



Plenary Presentation (P-1~8) : 30 min.
Invited Presentation (CI-1~26: CSI, AI-1~19: ASLIBS) : 20 min.
Oral Presentation (CO-1~17: CSI, AO-1~24: ASLIBS) : 15 min.

Monday 26th Afternoon

Plenary Presentation, ROOM-A Chairs: Tetsuo Sakka, Ronger Zheng

P-1	<u>Alessandro De Giacomo</u> , Aya Taleb, Marcella Dell'Aglio, Rosalba Gaudiuso	Laser Induced Breakdown Spectroscopy: from on-flight applications to ultra trace analysis
P-2	<u>Ikuo Wakaida</u> , Hironori Ohba, Katsuaki Akaoka, Takahiro Karino, Ryuzo Nakanishi, Kan Sakamoto, Yuji Ikeda, Takunori Taira	LIBS for "Fukushima"; Current results and challenge as a remote in-situ screening analysis

CSI: Environmental Analysis, IR/Raman, ROOM-A Chair: Yoshihiro Deguchi

CI-1	<u>Ralf Zimmermann</u> , Hendryk Czech, Kevin Schnepel, Marco Schmidt, Patrick Martens, Thorsten Streibel, Judy Chow, John Watson, Andreas Walte, Sven Ehlert	A new approach for unravelling the molecular organic signature of atmospheric aerosol particles: Coupling of a thermal-optical carbon analyser (TOCA) to combined laser photo-ionization and electron ionisation mass spectrometry
CO-1	<u>Alexander A. Kamnev</u> , Yulia A. Dyatlova, Odissey A. Kenzhegulov, Anna V. Tugarova	FTIR spectroscopic investigations of biofilms formed by the rhizobacterium <i>Azospirillum baldaniorum</i> : methodology, matrix composition and effects of metal ions
CO-2	<u>Daisuke Itabashi</u> , Kazumi Mizukami, Shunsuke Taniguchi, Masayuki Nishifuji, Hidehiro Kamiya	Highly sensitive analysis for carbide nanoparticle in steels using asymmetric flow field-flow fractionation hyphenated inductively coupled plasma-mass spectrometry
CI-2	<u>Anna V. Tugarova</u>	Vibrational spectroscopy techniques in studying the transformation of selenium compounds by bacteria
CI-3	<u>Boris Mizaikoff</u>	Infrared Spectroscopy in Food Safety: Can Photonics Hunt a Cereal Killer?
CI-4	<u>Taka-aki Yano</u>	Plasmon-enhanced nano-spectroscopies for highly sensitive molecular detection

ASLIBS: Data Analysis, ROOM-B Chair: Alessandro de Giacomo

AI-1	<u>Zhe Wang</u> , Zongyu Hou, Weiran Song	The last mile for accurate LIBS quantification
AI-2	<u>Yonghoon Lee</u>	Strategy in Classical Modeling and Data Fusion with LIBS Spectra and Others for Material Classification

