Scientific Programme

Monday, 12th June

Opening Ceremony: Stefano Legnaioli, Alessandro D’Ulivo, Vincenzo Palleschi

PLENARY LECTURE: Javier Laserna - The sources, progress and frontiers of an exciting technology: laser-induced breakdown spectroscopy

Nanotech
Heidi Goenaga (IL) - OQO-ICP-MS hyphenations for the characterisation of manufactured nanomaterials in complex matrices: from size-based speciation to counting
Anna Czaderna - The feasibility of analysis of water structure in electric field using molecular spectroscopies
Akif G. Bozkurt - Alkaline phosphatase labeled SERS active sandwich immunoassay for the detection of E. coli
Anna Tugarova (IL) - Vibrational Spectroscopy in Studying Microbially Synthesised Selenium Nanoparticles
Martin Resano (KL) - Characterization of metallic nanoparticles via high-resolution continuum source atomic absorption spectrometry
Paulina Filipczak - Surface Enhanced Raman Scattering of Water in Dispersions of Silver Nanoparticles
Magdalena Matczuk - CE-ICP-MS as a platform to differentiate the speciation changes of various theranostic metalonanomaterials in human serum
Nicoletta Ditaranto - Spectroscopic characterization of second-generation nanostructured antimicrobials

Food Analysis I
Banu Sezer - Laser Induced Breakdown Spectroscopy Based Protein Assay for Cereal Samples
William Boschetti - Control of spectral interference in muss and wine analysis via high-resolution continuum source flame atomic absorption spectrometry
Sonia Fernandez-Menendez – Elemental mass spectrometric evaluation of iron nanoparticles as an enhanced iron supplement for formula milk
Beatriz Gomez-Nieto - Evaluation of internal standardization to improve the determination of trace elements in beverages by high-resolution continuum source flame atomic absorption spectrometry
Emine Kubra - Raman spectroscopy for discrimination of phage and antibiotic in raw milk
Havva Tumay Temiz - Laser Induced Breakdown Spectroscopy for Determination of Butter Adulteration
Bruna Campos - Metabolomic approach investigating differences in two generation of genetically modified and non-modified soybean seeds
Cheryl McCrindle - Identification of the Region of Cultivation of Ethiopian Coffee Using Spectrometric Data
SHIMADZU
Barcoding Approach for Determination of Vegetable Oil by Raman Spectroscopy

Archeology and Cultural Heritage I

Roberta Fantoni (IL) - In situ and remote spectroscopic characterization of Cultural Heritage surfaces
Claudia Pelosi - Multi-analytical approach for the evaluation of the stability of painting materials for conservation purposes
Ahmed Abdrebou - Scientific investigation by multispectral imaging, OM, ESEM, P-XRF, XRO and FTIR of an ancient Egyptian polychrome wooden coffin
Laura Cartechini - Chemical changes in oil paints containing copper-based green pigments: a systematic investigation by ATR-FTIR spectroscopy
Gianni Gallello - Rare Earth Elements analysis to identify anthropogenic signatures at the Valle del Serpis (Spain) Neolithic settlements
Vanessa Antunes - Highlighting Flemish and Portuguese painting workshops differences and similarities: two paintings and two masters
Marco Giannello - Cal-oxide and alteration films on the stones of the medieval Romanesque Sardinian monuments (Italy)
Francesca Rossi - MOLAB transnational access at the Estorick Collection: non invasive study of the Italian Futurist paintings
Rezida Khramenkova - Research of gesso and paint layers of the fresco painting of St. Christopher with a horse head from the Assumption Cathedral on the Sviyazhsk Island (Russia)
Barbara Wagner - Screening of inorganic species using LA-ICP-MS imaging data and Raman spectroscopy for historic pigments identification

Environment I
Patricia Smichowski (KL) - Oxygenated and nitrated PAHs in the atmosphere of Buenos Aires. Determination by UHPLC+HAPCI-MS/MS
Beatrice Campanella - Thallium speciation in acid mine drainages: method development, influence of environmental parameters and application
GIOTTO BIOTECH
Ricardo Urrutia-Goyes - Compound Methodology for the Characterization of Lead Contamination in Soil: The Case of a Former Battery Factory in Monterrey, Mexico
Yoko Nunome - Detection of Volatile Organic Compounds in direct current glow discharge plasma by Soft Plasma Ionization Mass Spectrometry
Emilia Vassileva - Determination of selected trace elements in the open ocean
Agnieszka Krata - Ion Chromatography Coupled Multicollector/ICP MS in the Determination of Inorganic Cations
Giuseppe Capobianco - A hierarchical classification approach for the identification of different waste polymers by hyperspectral imaging
Li Wu - Chemical compositional bulk analysis of size-segregated aerosol particles using ATR-FTIR

