COLA 2024

Conference Program

17th International Conference on Laser Ablation

Hersonissos, Crete, Greece

September 29 – October 4, 2024

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COLA 2024

The 17th International Conference on Laser Ablation

CONFERENCE CHAIRS

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Masoud MAHJOURI-SAMANI , Aunurn University, USA

Godai MIYAJI, TUAT, Japan

Organized by:

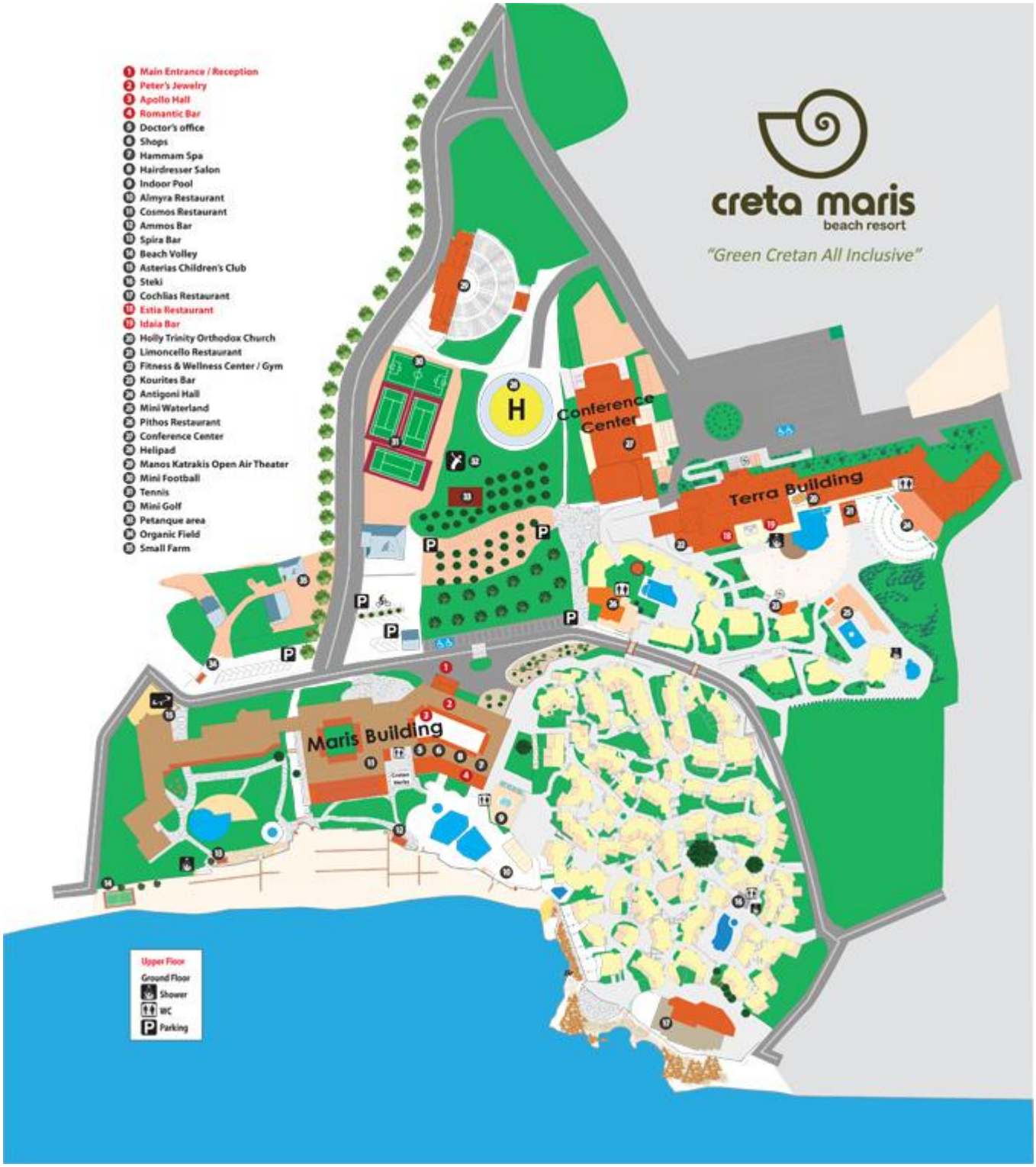
FORTH

FOUNDATION FOR RESEARCH AND TECHNOLOGY - HELLAS

September 29 – October 4
Creta Maris Resort, Hersonissos
Crete, Greece
https://cola2024.eventsadmin.com/