AI-3	<u>I. Gornushkin</u>	Improved Data Processing for Accurate Plasma Diagnostics with Implications for Calibration-Free LIBS
AO-1	<u>Weilun Gu</u> , Naoya Nishi, Zongyu Hou, Zhe Wang, Tetsuo Sakka	Investigation of the signal uncertainty for laser-induced breakdown spectroscopy based on error propagation considering self-absorption
AO-2	<u>Boyang Xue</u> , Yi You, Zhangjun Wang, Chao Chen, Jens Riedal	High Repetition-Rate Laser-induced Breakdown Spectroscopy Combined with Two-dimensional Correlation Method for Analysis of Sea-salt Aerosols
AO-3	<u>Feiyu Guan</u> , Xuechen Niu, Deng Zhang, Lianbo Guo	Delving into self-supervised plasma image-spectrum fusion for improving quantitative accuracy and precision in laser-induced breakdown spectroscopy
Tuesday 27th Morning		
Plenary Presentation, ROOM-A Chairs: Ikuo Wakaida, Jun Okabayashi		
P-3	<u>M. Sabsabi</u> , P. Bouchard, A. Harhira, J. El Haddad, E. Soares de Lima Filho, F. Vanier, D. Gagnon	Emerging Approaches in Laser-Induced Breakdown Spectroscopy: Challenges and Perspectives
P-4	<u>Alexander A. Kamnev</u>	Mössbauer spectroscopy within the arsenal of molecular spectroscopic techniques: applications of Mössbauer and vibrational spectroscopies in microbiology
CSI: Mössbauer Spectroscopy and NMR, Instrumentation 1, ROOM-A Chair: Alexander A. Kamnev		
CI-5	<u>Jun Okabayashi</u>	Operando x-ray and g-ray magnetic spectroscopies in the multiferroic system
CI-6	A. S. Ali, I. Khan, B. Zang, Z. Homonnay, E. Kuzmann, S. Krehula, M. Marcius, L. Pavić, A. Šantić, <u>S. Kubuki</u>	Highly covalent FeIII-O bond found in iron oxide nanoparticles of domestic waste molten slag characterized by ⁵⁷ Fe-Mössbauer spectroscopy
CO-3	<u>Nur Syahirah Kamal Baharin</u> , Yoshinobu Ikeda, Ken Moizumi, Tamio Ida	Chemical Structure Characterization of Spirulina Algae Bio-Coke via ¹³ C CPMAS NMR
CI-7	<u>Jan Kratzer</u> , Milan Svoboda, Nikol Vlčková, Alexandra Slota, Matěj Plecháč, Tomáš Matoušek, Martina Mrkvičková, Pavel Dvořák, Jiří Dědina	Plasma discharges for trace element analysis - from their development to applications and mechanistic studies
CI-8	<u>Takae Takeuchi</u>	Development of ambient ion mobility spectrometers for on-site analysis of microbial volatile metabolites of soil-derived fungi in cultural property environments, and exhaled air
CI-9	<u>Tadao Tanabe</u>	Development of Frequency-Tunable sub-Terahertz Measurement System and its Applications for Non-Destructive Evaluation
ASLIBS: Advanced Techniques, ROOM-B Chair: Igor Gornushkin		
AI-4	<u>Yoshihiro Deguchi</u> , Zhenzhen Wang, Zixiong Qin	Elemental analysis of molten steel using long and short double-pulse LIBS
AI-5	<u>Ayumu Matsumoto</u> , Yusuke Shimazu, Haruka Nakano, Kosuke Suzuki, Shinji Yae	Surface-enhanced LIBS using a porous silicon substrate — Analysis of microdroplets with different salinity—

AO-4	<u>Zhang Mengyang</u> , Fu Hongbo, Wang Huadong, Zhang Zhirong	Improve LIBS signal stability and analysis accuracy by optimizing plasma excitation and acquisition scheme
AO-5	<u>Joey Kim Soriano</u> , Yuji Ikeda	LOD extension by multi-fiber integration in microwaved-enhanced LIBS
AO-6	<u>Mengyu Bao</u> , Qianqian Wang, Geer Teng, Xiangjun Xu, Zhifang Zhao, Kai Wei, Tianzhong Luo, Yongyue Zheng, Bingheng Lu	Reshape the laser phase to improve the LIBS spectrum signal based on orbital angular momentum
AO-7	<u>Minchao Cui</u> , Dinghua Zhang, Yoshihiro Deguchi, Zhenzhen Wang	Laser induced Breakdown Spectroscopy (LIBS): A piercing eye for manufacturing process