Fundamentals of LIBS I
Christian Parigger (IL) - Measurement of electron temperature and density in laser-induced hydrogen and laboratory air plasma
Pawel Gasior - Inter-pulse delay influence on the plasma expansion dynamics in DP-LIBS investigation of a graphite sample in vacuum
Cesar Alvarez-Llamas - Use of CaF molecular emission to improve the analytical capabilities for fluorine detection by LIBS
Jorg Herrmann (KL) - Characterization of laser-produced plasmas
Alexey Bulanov - Features of LIBS under the action of ultrasound
Giampiero Colonna - Modeling plasma heating by fs laser pulse
IBSEN: Thomas P. Rasmussen - Ultra compact high-resolution OES spectrometers for LIBS
Vyacheslav Lebedev - LIBS system on the basis of Nd:YAG laser with multiloop cavity self-Q-switched by external plasma mirror
PLENARY LECTURE: Marco Zezzi Arruda - Unraveling genetically modified organisms through mass spectrometry

Andreas Karydas (IL) - Interdisciplinary synchrotron radiation based X-ray spectrometry applications using the IAEA multi-technique instrument operated at the XRF beamline of Elettra Sincrotrone Trieste.

Denga Ramutshatsha - Application of response surface methodology for simultaneous removal of Na, K, Ca and Mg ion from seawater using metal oxide nanostructures

Beata Godlewksa-Zytkiewicz - Development of HPLC-ICP MS Method for Separation and Determination of Nano and Ionic Forms of Gold and Silver

Diego Pereira Leite - Characterization of SiO2 Nanoparticles by Single Particle - Inductively Coupled Plasma - Tandem Mass Spectroscopy

Food Analysis I

Ashok Kumar Pathak - Study of mineral distribution in citrus canker disease infected Lemon fruit using LIBS

Burcu Guven - Developing the Rolling Circle Amplification (RCA) Based Surface-Enhanced Raman Spectroscopy (SERS) Method for Genetically Modified Organisms (GMOs)

Temiz Havva - Laser Induced Breakdown Spectroscopy for Determination of Butter Adulteration

Katarzyna Zylkiewicz - Laser Induced Breakdown Spectroscopy for Determination of Semiconductor Material

Ilaria Bonaduce (KL) - Organic mass spectrometry to investigate molecular degradation phenomena of modern oil paintings

Nick Schiavon - Assessing the efficacy of the EDXRF/Monte Carlo Simulations approach in the analysis of ancient metal artifacts: an experimental study on artificial corroded alloy samples

Giuseppe Spoto - Atmospheric pressure MALDI for the non-invasive characterization of carbonaceous ink from Renaissance documents

Isaia Corta - In situ characterization of the pictorial layers of an original 1771 Pascal Taskin harpsichord

Annalisa Chielli - Why does Geranium lake fade? Photochemical study of eosiin-based pigments in oil paints

Stefano Columbu - Secondary mineral phases and ancient treatments on limestone from Monte de Praa nuragic statues (Sardinia, Italy)

Archaeology and Cultural Heritage I

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Geological Applications I

Russel Harmon (IL) - LIBS in the Earth Sciences – Recent Applications and Current Perspectives

David Day - Lithium Brine Analysis to PPM Levels using Hand Held LIBS

Rim Al-Rifai - Non-Invasive Elemental Analysis of Gemstones by NANO PARTICLE ENHANCED LASER INDUCED BREAKDOWN SPECTROSCOPY

Timur Arkhetzhzhanov - Quantification of Fe/Mn ratio in iron-manganese nodules by CF-LIBS

Alberto Renzulli - The black stones at the Leopard’s childbirth (Recanati, Italy): a LIBS and portable XRF survey of the rock-articles

Stefano Pagnotta - Accuracy and precision improvement of Laser-Induced Breakdown Spectroscopy by geostandards

Fundamentals of LIBS I

Carlos Aragon - Analysis of aluminum alloys by CSigma laser-induced breakdown spectroscopy

Houssy Yousfi - A Comparative Study of Carbon Plasma Emission in Methane and Argon Atmosphere

Ali Safi - New procedure for verification of Local Thermodynamic Equilibrium (LTE) in Laser-Induced Breakdown Spectroscopy