Venue Layout

The Creta Maris Beach Resort



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COLA 2024

ORAL PRESENTATION PROGRAM

Sunday, September 29th WELCOME SESSION	
WELCOME SESSION	
17:00-19:00	**REGISTRATION**
17:00-19:00	**CONFERENCE OPENING & WELCOME RECEPTION**

Monday, September 30th
ORAL SESSION

OPENING SESSION		
8:30-9:00	**REGISTRATION**	
9:00-9:10	**INTRODUCTION** Maria Farsari Foundation for Research and Technology, Hellas	
9:10-10:00	**PLENARY LECTURE** **Carlo Liberale** KAUST, Kingdom of Saudi Arabia	
10:00-10:30	**Amy S. Mullin (Invited)** University of Maryland, United States	
10:30-11:00	Coffee Break	
	Session 1 – " Chair"	
11:00-11:30	**Stephan Barcikowski (Invited)** University of Duisburg-Essen, Germany	
11:30-11:50	Ikurou Umezu Konan University, Japan	A method to prepare size-controlled spherical nano/micro particles by pulsed laser ablation using inertial effects.
11:50-12:10	Mindaugas Gedvilas Lithuanian Academy of Sciences, Lithuania	Bi-stability control in extremely efficient laser ablation by MHz burst of femtosecond pulses: experiment, modeling, and applications.
12:10-12:30	Maximilian Spellauge Munich University of Applied Sciences HM, Germany	Unveiling the significance of spallation layer redeposition during ultrashort pulse ablation in liquid.
12:30 – 12:50	Junya Hattori University of Tokyo, Japan	Time-resolved measurement of stress field formed by femtosecond laser-induced stress waves in vitreous silica.
12:50-14:30	Lunch Break	

	Session 2 – "Chair"	
14:30-14:50	Esther Rebollar Instituto de Química Física Blas Cabrera, CSIC, Spain	Characterization of TiO2 and ZnO nanoparticles and films generated by pulsed laser ablation: Application in photocatalysis of microplastics.
14:50-15:10	Evangelos Skoulas Biomimetic Company, Greece	Advancing Silica Laser Damage: Broadband Enhancement via Ultrafast Laser Nanostructuring.
15:10-15:30	Keisuke Takenaka Joining and Welding Research Institute, Osaka University, Japan	Mechanism of uniform LIPSS formation by two-color double femtosecond laser pulse irradiation on biomaterials.
15:30-15:50	Kernius Vilkevičius Center for Physical Sciences and Technology, Lithuania	Ultrashort laser pulse induction of diverse morphology nanostructures on thin films.
15:50-16:10	Chil-Chyuan Kuo Ming Chi University of Technology, Taiwan	Laser processing of cooling channel to improve cooling efficiency of rapid tool
16:10-16:40	Coffee break	
	Session 3 – "Chair"	
16:40 -17:10	**Alexandra Palla-Papavlu (invited)** INFLPR , Romania	
17:10-17:30	Franziska Chalupa-Gantner TU Wien, Austria	Polymerization threshold at high scanning speeds for microstructures using 2-Photon Polymerization in 1, 2 and 3-dimensional conditions
17:30-17:50	Fabian Christ TU Darmstadt, Germany	Two Photon Polymerization for Inertial Fusion Energy Target Fabrication
18:00-20:00	POSTER SESSION 1	