Tuesday 27th Afternoon

CSI: Instrumentation 2, Optical Spectroscopy, ROOM-A Chair: Pavel Pořizka

CI-10	<u>Stanislav Musil</u> , Eva Jeníková, Jaromír Vyhnanovský	Expansion of photochemical vapor generation to ultratrace determination of technology-critical elements
CI-11	<u>Ryo Kato</u> , Taka-aki Yano, Takuo Tanaka	Mid-infrared photothermal spectroscopy and imaging for biochemical analysis
CO-4	<u>Yoko Nunome</u> , Kenji Kodama, Kazuaki Wagatsuma	Glow discharge plasma ionization mass spectrometry for rapid analysis of oxygenated volatile organic compounds
CO-5	<u>Fiorella Iaquina</u> , Alicia Mollo	Advances in mercury chemical speciation in fish by CV-MIP OES after ultrasound alkaline extraction
CI-12	<u>Hitoshi Mizuguchi</u> , Daichi Tanaka, Yusuke Taniguchi, Suherman Suherman, Toshio Takayanagi, Yasutada Suzuki	Highly sensitive determination of copper by solid-phase colorimetry using a reflection colorimeter integrated with a coaxial optical fiber cable
CI-13	<u>Susumu Imashuku</u>	Enhancement of cathodoluminescence intensity for identification of monazite and xenotime in mineral ores
CO-17	<u>Hermicenda Pérez Vidal</u> , M. Antonia Lunagómez Rocha, Ciro Marquez Herrera, Dayli G.Romero de la Cruz	METALS IN PARTICULATE MATERIAL FILTERS (PM10) IN TABASCO, MEXICO

ASLIBS: LIBS Basics, ROOM-B Chair: Sungho Jeong

AI-6	<u>Zhenzhen Wang</u> , Sijie Shen, Jiabao Lai, Wangzheng Zhou, Junjie Yan, Deguchi Yoshihiro	Spectral Analysis of Alkali Metal by Laser-Induced Breakdown Spectroscopy
AO-8	<u>Jens Riedel</u> , Yi You	Influence of laser pulse length and repetition rate on the molecular/atomic band contribution in solid target LIBS
AO-9	<u>Kota Tanabe</u> , Yuko Yokoyama, Naoya Nishi, Tetsuo Sakka	Relationship between self-absorption and irradiation conditions in underwater LIBS
AO-10	<u>Ye Tian</u> , Ziwen Jia, Ying Li, Yuan Lu, Jinjia Guo, Wangquan Ye, Ronger Zheng	Dynamics of laser-induced plasma and cavitation bubble in water at high pressures
AI-7	<u>Davide Bleiner</u> , Di Qu, Kevin Kraft, Mirushe Suloska, Adrian Wichser	Laser Induced XUV Spectrometry (LIXS): Even Better Than the Real LIBS

Wednesday 28th Morning

Plenary Presentation, ROOM-A

Chairs: Vincenzo Palleschi, Susumu Imashuku

P-5	<u>Jozef Kaiser</u> , Karolína Vytisková, Pavlína Modlitbová, Karel Novotný, Petr Skládal, Zdeněk Farka, Pavel Pořízka	Laser-Induced Breakdown Spectroscopy as a promising tool for immunochemistry
P-6	<u>Érico M. M. Flores</u>	Modern Sample Preparation Methods for the Determination of “Difficult” Elements by ICP-based Techniques

CSI: LIBS, ROOM-A

Chair: Jozef Kaiser

CI-14	<u>Pavel Pořízka</u> , Erik Képeš, Jakub Vrábel, Jakub Buday, Jozef Kaiser	Transfer learning for space applications of Laser-Induced Breakdown Spectroscopy
CI-15	<u>Vincenzo Palleschi</u> , Francesco Poggialini, Beatrice Campanella, Bruno Cocciaro, Giulia Lorenzetti, Simona Raneri, Stefano Legnaioli	The new IUPAC formula for the Limit of Detection: beyond the 3s/slope definition
CI-16	<u>J. M. Vadillo</u> , J. Moros, A. Marzo, J.J. Laserna	Laser-induced breakdown spectroscopy of samples of astrochemical interest as individual particles by means of non-inertial acoustic confinement
CO-6	<u>Meirong Dong</u> , Junbin Cai, Gangfu Rao, Jidong Lu	Application of multi-spectral analysis techniques in thermal conversion of fuels
CO-7	<u>Yoshihiro Deguchi</u> , Takahiro Kamimoto, Ruidong Jia, Zhenzhen Wang, Jiazhong Zhang	Integration of laser diagnostics and CFD toward DX for industrial processes
CO-8	<u>Wei Wang</u> , Tingting Shen, Fei Liu, Hang Xiao	Rapid detection method of rice root phenotype based on spectroscopic technology