Yoshihiro Deguchi - Improved Detection Ability Using Collinear Long and Short DP-LIBS

Zeyad Alwahabi - Near-Field Applicators for Efficient Microwave-Assisted Laser-Induced Breakdown Spectroscopy

Yaser Nosrati - Effect of Laser Pulse Energy and Delay Time in Double-Pulse on laser ablation and Plasma Radiation: Modeling and Numerical Simulation

Alexander Kramida - A new interactive interface to the NIST Atomic Spectra Database for LIBS spectra simulation and diagnostics
Tuesday, 13th June

PLENARY LECTURE: Ove Axner - NICE-OHMS and NICE-AAS

Industrial Applications
Sabrina Messaoud (IL) - Using LIBS technique for zinc based alloys sorting
Sergey Pershin - Three Decades of Double-pulse LIBS: from the first steps in 1987 to modern industry applications
Maurice Brogly - FTIR PM-IRRAS Spectroscopy and AFM Investigations of Polymer and Copolymer Thin Films Adsorbed on Metal Substrates
Sven Conennmann - Automated LIBS sorting system for spent refractories from the steel industry for high-value recycling
Shuzo Eto - Rapid measurement system for concrete sample by using laser-induced breakdown spectroscopy
Mohamad Salsabi (IL) - New Horizons in LIBS and Challenges for its implementation in the Mining Industry
Elise François - Non-ferrous slag analysis using Laser-Induced Breakdown Spectroscopy in LIBS
Stanislav Pirec - Performance Comparison of Handheld LIBS Analyzer with that of Handheld XRF Analyzer

SHIMADZU

Samira Khatim - Quantitative analysis of Al-Si alloy using calibration free laser induced breakdown spectroscopy (CF-LIBS)
Syedah Sadaf Zeha - Time resolved VUV LIBS for thin film depth profiling
Hector Morillas - Evaluation of deterioration processes on bricks exposed to industrial-marine environments using field and laboratory analytical methods

Bio-medical Applications
Boris Mizikojoff (IL) - Towards IR-on-a-Chip: Is Smaller Better?
Paddy Hayden (KL) - Applications of Vacuum Ultraviolet Laser Induced Breakdown Spectroscopy (VUV-LIBS) in the Analysis of Pharmaceuticals
Samuel Moncayo - LIBS imaging for supporting medical diagnoses
Ahmed Irfan - Elemental analysis of the thyroid by laser induced breakdown spectroscopy
Alexander A. Kamnev (KL) - Microbiological Applications of Vibrational Spectroscopy: Looking inside through the Cell Wall
Mahsa Ghezelbash - The study of human blood serum for Triglyceride (TG) and Low-Density Lipoprotein (LDL) factors diagnosis using Laser Induced Breakdown Spectroscopy (LIBS)
Hisham Mahmoud - Study the genotoxicity of gold magneto nanoparticles in liver cancer cells via laser induced plasma spectroscopy
Muhammad Ali - Vacuum Ultraviolet Laser Induced Breakdown Spectroscopy (VUV-LIBS) For Pharmaceutical Analysis
Paolo Armanetti - The Photoacoustic effect in the field of biomedicine: Imaging, multispectral analysis in biomedical applications

Geological Applications II
Saara Kaski - Classification of sulfur minerals in vacuum ultraviolet and near-infrared spectral region
Richard Hark - Analysis of Columbite-Tantalite Using Handheld LIBS
Galina Pashkova - Does analysis of unique rocks require specific analytical strategy? Determination of major and trace elements in meimechites by XRF and ICP MS methods
Giorgio Senesi - Three-dimensional compositional mapping of limestone by double-pulse micro-laser-induced breakdown spectroscopy
Susanne Schröder - Improving Sulfur Detection in Martian Targets with time-resolved LIBS

LIBS & Raman

Michael Angel (KL) - Miniature Spatial Heterodyne Spectrometers for Remote LIBS and Raman Spectroscopy

BSV 166

Sergey Pavlov - Laser-ablation alteration of iron sulfides studied at different simulated planetary conditions by Raman spectroscopy
Bobby Bhatt - Nuclear Forensics Analysis by Combined LIBS and Raman Spectrometry

AVANTE

Vasily N. Lednev - Combining Raman and Laser Induced Breakdown Spectroscopy by Double Pulse Lasing