Tuesday, October 1st ORAL SESSION		
	Session 4 – "Chair"	
8:30-9:00	**Marti Duocastella (Invited)** Universitat de Barcelona, Spain	
9:00-9:20	Hugo Bruhier Jean Monnet University, France	Multiscale characterization of the wettability of fs-laser textured thin film metallic glasses surfaces
9:20-9:40	Masabumi Miyabe Japan Atomic Energy Agency, Japan	High resolution ablation fluorescence spectroscopy for remote isotopic analysis
9:40-10:00	Robin Uren University of Dundee, Scotland	A Universal Process for Reducing Secondary Electron Yield
10:00-10:20	Carlos Molpeceres Polytechnic University of Madrid, Spain	Laser Isolation of Circulating Tumoral Cells in Liquid Biopsy.
10:20-10:50	Coffee Break	
	Session 5 – "Chair"	
10:50-11:20	**Stefan Nolte (Invited)** Friedrich-Schiller University, Jena	
11:20-11:40	Katharine Tibbetts Virginia Commonwealth University, USA	Chemical reactions induced by ultrashort pulsed laser ablation in organic liquids.
11:40-12.00	Stefano Orlando CNR-ISM, Italy	Thermal waves induced by ultrashort laser pulses in wide bandgap semiconductors.
12:00-12:20	Kavil Mehta Pandit Deendayal Energy University, India	Dynamics of laser ablation in liquid with confined target geometry.

12:20-12:40	Philipp Rebentrost Mittweida University, Germany	Fundamental investigations of metal matrix composite ablation using burst pulses.
12:40-14:20	Lunch Break	
	Session 6 – "Chair"	
14:20-14:50	**Jianhua Hao (Invited)** The Hong Kong Polytechnic University, China	
14:50-15:10	Dominyka Stonyte Vilnius University, Lithuania	Precision manipulation of surface machining at the nanoscale utilizing the fs-UV interference method.
15:10-15:30	Ruoheng Zhang University of Alberta, Canada	Incubation effect dynamics of silicon irradiated by violet and near-infrared ultrashort laser pulses.
15:30-16:00	Coffee Break	
	Session 7 – "Chair"	
16:00-16:20	Heinz Huber Munich University of Applied Sciences, Germany	How can time-resolved experiments contribute to a validated model of ultrashort pulse laser ablation?
16:20-16:40	Mykolas Karpavičius Light Conversion	Machining of through-glass vias (TGVs) with femtosecond laser GHz burst modes
16:40-17:00	Alexander Horn Mittweida University, Germany	Reconstruction of the ablation of thin gold films induced by ultrafast laser radiation.
17:00-17:20	Johannes Heitz Johannes Kepler University Linz, Austria	Laser-induced periodic surface structures as substrates for Schwann cells alignment and oriented nanofiber collection.
17:20-17:40		
17:40-18:00		
18:00-20:00	POSTER SESSION 2	

Wednesday, October 2nd ORAL SESSION		
	Session 8 – "Chair"	
8:30-9:00	**Koji Sugioka (Invited)** RIKEN, Japan	
9:00-9:20	Ernest Marti Jerez Universitat de Barcelona, Spain	Adding 3D shape control in LIFT with print-n-release
9:20-9:40	Christos Boutopoulos University of Montreal, Canada	In-situ laser-assisted bioprinting of corneal pro-regeneration biomaterials
9:40-10:00	Daniela Serien National Institute of Advanced Industrial Science and Technology (AIST), Japan	Free-Form Fabrication of Proteinaceous Wireframe 3D Structures by Femtosecond Laser Direct Write
10:00-10:20	Marina Makrygianni National Technical University of Athens, Physics Department,Hellas	LIFT of metallic interconnections and solder materials for the digital bonding in photonic applications
10:20-10:50	Coffee Break	
	Session 9 – "Chair"	
11:00-11:45	**PLENARY LECTURE** **Hidetoshi KATORI** University of Tokyo, Japan	
11:40-12:00	Andrei Kabashin Aix Marseille Univ, CNRS, France	Femtosecond laser-ablative synthesis of functional nanomaterials for biomedicine and energy
12:00-12:20	John Fourkas University of Maryland, USA	Laser ablation of 2D materials: Mechanistic characterization and applications in nanophotonics
12:20-12:40	Nazar Farid University of Galway, Ireland	Large area flexible conductive scaffolds by direct laser writing