ASLIBS: Instrumentation and Space Applications, ROOM-B

Chair: Javier Laserna

AI-8	<u>Jin Yu</u> , Yu-Yan Sara Zhao, Chen Sun, Yunfei Rao, Fengye Chen, Tianyang Sun, Beiyi Zhang	In-situ LIBS measurements in Utopia Planitia Mars by the Zhurong Rover
AI-9	<u>Shu Rong</u> , Xu Weiming, Li Luning, Liu Xiangfeng, Xu Xuesen	LIBS Detection and Analysis by MarSCoDe on Zhurong Rover
AO-12	<u>Zixiong Qin</u> , Yoshihiro Deguchi	Real-time analysis of steel by Laser Induced Breakdown Spectroscopy based on Full-spectrum Micro Spectrometer
AI-10	<u>Yuichiro Cho</u>	Laser-induced breakdown spectroscopy for planetary exploration
AI-11	Beibei Wang, Ye Tian, Wenhua Song, Yuan Lu, Wangyuan Ye, Ying Li, Jijia Guo, <u>Ronger Zheng</u>	Laser induced plasma acoustics (LIPAc) signal in water and its potential applications
AO-13	<u>Dacheng ZHANG</u> , Zhongqi FENG, Yulu BA, Kewei SHEN, Zixu ZHANG, Minghao YU, Jiajia HOU, Yi ZHANG	Improving the sensitivity and resolution of LIBS by laser technology

Wednesday 28th Afternoon

CSI: ICP/MS, ROOM-A**Chair: Érico M. M. Flores**

CI-17	<u>Ming Xu</u> , Lining Xu, Xudong Wang	Integration of LA-ICP-MS and hyperspectral imaging to study the in vivo fate of noble metal nanoparticles
CI-18	<u>Atitaya Siripinyanond</u> , Khusnul Ilmiah, Jaturapoot Phanwichean, Nareerat Heetpat, Luluil Maknun, Jitapa Sumranjit, Rattaporn Saenmuangchin	Using field-flow fractionation and inductively coupled plasma mass spectrometry for tracking nanoparticles during their synthesis: Implications for colorimetric sensing of metal ions
CI-19	Joaquín Barbeito, Fiorella Iaquina, <u>Ignacio Machado</u>	Evaluation of in vitro bioaccessibility of Cu, Fe, Mn, and Zn from cooked Uruguayan pink shrimp by microwave induced plasma atomic emission spectrometry
CI-20	<u>Naoki Noguchi</u> , Kouta Hiranuma, Yutaka Fujii, Takuya Yonezawa, Taka-aki Yano, Hidekazu Okamura	Measurements of diffusion coefficients in solids at high pressures by vibrational spectroscopy and diamond anvil cell
CO-9	Cosimo Malvestio, Massimo Onor, Emilia Bramanti, Enea Pagliano, <u>Beatrice Campanella</u>	Aqueous derivatization by ethyloxonium salts extended to the analysis of methionine and selenomethionine in foods
CO-10	<u>Ralf Zimmermann</u> , Johannes Passig, Julian Schade, Thomas Adam, Iva Rosenbach, Marco Schmidt, Robert Irsig, Andreas Walte, Sven Ehlert	On-line single particle mass spectrometry with multiplexed laser ionisation: Simultaneous detection of health-relevant polycyclic aromatic hydrocarbons, soot and metals from individual airborne aerosol particles
CO-11	<u>Luluil Maknun</u> , Atitaya Siripinyanond, Jitapa Sumranjit, Ryszard Lobinski, Joanna Szpunar	Use of inductively coupled plasma mass spectrometry and flow field-flow fractionation for understanding the sensing mechanism of bimetallic nanoparticles based aggregation probes for heavy

