, Universidade de Sao Paulo, Av. Centerário 303, CP 96, 13400-970 Piracicaba SP, Brazil, mfgine@cena.usp.br; Victor S. Ribeirinho, Felipe A. Villanueva, Aparecida F. Patreze, Cassion H. Abreu Jr.
- 3:00 FP41 A Multi-Isotopic Tracing Study of Dust Provenance in Montane Soils Using MC-ICPMS**, Michael E. Ketterer, Northern Arizona University, Department of Chemistry and Biochemistry, Box 5698, Flagstaff AZ 86011-5698, michael.ketterer@nau.edu; William L. Brady, Samantha C. Brady
- 3:00 FP42 ICP-AES and ICP-MS Studies for Geographical Authentication of Indian Teas**, Suresh Aggarwal, Bhabha Atomic Research Centre, Fuel Chemistry Division, BARC, Mass Spectrometry Section, Trombay, Mumbai 400 085, India, skaggr@magnum.barc.gov.in; Rupali Lagad, D. Alamelu, V.K. Rai
- 3:00 FP43 To Catch a Thief: Forensic Analysis of Copper Wire Using a DC Arc Spectrometer**, Maura Rury, Teledyne Leeman Labs, 6 Wentworth Drive, Hudson NH 03051, mrury@teledyne.com; Charles Hodges, Peter Brown, Paul Dalager, Peter Perzl
- 3:00 FP44 Provenance of South American Wines Using Sr Isotopes: A Comparison to Trace Element Fingerprints**, Corina M. Kellner, Northern Arizona University, Department of Anthropology, Flagstaff AZ 86011-1520, corina.kellner@nau.edu; Cristina Watson, Michael E. Ketterer, Fabrina R.S. Bentlin, Dirce Pozebon
- 3:00 FP45 Sampling Variability Study for Bagged and Palletized Sand**, Jason L. Tubbs, Corning Incorporated, Science and Technology Division, Corning NY 14831, tubbsjl@corning.com; Arlene Clark
- 3:00 FP46 Analysis of Arsenic in Evaporation Pond Water from a Boron Mining Site by HPLC-ICP-MS**, Christopher Medley, University of Cincinnati, Department of Chemistry, Cincinnati OH 45221, medleys@mail.uc.edu

### *Heritage Lecture*

- 5:30 HL05 The Paradigm Change of the Instrument Revolution**, Leo de Galan, Nassau Dillenburgstraat 19, 3116 EM Schiedam, The Netherlands, galanjansen@planet.nl

### *Saturday, January 14, 2012*

- 08:00 PL06 Plasma Source Applications in the Material Sciences**, Norbert Jakubowski, BAM - Federal Institute for Materials Research, and Testing Division, Richard-Willstaetter-Str. 11, D-12489 Berlin, Germany, norbert.jakubowski@bam.de

## **11. Aquatic, Earth, Marine, and Geological Sciences**

- 09:00 IL25 Hazardous Substances in the Marine Environment - From Concentrations to Biological Responses**, Andreas Prange, Helmholtz-Zentrum Geesthacht, Institute for Coastal Research, Marine Bioanalytical Chemistry, Max-Planck Strasse, D-21502 Geesthacht, Germany, andreas.prange@hgz.de

- 09:30 IL26 Implications of Mass Bias Correction in MC-ICPMS Isotope Ratio Measurements**, Lu Yang, Institute for National Measurement Standards, Chemical Metrology, National Research Council Canada, 1200 Montreal Rd., Ottawa, ON K1A 0R6, Canada, lu.yang@nrc-cnrc.gc.ca; Juris Meija
- 10:20 IL27 Stable Isotope Ratio Geochemistry**, Joaquin Ruiz, University of Arizona, Department of Geosciences, 1040 E. 4th St, Tucson AZ 85721, jruiz@email.arizona.edu
- 10:50 IL28 Geochronology Using Plasma Spectrochemistry**, George Gehrels, University of Arizona, 1040 E. 4th St., Gould-Simpson Bldg. 529, Tucson AZ 85721, ggehrels@email.arizona.edu
- 11:20 S01 New Possibilities for the Determination Platinum Group Metals in Platiniferous Ores by Means of Laser Ablation - ICPMS**, Martin Resano, University of Zaragoza, Department of Analytical Chemistry, Pedro Cerbuna 12, E-50009 Zaragoza, Spain, mresano@unizar.es; E. Garcia-Ruiz, Frank Vanhaecke, Keith McIntosh
- 11:40 S02 Efforts Towards Improved Accuracy and Precision in Precious Element Determination in Pb Fire Assay Buttons via LA-ICP-MS**, Sien Compernelle, Ghent University, Department of Analytical Chemistry, Faculty of Science, Krijgslaan 281 S12, B-9000 Gent, Belgium, sien.compernelle@artesis.be; Dorine Wambeke, Kristof Kimpe, Frank Vanhaecke
- 12:00 S03 Preparation of Catalysts and High Silica Samples by Borate Fusion for ICP-OES Analysis: Method Development and Results**, John A. Anzelmo, Claisse Scientific Corporation, 350 rue Franquet, Quebec City, QC G2E 3J7, Canada, janzelmo@claisse.com; Janice Pitre, Melanie Bedard