12:40 – 13:00	Irene Solana Optics Institute "Daza de Valdés" , CSIC, Spain	Femtosecond laser interference patterning for highly accurate material structuring
13:00-14:40	Lunch Break	
14:40-9:00	Excursion & Reception	

Thursday, October 3rd ORAL SESSION		
	Session 10 – "Chair"	
8:30-8:50	Alex Capelle GREMI – CNRS, France	Thermo-mechanical model of CO2 laser-induced damages on decorative glass
8:50-9:10	Leonid V. Zhigilei University of Virginia, USA	Atomistic modeling of generation of defect-rich nanoparticles by short pulse laser ablation and processing in liquid
9:10-9:30	Arash Rahimi-Iman Justus-Liebig-Universitaet Giessen, Germany	Machine-Learning-Based Optimization of Chiral Photonic Metasurface: Evolution- and Neural-Network-Based Designs for Printing or Ablating
9:30-9:50	Jean-Philippe Colombier Université Jean Monnet, CNRS,France	Deciphering the complexity behind laser-induced self-organized nanopatterns
9:50- 10:10	Inka Manek-Hönninger Université de Bordeaux-CNRS-CEA, France	Advances in micromachning for through via drilling with femtosecond laser operating in burst-mode
10:10-10:30	Gonzalo Gómez Muñoz Laser Processing Group (LPG), IO–CSIC, C, Spain	Electrical and Optical Anisotropies induced by fs-LIPSS generation in FTO commercial films
10:30-11:00	Coffee Break	
	Session 11 – "Chair"	
11:00-11:50	**PLENARY LECTURE** **Vasilis Ntziachristos** Institute for Biological and Medical Imaging, Germany	
11:50-12:10	Ivan Chapalo Munich University of Applied Sciences HM, Germany	Bragg gratings inscription in polypropylene light pipes using different laser sources.

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12:10-12:30	Shota Ui Tokyo University of Technology, Japan	Investigation of an AI to Suggest Scanning Paths for Uniform Temperature Distribution in the Selective Laser Thermoregulation Method
12:30-12:50	George D. Tsibidis Foundation for Research and Technology (FORTH), Greece	Controlling the damage threshold of Si with SiO2 coatings upon irradiation with Mid-IR femtosecond laser pulses
12:50-14:30	Lunch Break	
14:30 -15:00	**Wilhelm Pfleging (Invited)** Karlsruher Institut für Technologie, Germany	
15:00-15:20	Ayesha Sharif University of Galway, Ireland	Phase tuned, highly conductive graphene by ultra-short laser irradiation of PEEK
15.20-15.40	Michel Meunier Polytechnique Montréal, Canada	Fundamentals and Applications of Pulsed Laser Gene and Drug Delivery from Lipid Nanoparticles containing Gold Nanoparticles
15.40-16.00	Emmanuel Haro-Poniatowski Autonomous Metropolitan University Iztapalapa Unit, Mexico	Preparation and characterization of imidacloprid nanoribbons by laser fragmentation/exfoliation in liquid media
16:00-16:30	Coffee break	
16:30-16:50	Anastasios Nikolaos Raikidis Foundation for Research and Technology (FORTH), Greece	AI-driven acoustic monitoring of laser cleaning interventions
16:50-17:10	Kaname Imokawa Komatsu, Japan	Demonstration of low contact resistance in SiC using high repetition rate KrF excimer laser irradiation
17:10-17:30	Yudai Mizuno Fukuoka Institute of Technology, Japan	Photoluminescence imaging of YAG:Ce particles generated by laser ablation in liquid PDMS
17:30-17:50	Jan Lancok Institute of Physics CAS, Czech Republic	Defect tailoring in CuI film produced by pulsed laser deposition based on plasma diagnostic techniques
18:00-20:00	POSTER SESSION 3	