Archaeology and Cultural Heritage II

Marta Manso (KL) - X-ray fluorescence and Raman analytical techniques in written and artistic documents characterization
Susana Sousa Gomes - Elemental composition and Pb isotope ratios of roman artefacts from Lusitaniae
Alessia Artesani - Time resolved photoluminescence spectroscopy for investigation of semiconductor modern pigments
Jeanette Jacqueline - Protective effect of linseed oil varnish on archaeological wood treated with alum.
Emilio Catelli - Total Reflection Near and Mid-Infrared Spectroscopic Studies on Outdoor and Archaeological Bronze Patinas
Maria Luisa DeCarvalho (IL) - X-ray micro beam: Cultural and archaeological heritage applications overview
Sibilla Orsini - Spectroscopic investigation of the interactions between commercial stains and protein matrices used in paintings
Mohammad Mahdi Hassaminat - Reducing Ablation and Improving Signal in Laser Induced Breakdown Spectroscopy by Using Spark Discharge in Sensitive and Valuables Samples

ASSIMIOM

Lynda Idrisamudine - The first study of non-destructive technical to some manuscripts of Algerian heritage
Eugenia Shakhutdinova - A unique 10th century silver coin of the Banjirid dynasty (Bolgar settlement, Russia)
Gioacchino Tempesta - micro-LIBS vs. XRF analysis of surface-enriched silver coins. Is a micro-destructive approach really unavoidable?

Fundamentals of LIBS II

Igor Gornushkin - Model of Stimulated Emission in Aluminum Laser-Induced Plasma Produced by Resonance Pumping
Irene Maria Carrasco-Garcia - Wavelength Dependence of Surface Transformations in Femtosecond Laser Ablation of Metallic Thin-Films
Muhammad Hanif - Laser Induced Breakdown Spectroscopic Studies of Silicon Plasma
Georg Akerhold - Reactive molecular dynamic simulations to investigate molecular formation in laser-induced plasmas
Ben Delaney - Determination of Detection Limits of Trace Elements in Aluminium Using Stagnation Layers
Zhe Wang (IL) - A set of quantification method for coal analysis using laser-induced breakdown spectroscopy

Johannes Pedarnig - Analysis of metallurgical slags in steel production by calibration-free laser-induced breakdown spectroscopy
Guy Monfort - Strategies for the LIBS on-line analysis of transition billets in continuous casting machines
Minhao Cui - Dynamics and Parameters of Plasma Generated by Long and Short Dual Pulses Laser, Interacting with Steel Sample
Volker Sturm - Fast Identification of Steel Bloom Composition at a Rolling Mill by LIBS Elemental Analysis

SCAPS
Nomvano Mketo - Trace-metal Mobility in Coal Samples using Multivariate Optimised Microwave Based Sequential Extraction Method prior to Spectrometric Determination

PLENARY LECTURE: Montserrat Filella - When Anthropocene means exploiting all the elements of the periodic table: a new challenge for environmental analytical chemistry

Industrial Applications

Seyed Hassan Tavassoli - Quantitative elemental analysis of Aluminum alloy by Calibration-Free Laser Induced Breakdown Spectroscopy
Sebastian Breithaupt - Surface vs. Core analysis of synthetic rubber samples and the influence on the ablation efficiency using LIBS
Cord Fricke-Begemann - LIBS for identification and localization of valuable materials in electronic waste
Lukáš Průcha - Depth Profile Analysis of Thin Films Using Laser-Induced Breakdown Spectroscopy
Shyama Prasad Banerjee - Laser Induced Breakdown Spectroscopy for monitoring laser scribing on organic photovoltaic devices
Gerd Wilch - Laser-induced breakdown spectroscopy for the chemical investigation of concrete infrastructure

Bio-medical applications

Alessandra Gianoncelli - Recent achievements in Life Sciences of the TwinMic soft spectromicroscopy beamline at Elettra
Noureddine Cheriet - Discrimination of lithiassic components in kidney stones using laser induced breakdown spectroscopy
Thomas Signour - Air Bio-Monitoring: a new protocol for cultureless bacteria identification by combining genomic analysis and Raman spectroscopy
Fiorella Iaquinta - Determination of As, Hg, Mn and Pb in hair using atomic absorption spectrometry as biomarkers of exposure for health risk assessment
Viktor Kanicky - Laser ablation inductively coupled plasma mass spectrometry in elemental imaging of selected mineral and biological samples
Hudson Angeyo Kalamu - Rapid Malaria Diagnostics via Peak-Free LIBS of Blood
Alessandra Fiori - Magnetic Resonance Chemical Shift Imaging by hyperpolarized probes: cardiac 13C-spectroscopic imaging of enzymatic fluxes

