SUN 8TH SEPTEMBER

12:00	**Registration open**		
	Workshops (chair: Porizka)		
14:00 – 15:30	W1	**Bousquet & Motto-Ros**	From qualitative to quantitative LIBS using univariate analysis
15:30 – 16:00	**Coffee break**		
	Workshops (chair: Porizka)		
16:00 – 17:30	W2	**El Haddad**	Multivariate data analysis
17:30 – 18:00		**Vrábel**	EMSLIBS Contest
18:00	**Icebreaker**		

MON 9TH SEPTEMBER

08:30 – 08:45	**Opening**		
	Heritage (chair: Kaiser)		
08:45 – 09:30	H1	**Niemax**	The arduous way of LIBS becoming an established technique
	Fundamentals I (chair: Kaiser)		
09:30 – 09:50	FU1	**Gornushkin**	Equilibrium chemistry in laser induced plasmas and plasma chemical reactors
09:50 – 10:10	FU2	**Vadillo**	Femtosecond laser ablation: as fun as it gets
10:10 – 10:30	FU3	**Roldan**	Quantitative analysis of Indium in sphalerites by CF-LIBS using pre-classification by PCA
10:30 – 11:15	**Coffee break**		
	Fundamentals II (chair: Gornushkin)		
11:15 – 11:35	FU4	**Labutin**	Application of spectra modeling for Laser-Induced Breakdown Spectroscopy
11:35 – 11:55	FU5	**Skočić**	Model function for Optical Time of Flight signal in Laser Induced Plasma
11:55 – 12:15	FU6	**Yu**	Physical and Statistical Studies of the Influence of Minor Elements on Plasma Temperature and Emission Intensity in LIBS Measurements
12:15 – 12:35	FU7	**Veis**	Fundamentals of simultaneous Vacuum UV - UV LIBS for quantification
12:35 – 14:10	**Lunch**		
	Mapping (chair: De Giacomo)		
14:10 – 14:30	MA1	**Motto-Ros**	LIBS-based Imaging: critical focus on current status and future directions
14:30 – 14:50	MA2	**Dietz**	LIBS Microscopy for Elemental Imaging of Heterogeneous Samples
14:50 – 15:10	MA3	**Müller**	Detection of REE-rich areas in Storkwitz drill cores using LIBS and a combination of normalization, clustering and spatial raster analysis
15:10 – 15:30	MA4	**Leprince**	In situ, quantitative, elemental imaging of lung tissues
15:30 – 16:15	**Coffee break**		
	Biology (chair: Motto-Ros)		
16:15 – 16:35	BI1	**Rehse**	Bacterial Limit of Detection Reduction Utilizing A Novel Sample Preparation Protocol
16:35 – 16:55	BI2	**Martin**	Switchgrass and Woody Biomass Elemental characterization using Laser-induced Breakdown Spectroscopy
16:55 – 17:15	BI3	**Melikechi**	Classifying diseased and healthy biomedical samples one laser pulse at a time
17:15 – 17:35	BI4	**Boyaci**	LIBS Applications for Food Safety and Quality
18:00	**Poster session I. / beer tasting**		

TUE 10TH SEPTEMBER

	Key note (chair: Niemax)		
08:45 – 09:30	K1	**Omenetto**	Critical considerations on the use of several experimental methodologies to evaluate self-absorption effects in atomic emission spectroscopy
	Quantification I (chair: Niemax)		
09:30 – 09:50	QA1	**Palleschi**	Self-absorption is your friend: exploiting self-absorption for improving the accuracy of Laser-Induced Breakdown Spectroscopy analysis
09:50 – 10:10	QA2	**Deguchi**	Improvement of LIBS Quantitative Capability for Remote Elemental Detection Using Collinear Long and Short DP Laser
10:10 – 10:30	QA3	**Touchet**	Direct isotopic analysis of solids by laser-induced breakdown self-reversal isotopic spectrometry (LIBRIS)
10:30 – 11:15	**Coffee break**		
	Quantification II. (chair: Palleschi)		
11:15 – 11:35	QA4	**Bousquet**	Advanced data processing to improve the analytical performance of LIBS
11:35 – 11:55	QA5	**Wang**	Origin of Measurement Uncertainty and its Reduction methods
11:55 – 12:15	QA6	**Pelascini**	Calibration-free laser-induced breakdown spectroscopy for industry
12:15 – 12:35	QA7	**Rollin**	A standard methodology for characterization of matrix effects in laser-induced breakdown spectroscopy
12:35 – 14:10	**Lunch**		
	Chemometrics (chair: Bousquet)		
14:10 – 14:30	CH1	**El Haddad**	Mineral Quantification by Laser-Induced Breakdown Spectroscopy for In-Field Rock Characterization
14:30 – 14:50	CH2	**Jorge**	Self-Learning Artificial Intelligence Methodology for the Accurate Quantification and Classification of Laser Induced Plasma Breakdown Spectroscopy applied to Geological Lithium Surveys in Portugal
14:50 – 15:10	CH3	**Sun**	Machine Learning for Classification and Regression of LIBS Spectra from ChemCam Calibration Targets
15:10 – 15:30	CH4	**Duponchel**	Embedded k-Means Clustering for a deep exploration of megapixel LIBS imaging data sets
15:30 – 16:15	**Coffee break**		
	Mining (chair: Kaski)		
16:15 – 16:35	MI1	**Sabsabi**	A look at LIBS instrumentations as an emerging tool for mining applications
16:35 – 16:55	MI2	**Cousin**	New quantification of Barium for MSL/ChemCam Mars data, and implications for geological interpretations
16:55 – 17:15	MI3	**Forni**	Fluorine detection on Mars: experiments and geological interpretation
17:15 – 17:35	MI4	**Schmitt**	Quantification of Lithium in pegmatites using handheld Laser Induced Breakdown Spectroscopy : a new approach for mining exploration
19:00	**Mendel museum / wine tasting**		