ASLIBS: Environmental and Bio-Applications , ROOM-B**Chair: Jin Yu**

AI-12	<u>J. J. Laserna</u> , L. García-Gomez, T. Delgado, L. M. Cabalin, F. J. Fortes	Detection of indigenous organic matter in rocks from the interpretation of carbon molecular forms in the laser-induced plasma
AI-13	<u>Duixiong Sun</u> , Yaopeng Yin, Guoding Zhang, Maogen Su, Chenzhong Dong, Bomin Su	Applications of LIBS on Dunhuang Murals at Mogao Grottoes
AI-14	<u>Lianbo Guo</u> , Yanwu Chu, Weiliang Wang, Shengqun Shi	Application of Laser-induced Breakdown Spectroscopy in Biomedical Detection
AO-14	<u>Jeong Wook Um</u> , Suna Jin, Sook Jung Yun, Sungho Jeong	Classification of human melanoma and normal tissue using laser-induced breakdown spectroscopy
AO-15	<u>Fei Ma</u> , Changwen Du, Xuebin Xu, Jianmin Zhou	LIBS and FTIR-ATR spectroscopy studies of mineral-organic associations in saline soil
AO-16	<u>Francesco Poggialini</u> , Silvia Santini, Beatrice Campanella, Giulia Lorenzetti, Stefano Legnaioli, Vincenzo Palleschi	LIBS as an Early-Warning Technique for Heavy Metals in Water: Simple and Effective Graphene TFME Supports for Portable LIBS and NELIBS

Thursday 29th Morning**Award Presentation, ROOM-A****Chairs: Yoshihiro Deguchi, Tetsuo Sakka**

CSI	Alessandro D'Ulivo	CSI XLII AWARD Presentation
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ASLIBS	Zhe Wang	ACLIBS 2023 AWARD Presentation
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CSI: X-ray Spectrometry/Nuclear Techniques, ROOM-A
Chair: Shinsuke Kunimura

CI-21	<u>Sofia Pessanha</u> , João Silva, Jorge Machado, Sara Pandolfi, Fernanda Silva, Eva Marguá, António A. Dias, Sofia Barbosa, Diogo Pais, Diogo Casal, José Paulo Santos, Maria Luisa Carvalho, Ana Félix,	ADVANCES AND LIMITATIONS IN THE ANALYSIS OF BIOLOGICAL TISSUES USING EDXRF – OVERCOMING FORMALIN FIXATION AND PARAFFIN EMBEDDING CONSTRAINTS
CI-22	<u>Takashi Yamamoto</u> , Tazunori Miyamoto	XAFS study of thermal decomposition behaviour of platinum salt on catalyst support by laboratory-type spectrometer
CI-23	<u>M.L.Carvalho</u> , Sofia Pessanha, A. Buzanich	Elemental mapping on cultural heritage artifacts using X-ray micro beam systems
CI-24	<u>Kozo Shinoda</u>	Fluorescence-Yield XAS measurements of complex lanthanide compounds using laboratory XAS instrument
CO-12	<u>Yasuki Okuno</u> , Tomohiro Kobayashi, Mitsuru Imaizumi, Nobuhiro Sato, Yoshie Otake	Gamma-ray energy separation of solar cell dosimeter for debris survey
CO-13	<u>Chihiro Iwamoto</u> , Ryo Kurihara, Masato Takamura, Susumu Takahashi, Kosuke Suzuki, Pingguang Xu, Yoshie Otake	Development of time-of-flight neutron diffraction technique based on compact neutron source for realizing the stress measurement of steel materials

ASLIBS: Industry Applications, ROOM-B
Chair: Hironori Ohba

AI-15	<u>Sungho Jeong</u> , Jaepil Lee, Sungho Shin, Minjae Cho, Kyi-Hwan Park, Ekta Srivastava, Euseok Hwang	Development of an automatic metal scrap sorting system based on laser induced breakdown spectroscopy
AO-17	<u>Wangquan Ye</u> , Cheng Meng, Yu Chen, Qixian Hou, Ping Qin, Yuan Lu, Zengfeng Du, Xin Zhang, Ronger Zheng	Large-array Dynamic Scanning System for LIBS-Raman Analysis of Marine Mineral Resources Samples
AI-16	<u>Shunsuke Kashiwakura</u>	Evaluation of quality of classified metal scraps by the combination of laser-induced breakdown spectroscopy and machine learning
AO-18	<u>Mingxin Shi</u> , Jian Wu, Di Wu, Xinyu Guo, Yan Qiu, Jinghui Li, Hao Sun, Ying Zhou, Xingwen Li	The analysis of multi-elemental compositions and organic matter using laser-induced breakdown spectroscopy
AI-17	<u>Lanxiang Sun</u> , Yong Xin, Yang Li, Zhibo Cong	Application of LIBS to in situ analysis of molten metal
AI-18	<u>Shunchun Yao</u> , Ziyu Yu, Weizhe Ma	Optimizing coal property analysis via LIBS-NIRS data fusion
AO-19	<u>Cong Li</u> , Huace Wu, Zhenhua Hu, Zhonglin He, Longfei Li, Ran Hai, Ding Wu, Fang Ding, Rui Ding, Liang Wang, Jiansheng Hu, Junlin Chen, Guang-nan Luo, Hongbin Ding, the EAST team	Endoscope LIBS for in situ wall elemental diagnosis in EAST tokamak