Materials

Aneta Ciupa - Synthesis, structure, vibrational properties and phase transition mechanism
Ali Reza Berenji - Structure, Vibrational Analysis and Intramolecular Hydrogen Bond Strength of Some 4-Amino-3-Penten-2-One Derivatives
Zuzana Moravkova - Model of the interaction of polypyrrole with organic dyes and its influence on polypyrrole morphology - vibrational spectroscopy study
Eraldo Luiz Lehmann - Mass-charge shift ratio to increase accuracy through oxide formation of Mn, Ni and Fe focusing on their determination by ICP-MS
Ana Guilherme - S2XAFS: Time-resolved X-ray absorption spectroscopy in a ‘single-shot’ - First in situ applications
Tiina Virtanen - Application of principal component analysis model for real-time monitoring membrane fouling
Xin Zhang - Fingerprint Identification of Inorganic Compounds Using Terahertz Time-Domain Spectroscopy

Speciation

Joanna Szpunar (IL) - Spectrometric tools for selenium speciation: oxidation states, metabolites, proteins and nanoparticles
Ryszard Lobinski (KL) - Probing for metal-ligand interactions and analysis for non-covalent metal complexes in bacteria and plants using chromatography with dual ICP MS and electrospray FT MS detection
Tomas Matousek - Direct Speciation Analysis of Arsenic in Whole Blood and Blood Plasma at Low Exposure Levels by Hydride Generation-Cryotrapping ICP-MS: A New Trick of an Old Dog
Luthando Nyaba - Speciation of inorganic selenium in environmental samples after suspended dispersive solid phase microextraction combined with inductively coupled plasma spectrometric determination
Agieszka Nawrocka - Speciation Analysis of Arsenic Compounds in Marin Samples

LIBS Imaging

Vincent Motto-Ros (KL) - Elemental imaging by LIBS: recent advances and remaining challenges

ELEMISSION

Cassian Gottlieb - Influence of grain sizes on the quantification of LIBS measurements in concrete
Violeta Lazic - Integrated Laser Sensor (ILS) for characterization and extended mapping of remote targets
Morris Weimerskirch - LIBS-Stratigraphy of protective coatings: Investigations on the wavelength dependence of the ablation rate in metals
Pavel Políška - Advances in direct utilization of echellograms in LIBS analysis
Wednesday, 14th June

PLENARY LECTURE: X. Chris Le - Arsenic Speciation and Arsenic Binding to Proteins

Materials II

Yun-Bao Jiang - Innovations in Spectral Sensing Exploring Ag+ Coordination Polymers Facilitated by Ag+ Ag+ Interactions
Belgin Genc Oztoprak - Analysis of Laser Treated CFRP Surfaces by Laser-Induced Breakdown Spectroscopy
Walter Giurlani - An innovative spectroscopic technique for the study of palladium behviour in Alkaline Fuel Cells
Carlos Ararat - Laser Induced Breakdown Spectroscopy Application in Diffusion Studies in Zr Based Alloys
Roman Jędzierscyk - New sonochemically assisted synthesis of structured non-noble catalyst for methane and VOCs combustion
Tomasz Runka - Raman spectroscopy characterization of cyclic/acyclic molecular rotors

Atomic Spectroscopy

Margaretha de Loos-Vollebregt (KL) - The role of charge transfer in matrix-induced non-spectral interferences in inductively coupled plasma atomic emission and mass spectrometry
Daniel L. G. Borges - New Findings on the Direct Analysis of Solid Samples Using Atomic and Inorganic Mass Spectrometry
Zhenli Zhu - Development of a Battery-Operated, Portable Atomic Emission Analyzer for Elemental Analysis Based on Atmospheric Pressure Glow Discharge Excitation Source

AGILENT
Rocío Muniz - Quantitative depth profile analysis of rare earth elements in corroded steel by glow discharge - time of flight mass spectrometry
Ilknur Durukan Temuge - Ligandless Extraction of Trace Amount of Lead Ion by Solidified Floating Organic Drop Microextraction and Determination by Atomic Absorption Spectrometer

ATOMTRACE

Proteomics

Rainer Bischoff (IL) - Electrochemical, site-specific peptide bond cleavage as a novel approach in protein analysis
Quiquan Wang (KL) - Metal-Tagging Strategy for Bioanalysis: Quantification of Protein Biomarkers and Counting Cells
Rosario Pereireno - Bioimaging of proteins in biological tissue sections by LA-ICP-MS using bioconjugated gold nanoclusters
Sara María Rodríguez-Menéndez - Comprehensive quantitative study of Zn and Metallothioneins in eye tissue sections and cultured cells by mass spectrometry-based methodologies