WED 11TH SEPTEMBER

	Key note (chair: Noll)		
08:45 – 09:30	K2	**Hahn**	LA-LIBS: High repetition rate ablation in combination with aerosol LIBS for quantitative analysis of solid samples
	Hyphenated systems (chair: Noll)		
09:30 – 09:50	HY1	**Kaski**	LIBS, Raman and LIF in analysis of rocks containing rare earth elements
09:50 – 10:10	HY2	**Marmatakis**	Coupling LIBS to SSI-MS. Interference of plasma formation with mass analysis
10:10 – 10:30	HY3	**Zheng**	Development of in-situ spectroscopy and its ocean applications
10:30 – 10:50	HY4	**Fantoni**	Complementary characterization of ancient Roman frescoes by PIXE and LIBS techniques
10:50 – 11:35	**Coffee break**		
	Molecular (chair: Martin)		
11:35 – 11:55	MO1	**Gaft**	Molecular LIBS and Plasma Induced Luminescence of BaF2:Tm3+
11:55 – 12:15	MO2	**Yang**	Double-pulse laser synchronization aimed at simultaneous detection of intensified atomic and molecular signals for space exploration
12:15 – 12:35	MO3	**Bordel**	Evaluation of the spatial and temporal distribution of atomic and molecular species at different LIBS plasma conditions
12:35 – 12:55	MO4	**Samek**	Analysis of biological samples combining data from LIBS, Raman spectroscopy and LA-ICP-MS
12:55 – 14:30	**Lunch**		
	Vendor (chair: Novotný)		
14:30 – 14:45	V1	**Pfeifer**	LTB Lasertechnik Berlin GmbH
14:45 – 15:00	V2	**Mandel**	AtomTrace a. s.
15:00 – 15:15	V3	**Machaqueiro**	SciAps
15:15 – 15:30	V4	**Colin**	Lumibird
15:30 – 15:45	V5	**Dubouski**	SOL Instruments
15:45 – 16:00	V6	**Hubert**	Femtonika s.r.o.
16:00 – 16:15	V7	**Leosson**	DT-Equipment & Innovation Center Iceland
16:15 – 16:30	V8	**Gorju**	Imagine Optic
16:30 – 16:45	**Symposium photo**		
18:00	**Poster session II.**		
19:00	EMSLIBS committee meeting		

MEETING POINT – REGISTRATION BOOTH

THU 12TH SEPTEMBER

	Key note (chair: Pedarnig)		
08:45 – 09:30	K3	**Laserna**	Chemistry in the laser-induced plasma. An astrobiology perspective for Mars exploration
	Nanoparticles (chair: Pedarnig)		
09:30 – 09:50	NP1	**De Giacomo**	NELIBS vs LIBS: dealing with outstanding advantages and real limits
09:50 – 10:10	NP2	**Novotný**	LIBS assessment of spatial photon-upconversion nanoparticle distribution in model plants (R. sativus and L. minor)
10:10 – 10:30	NP3	**Salajková**	Nanoparticle Enhanced Laser Induced Breakdown Spectroscopy (NELIBS) as a technique for elemental analysis of microdrops at sub ppm level
10:30 – 11:15	**Coffee break**		
	Industry (chair: Galbács)		
11:15 – 11:35	IN1	**Noll**	Challenges and perspectives of inverse production for sustainable material recycling – what LIBS can contribute
11:35 – 11:55	IN2	**Pedarnig**	Quantification of the vulcanizing system of rubber in industrial tire rubber production by laser-induced breakdown spectroscopy
11:55 – 12:15	IN3	**Smetaczek**	Investigating the Li+/H+ exchange in garnet-type solid electrolytes using LIBS
12:15 – 12:35	IN4	**Wilsch**	Mobile LIBS-System for evaluation of concrete structures on-site
12:35 – 12:55	IN5	**Lednev**	Laser induced breakdown spectroscopy for in-situ multielemental analysis during metal additive manufacturing
12:55 – 14:30	**Lunch**		
	Future LIBS (chair: Veis)		
14:30 – 14:50	FT1	**Galbács**	Exploring the potential of LIBS for the in-field analysis of nuclear samples
14:50 – 15:10	FT2	**Grisolia**	LIBS developments for fusion applications
15:10 – 15:30	FT3	**Purohit**	Polydispersity and fractionation in laser ablation studied by LIBS in an optical trap
15:30 – 15:50	FT4	**Alwahabi**	Enhancement Limitations of Microwave-assisted LIBS: Application to Sulphur Detection
15:50 – 16:10	FT5	**Fricke-Begemann**	LIBS for robotic alloy sorting
16:10 – 16:30	**Last coffee**		
16:30	**Free time**		
17:00	Registration closing		
19:00	**Gala dinner**		