### *Heritage Lecture*

- 1:00 HL06 Scientific Research: Creativity and Discovery**, Chris G. Enke, University of New Mexico, Department of Chemistry, Albuquerque NM 87131-0001, enke@unm.edu

## **12. Advanced Materials, Surfaces, and Interfaces Petroleum and Semiconductor Materials**

- 2:00 IL29 Spatial and Time Resolved Measurements by a New Acousto-Optical Imaging Spectrometer in Combination with Glow Discharge Sources**, Volker Hoffmann, IFW Dresden, Institute for Complex Materials, Helmholtzstrasse 20, P.O. Box 27 00 16, D-01171 Dresden, Germany, v.hoffmann@ifw-dresden.de; M. Voronov, T. Wallendorf, S. Marke, S. Ray, A.P. Storey, G. Hieftje, C. Engelhard, W. Buscher
- 2:30 IL30 Advances in Pulsed RF Glow Discharge Spectrometry**, Jorge Pisonero, University of Oviedo, c/ Gonzalo Gutierrez Quiros, Campus de Mieres, E-33600 Oviedo, Spain, pisonerojorge@uniovi.es; R. Valedor, P. Vega, A. Sanz-Medel, N. Borda
- 3:20 S04 The Use of Expert Systems for Automatic Evaluation of Glow Discharge Compositional Depth Profiles**, Arne Bengtson, Swerea KIMAB AB, Drottning Kristinas väg 48, S-114 28 Stockholm, Sweden, arne.bengtson@swerea.se; Jonas Gurell
- 3:40 S05 Zoom-TOF: A Novel Approach to High-Resolution Glow Discharge Time-of-Flight Mass Spectrometry**, Elise A. Dennis, Indiana University, Chemistry Department, 800 E. Kirkwood Ave, Bloomington IN 47405, eadennis@indiana.edu; Steven J. Ray, Christie G. Enke, David W. Koppenaal, Charles J. Barinaga, Gary M. Hieftje
- 4:00 S06 First Applications of a Novel Pulsed Radio Frequency Glow Discharge Plasma Source for Modern Elemental Speciation Analysis**, Wolfgang Buscher, University of Münster, Corrensstrasse 30-36, D-48149 Münster, Germany, wolfgang.buscher@uni-muenster.de; Tobias Steingrobe, Volker Hoffmann, Maxim Voronov, Andrew P. Storey, Steven J. Ray, Gary M. Hieftje, Carsten Engelhard
- 4:20 S07 Impedance and Emission Characteristics for Varied Cathode Sizes in a Radio-Frequency Glow Discharge**, Andrew P. Storey, Indiana University, Department of Chemistry, 800 E. Kirkwood Ave, Bloomington IN 47405, apstorey@indiana.edu; Steven J. Ray, Carsten Engelhard, Volker Hoffmann, Wolfgang Buscher, Maxim Voronov, Tobias Steingrobe, Gary M. Hieftje
- 4:40 S08 Analytical Aspects of Liquid-Supported Ambient Glow Discharge**, Steven J. Ray, Indiana University, Department of Chemistry, 800 E. Kirkwood Avenue, Bloomington IN 47405, sjray@indiana.edu; Andrew W. Schwartz, Zheng Wang, Gary M. Hieftje
- 5:00 S09 A Dielectric Barrier Discharge Coupled to a High-Resolution Mass Spectrometer for Sensitive Ambient Desorption/Ionization Mass Spectrometry**, Carsten Engelhard, University of Münster, Institute of Inorganic and Analytical Chemistry, Corrensstrasse 30, D-48149 Münster, Germany, carsten.engelhard@uni-muenster.de; Anastasia Albert
- 5:20 S10 Laser Based Methodologies for Determination of Elemental Impurities in Nuclear Grade Zircaloy**, Suresh Aggarwal, Bhabha Atomic Research Centre, Fuel Chemistry Division, BARC, Mass Spectrometry Section, Trombay, Mumbai 400 085, India, skaggr@magnum.barc.gov.in; D. Alamelu, K. Singh, A.K. Chaudhury, Awadesh K. Rai
- 5:40 S11 Cool Plasma and Interference Standard as Strategies to Determine P and S in Fuel Samples by ICP-QMS**, George L. Donati, Federal University of Sao Carlos, Department of Chemistry, P.O. Box 676, Sao Carlos, SP 13565-905, Brazil, georgedonati@yajoo.com.br; Renata S. Amais, Joaquim A. Nobrega
- 6:00 Closing**