Forensic Applications

Jun Kawai (KL) - Fabrication and Falsification in XRF, ICP-AES, HG-AAS and GC-MS in Forensic Analyses in Japan
Luigia Sabbatini (KL) - An integrated multi analytical approach for the investigation of modern felt-tip pen inks
Jun-Ho Yang - Separation of Overlapping Latent Fingerprint using Laser-Induced Breakdown Spectroscopy Combined with Multivariate Analysis
Marek Kotryl - Analysis techniques for multicomponent samples in forensic fields

Israel Schechter - Detection and Mapping of Trace Materials on Surfaces Under Ambient Conditions using Multiphoton Electron Extraction Spectroscopy (MEES) and Comparison to Traditional Spectroscopies

Food Analysis II

Gonca Bilge - Comparison of Laser Induced Breakdown Spectroscopy Analysis Between Milk and Milk Powder
Tiago Varão Silva - Quantitative prediction of coffee adulteration by defective beans using Laser-Induced Breakdown Spectroscopy
Jorge Caceres - Food analysis by Laser Induced Breakdown Spectroscopy (LIBS)
Mariela Piston - Determination of Cu, Fe, Mn and Zn in wheat flour using TXRF: Comparison with FAAS and ETAAS
Josette El Haddad - LIBS combined with chemometrics can improve the quality and safety of natural health products through better differentiation of functional ingredients
Sadia Manzoor - Qualitative and quantitative analysis of milk for the detection of adulteration by Laser Induced Breakdown Spectroscopy
Maria del Carmen Rico Rodríguez - Fast Detection of Adulteration in Honey using Laser–Induced Breakdown Spectroscopy and Neural Networks
Durgesh Kumar Tripathi - Detection of Silicon bio-availability in different parts of bamboo using LIBS spectroscopy
Devendra Kumar Chauhan - Application of LIBS to compare the mineral profile of two Ashoka species Anielle Coelho Ranulfi - Nutritional characterization by laser-induced breakdown spectroscopy of healthy and Aphelenchoides sp. Infected soybean leaves
Marco Consumi - High quality analysis of food by multivariate ToF-SIMS approach

Fuels

Enrico Flores Feasible - Sample Preparation Methods for further Rare Earth Elements Determination
Oscar Lombana - Excitation - emission matrix spectroscopy (EEMS) for fuels identification
Przemyslaw Jodlowski - In situ spectroscopic studies of methane catalytic combustion over Co, Ce and Pd mixed oxides deposited on a steel surface
Carlos Sanchez-Rodriguez - Determination of metals and metalloids in bioethanol samples using a total sample consumption system coupled to ICP techniques
Zofia Kowalewska - Feasibility of high-resolution continuum source flame molecular absorption spectroscopy for Si determination in organic solutions via SiO molecule absorption

Vapor generation and Sample Introduction Techniques

Jiri Dedina (KL) - Hydride - Atomizers for Atomic Absorption and Atomic Fluorescence Spectrometry - New Horizons
Enea Pagliano - Recent developments in the determination of inorganic anions by GC-MS
Jan Kratzer - Dielectric Barrier Discharge Atomizers of Volatile Species for Atomic Spectrometry: Applications and Mechanisms
Karel Marschner - Cleavage of As-C Bond during Chemical Hydride Generation
Jurgen Schram - Pulsed Laser Ablation in Liquids as Digestion Method for Inductively Coupled Plasma Optical Emission Spectroscopy
Kazuki Wagatsuma - Correlation between Gas Temperature and Atomization Behavior of Analyte Elements in Flame Atomic Absorption Spectrometry Estimated with a Multi-Wavelength High-resolution Spectrometer

Liquid Analysis

Montserrat Hidalgo Nunez (KL) - Analysis of liquid samples: a great challenge for LIBS
Thursday, 15th June

PLENARY LECTURE: Anemie Bogaerts - The plasma characteristics and sample behavior in the ICP revealed through computer modeling