Thursday 29th Afternoon

Plenary Presentation, ROOM-A

Chairs: Ralf Zimmermann, Zhe Wang

P-7	<u>Qiuquan Wang</u> , Yang Zhou, Zhen Liu, Zhengxian Lv, Xingrui Song, Yong Liang, Xiaowen Yan, Limin Yang	Single-cell Analysis Using ICP-qMS: Possibilities and Limitations
P-8	<u>Hongbin Ding</u>	Advance of LIBS applications in nuclear fusion research

CSI: Other Spectroscopic Method, Liquid Solution Measurement, ROOM-A

Chair: Kozo Shinoda

CI-25	<u>Shinsuke Kunimura</u> , Naoya Kida, Kazuki Ii	Gold nanoparticles produced by low-temperature heating of the dry residue of a droplet of a solution of HAuCl ₄ in air
CO-14	<u>Changwen Du</u> , Jianmin Zhou	Release profile predictions of coated controlled release fertilizer using photoacoustic spectroscopy coupled with least squares support vector machines
CO-15	<u>Ruidong Jia</u> , Yoshihiro Deguchi, Jiazhong Zhang	Predictive imaging of flow fields under variable geometry conditions
CI-26	<u>Masahito Uchikoshi</u> , Takatoshi Matsumoto, Kozo Shinoda	Structure Analysis of Cupric Aqua and Chloro Complexes in Aqueous Chloride Solutions using X-ray Absorption Spectroscopy and ab initio calculations
CO-16	<u>Meng Li</u> , Zhihao Zhang, Tong Yang, Zixi Zang, Ning Li, Ronger Zheng, Jinjia Guo	Ultrafast Response Sensor Based on TDLAS for In Situ Oceanic Carbon Dioxide Detection

ASLIBS: Nuclear Applications, ROOM-B

Chair: Ikuo Wakaida

AO-20	<u>Hai Ran</u> , Bai Xue, He Zhonglin, Wu Ding, Li Cong, Ding Hongbin	One-point calibration laser-induced breakdown spectroscopy for the quantitative analysis of EAST-like plasma-facing materials
AO-21	<u>P. Veis</u> , W. Khan, S. Atikukke, M. Veis, S.J. Shetty, P. Dvořák	Strategies to Improve Depth LIBS Analysis for Material Migration and Fuel Retention in Fusion Related Samples – Use of Resonant LIBS and comparison ps/ns regime
AO-22	<u>Yan Qiu</u> , Mingxin Shi, Jian Wu, Ying Zhou, Jinghui Li, Hao Sun, Xinyu Guo, Di Wu, Xingwen Li, Yongdong Li	Laser-induced breakdown spectroscopy for measurement of key characteristics/aggressive elements of structural materials in nuclear power plants
AI-19	<u>Hironori Ohba</u> , Katsuaki Akaoka, Takahiro Karino, Ikuo Wakaida, Koji Tamura, Ryuzo Nakanishi, Kan Sakamoto, Takunori Taira	Fiber-coupled LIBS analysis using a microchip laser in a harsh environment
AO-23	<u>Munkhbat Batsaikhan</u> , Hironori Ohba, Ikuo Wakaida	A laser-acoustic technique for simultaneous measurement of elemental and surface imaging of fuel debris
AO-24	<u>Zhixing Gao</u> , Hongyu He, Yun He, Fengming Hu, Jing, Li, Zhao Wang, Shaozhe Zhang, Bing Guo	Application of Laser-Induced-Plasma spectroscopy for Nuclear Safety at CIAE