Friday, October 4th ORAL SESSION		
	Session 12 – "Chair"	
8:30-8:50	Saulius Juodkazis Swinburne University of Technology, Australia	Large area mask writing with fs-laser pulses
8:50–9:10	Francisco Gontad AIMEN, Spain	Parallel 3D microfabrication using a SLM display
9:10-9:30	Artur Andrishak International Iberian Nanotechnology Laboratory, Portugal	Suspended 3D Printed Polymer Waveguides for On-Chip Photonic Interconnects
9:30-9:50	Makoto Nakajima Osaka University, Japan	Terahertz free electron laser induced periodic surface structures on Ge2Sb2Te5
9:50-10:10	Davide Orecchia Politecnico di Milano, Italy	Femtosecond Pulsed Laser Deposition as a universal tool for nanofoam synthesis
10:10-10:30	Xitong Xie University of Ottawa, Canada	Laser Machining of Free-Standing Silicon Nitride Membranes.
10:30-11:00	Coffee Break	
	Session 13 – "Chair"	
11:00-11:20	Yusaku Kawarazaki Tokyo University of Technology, Japan	Development of Feedback System for Uniform Temperature Distribution in the Selective Laser Thermoregulation System.
11:20-11:40	Sathiesh Kumar V MIT Campus, Anna University, India	Slit-LIBS: A Novel Strategy to Improve the Efficiency of Soil Nutrient Measurement from a Stand-off Distance.

11:40-12:00	Sebastiano Trusso IPCF – CNR, Italy	Fabrication of low-cost recycled-paper based SERS sensors by pulsed laser deposition of nanostructured silver and gold thin films
12:00-12:20	Stephan Gräf Friedrich Schiller University Jena, Germany	Unveiling the formation process of laser-induced periodic surface structures on stainless steel using ion implantation
13:30-14:00	Awards & Closing	

COLA 2024

POSTER PRESENTATION PROGRAM

POSTER SESSION 1

Monday, September 30, 2024

101	**Godai Miyaji** *Tokyo University of Technology, Japan*	Surface nanostructuring by short-range propagating surface plasmon excited with few-cycle femtosecond laser pulses
102	**Panagiotis Loukakos** *IESL-FORTH, Greece*	Laser-nanostructured electrodes for enhanced Hydrogen Evolution Reaction
103	**Luisa D'Urso** *University of Catania, Italy*	MoS2 structures modified by laser irradiation for semiconductor-SERS sensing
104	**Eulàlia Puig Vilardell** *Vilnius University, Lithuania*	3D Photonic Crystal for Rainbow Trapping Fabricated via Two-Photon Lithography
105	**Maria Anna Chliara** *NTUA, Greece*	Laser bioprinting of 3D structures in organ on chip devices
106	**Michalis Stavrou** *IESL – FORTH, Greece*	Indane-1,3-dione-based push-pull dyes as low fluorescent and highly efficient photoinitiators for free radical polymerization
107	**Florence Garrelie** *CNRS, France*	Oxidation of metals during topographic functionalization upon ultrafast laser irradiation
108	**Ioannis Liontos** *IESL – FORTH, Greece*	THz beam profile shaping through linear and nonlinear superposition of two-color laser filaments
109	**David Redka** *Munich University of Applied Sciences, Germany*	Local Versus Global: Rethinking Incubation in Ultra-Short Pulse Laser Ablation
110	**Yasutaka Hanada** *Hirosaki University, Japan*	LIPSS formation on transparent material by laser-induced plasma-assisted ablation (LIPAA) and its fundamental characteristics
111	**Ignacio Lopez-Quintas** *Aplicaciones del Láser y Fotónica, Spain*	Second Harmonic Nonlinear Microscopy as a diagnostic tool for fs-laser fabrication of photonic structures
112	**Yuhai Li** *Research Center of Laser Fusion, China*	Study on the degradation of high reflection film performance induced by stray light irradiation of CFRP in high-power continuous laser facilities
113	**Laura Gemini** *ALPhANOV, France*	Fs-laser scalpel for high-precision damage-free bone ablation
114	**Rida Ahmed** *University of Ljubljana, Slovenia*	Influence of MHz bursts on the ablation efficiency of thin metal foils