Geological Applications III

Russel Harmon - Handheld LIBS as a Field Tool for Diamond Exploration – Analysis of Kimberlite Minerals
Kristin Rammelkamp - Investigation of Normalization Methods using Plasma Parameters for Laser Induced Breakdown Spectroscopy (LIBS) under simulated Martian Conditions
Jens Frydenvang - Mapping the geochemical stratigraphy of Mt. Sharp in Gale Crater, Mars, using the ChemCam instrument on the NASA Curiosity rover
Simona Raneri - Laser Induced Breakdown Spectroscopy (LIBS) for gemological testing: the case of corundum gems
Mauana Schneider - A new approach for arsenic determination: Direct analysis of solid soil samples by HR-CS GF-AAS
Michael Oshtakh - Characterization of NWA 6286 and NWA 7857 Ordinary Chondrites Using X-Ray Diffraction, Magnetization Measurements and Mossbauer Spectroscopy

Fundamentals of Mass Spectrometry

María Careri (IL) - Advances and future trends in desorption electrospray-mass spectrometry
Ewa Bulska (KL) - Certified Reference Materials for Atomic and Molecular Mass Spectrometry
Edward Steers (KL) - A systematic comparison of the effects of small quantities of a molecular gas (H2, N2 or O2) in Glow Discharge Mass Spectrometry using argon or neon as the plasma gas

Environment II

Zoltan Mester (KL) - Arsenic speciation in certified reference materials
Roberto-Jesús Lasheras - Characterization of atmospheric aerosols using Calibration-Free Laser-Induced Breakdown Spectroscopy
Victor G. Mihucz - A Simple Speciation Method for Monitoring Arsenic Removal from Drinking Water
Reham Afifi Rezk - LIBS and XRF analysis of heavy metals adsorbed in fish bones: Adsorption Isotherm and Kinetics Studies
Barbara Lesniewska - Novel Methods for Speciation Analysis of Chromium in Environmental Samples Based on Solid Phase Extraction and Ion-exchange Chromatography Coupled to Atomic Spectrometry
Jan Viljanen - Temporal Elemental Release During Biomass Combustion Using Microwave Assisted Laser-induced Breakdown Spectroscopy
Zheng Wang - Element Determination By Atmospheric-Pressure Solution Cathode Glow Discharge And Atomic Emission Spectrometry
Asli Baysal - Impact of soil and root type on the behavior of ZnO and Al2O3 by microbial and antioxidant activity
Mahmoud Payehghadr - Ultra trace determination of Zn2+ in plant samples by FAAS after preconcentration
Xue Li - Real-Time Investigation of Chemical Compositions and Hygroscopic Properties of Aerosols Generated from NaCl and Oxalic Acid Mixture Solutions Using In Situ Raman Microspectrometry
Juan Camilo Cely Garzon - Development of alternatives, integration and evaluation of a prototype instrument for the identification and quantification of hydrocarbons through excitation - emission matrix spectroscopy (EEMS)
Gerrit Renner - Automated Identification of Environmental Microplastics Based on FT-IR Spectroscopy.
Clinical and Pharma

Rosalba Gaudiuso (IL) - Cancer Diagnosis using LIBS and Machine Learning Tools: Progress and Challenges

Koichi Chiba - Arsenic Speciation and Cadmium Determination in Tobacco Leaves and Smoke

Yong Liang - ICP-MS-Based Quantitative Analysis of Glyco-PTEs via Metabolism-Mediated and Clickable Lanthanide-Tagging Strategy

Francesca Bellagambi - Determination of biomarkers in oral fluid for monitoring heart failure patients

Ganna Grygorova - A spectroscopic study of ordered adsorption of organic molecules on colloidal orthovanadate nanoparticles

Joanna Chwiej - The use of X-ray fluorescence and FTIR microspectroscopy for the highly spatially resolved analysis of elemental and biochemical changes occurring in the hippocampal formation during postnatal brain development

Irina Alenkina - Comparative Analysis of the Heme Iron Electronic Structure and Stereochirality in Tetrameric Rabbit Hemoglobin and Monomeric Soybean Leghemoglobin a Using Mossbauer Spectroscopy with a High Velocity Resolution

Zhuoyong Zhang - Characterization of Chiral Drugs by Using Terahertz Time-Domain Spectroscopy

Gul Sirin Ustabasi - Distribution of trace elements in tobacco and shisha products in Turkey and accumulation on their smoke

Underwater LIBS

Tetsuo Sakka (KL) - Chemical reactions in the plasma for quantitative underwater LIBS

Blair Thornton - Reflections on 5 years of LIBS Deployments for Deep-Sea Research

Soichi Yoshino - Analysis of underwater long-Pulse LIBS signals using Artificial Neural Networks

Marcella Dell’Aglio - Single and Double pulse laser-induced breakdown spectroscopy of solids in water: effect of hydrostatic pressure on laser-induced plasma, cavitation bubble and emission spectra

Tomoko Takahashi - Quantitative elemental analysis of water-submerged solids using PLS with temperature segmented database for LIBS

Nano-LIBS

Alessandro DeGiacomo (KL) - Perspectives of Nanoparticle Enhanced Laser Induced Breakdown: the laser matter interaction under NPs control

Alexandre Semerok - Nano-sampling of metals with ultra-short laser pulses

Francesco Poggiolini - Green Synthesis of Silver Nanoparticles and Their Application in the Laser Induced Breakdown Spectroscopy Technique

Ashraf El Sherbini - On nanoparticle enhanced laser-induced emission spectroscopy

PLENARY LECTURE: Rick Russo - Solid Matrix Transformation as a Sample Preparation Method for Laser Induced Breakdown Spectroscopy and Laser Ablation Inductively Coupled Plasma Analysis

Computational Spectroscopy

Vincenzo Barone (IL) - The Virtual Multifrequency Spectrometer: status and perspectives of an undergoing project

Stanislav Žálík (IL) - Quantum Chemical Interpretation of Spectral Properties of Organometallic Complexes in Ground, Excited and Different Redox States

Alberto Biaiardi - Accessible accurate simulation of vibrational and electronic spectra of medium-to-large molecular systems: the virtual spectrometer

Lorenzo Pardini - Mapping Atomic Orbitals with the Transmission Electron Microscope: Images of Defective Graphene Predicted from First-Principles Theory

Laura Zanetti-Polzi - Modeling amide I infrared spectra of proteins: insights from a perturbative approach

Marco Fuò - Computational modelling of chiroptical properties of transition metal complexes

Nuclear Applications

Madhavi Z. Martin (IL) - Evaluation of corrosion on materials at the Y-12 Nuclear Security Complex using Hand-Held Laser-Induced Breakdown Spectroscopy

Roger Martin (IL) – Twenty Years of LIBS at Oak Ridge National Laboratory: Nuclear Applications and Future Promise

Joy Namachanja Malaba - Microextraction of uranium and nuclear forensic analysis by chemometric based LAMIS

Kristian Myhre - Analysis of Separation Processes for the Production of Radioisotopes Using Laser-Induced Breakdown Spectroscopy

Juma Moses Wabwile - Quantitative Raman Microspectroscopy of Uranium in Individual Aerosols over a Model Nuclear Atmosphere

Francesco Colao - Development of a LIBS system for applications in Frascati tokamak upgrade

Pavel Veis - Simultaneous echelle broadband and high-resolution OES study for CF-LIBS analysis of W-based materials in thermonuclear fusion

Clinical and Pharma

Fabio Di Francesco (KL) - Flexible and disposable sensors based on graphenic materials for wound monitoring

Soﬁa Pessanha - Non-destructive spectroscopic techniques applied to dentistry research in Composition Analysis and Grade Identiﬁcation of Metallic Alloys

Tommaso Lomonaco - Determination of volatile organic compounds in human breath for monitoring heart failure patients

Sungho Jeong - Detection and Mapping of Cutaneous Melanoma Using Laser Induced Breakdown Spectroscopy

Sanja Živković - Application of TEA CO2 LIBS for Elemental Analysis of Powdered Biological Samples

Natalia Miliszkiewicz - Comparison of selected calibration approaches in LA-ICP-MS studies of Mg and Zn distribution in rat brain tissue

Nano-LIBS

Citlali Sanchez-Aké (IL) - Laser-induced nanoparticle formation and its application for LIBS enhancement

Kemal Eusler - Development of a New Method for Structural Analysis of Ge Nanoparticles Embedded ZnO Thin Films By Laser Induced Breakdown Spectroscopy

Pablo Purohit Paccheco - Attogram sensitivity through laser-induced breakdown spectroscopy of single optically-trapped nanoparticles

Mini theoretical/practical course on XRF and Raman

Roberto Alberti
Friday, 16th June

PLENARY: Bernhard Welz - High-Resolution Continuum Source Absorption Spectrometry can do it
PLENARY: Nicolò Omenetto - Laser-induced breakdown spectroscopy: personal reminiscences of a long-lasting interaction
PLENARY: Sohail Mushtaq - Latest developments in understanding the plasma processes in analytical glow discharge optical emission and mass spectrometry
PLENARY: Mohamed Abdel Harith - The future of EMSLIBS, from regional meeting to an inclusive global event