115	**Hsin-Yi Tsai** National Applied Research Laboratories, *Taiwan*	Investigating the Impact of Ultraviolet Laser Parameters on the Surface Characteristics of Silicon Carbide (SiC) Substrates
116	**Denys Miakota** *Technical University of Denmark, Denmark*	Femtosecond UV laser enhancement of silver nanowires based transparent conductive electrodes
117	**Takuma Hamachi** *Kyushu University, Japan*	Formation of ultra-low dielectric constant film by non-thermal laser deposition
118	**Stefan Irimiciuc** *Czech Academy of Sciences, Czechia*	Insight into pulsed laser deposition of selected oxynitride system. Oxidation control via plasma diagnostic tools
119	**Leon Geiger** *Karlsruhe Institute of Technology, Germany*	Laser-Induced Crystallization: Enhanced predictability of urea crystallization by optimized laser repetition rate
120	**Krzysztof Dzierzega** *Jagiellonian University, Polland*	Exploring nonlinear optical effects in NV-doped diamond
121	**Ciro D'Amico** *Jean Monnet University, Saint-Etienne, France*	Ultrafast laser induced anisotropic carrier transport dynamics in smooth and surface pre-structured crystal semiconductors, detected by terahertz pulses
122	**Sang-Ho Nam** *Mokpo National University, Republic of Korea*	Classification of Soybean Paste Using Laser-Induced Breakdown Spectroscopy and k-Nearest Neighbors Analysis
123	**Hsin-Yi Tsai** *National Applied Research Laboratories,Taiwan*	Ultraviolet Laser-Assisted Micropattern Fabrication and its Impact on Viral Activity Inhibition under Electrical Stimulation
124	**Denys Miakota** *Technical University of Denmark, Denmark*	The use of femtosecond UV laser for selective layer processing of CIGS thin-film solar cells
125	**Carla Raquel Fontana** *São Paulo State University, Brazil*	Treatment of Gingival Melanin Pigmentation by CO2 and Nd:YAG laser ablation
126	**Vincenzo De Michele** *Université Jean Monnet, France*	Time resolved mid-infrared absorption in silica: ultrafast heat transfer observed by direct probing of anharmonic vibrations
127	**Tatsunori Shibuya** *National Institute of Advanced Industrial Science and Technology, Japan*	Selective laser assisted chemical etching of aluminum nitride
128	**Christoph Rehbock** *University of Duisburg-Essen, Germany*	The Size and Composition-dependent Mechanisms of High-Entropy-Alloy Nanoparticle Formation by Laser Ablation in Liquids
129	**Cleber Mendonca** *IFSC/USP, Brazil*	Femtosecond direct laser writing for fabricating structures with NV centers
130	**Masayuki Kakehata** *National Institute of Advanced Industrial Science and Technology (AIST), Japan*	Laser-induced periodic surface structures on titanium alloy and zirconia ceramics formed by irradiation of femtosecond two-color double-pulse sequences
131	**Grigorios Boulogiannis** *Fraunhofer Institute for Solar Energy Systems (ISE), Germany*	Characterization of the Nonlinear Optical Properties of Glass Using the Z-scan Technique for Advancing Laser-Glass Processing in Photovoltaics
132	**Hidehiko Yashiro** *National Institute of Advanced Industrial Science and Technology (AIST), Japan*	Adhesion strength of hydroxyapatite layer on zirconia substrates coated by droplets eliminated type pulsed-laser deposition

133	**Nadjib Semmar** *GREMI - CNRS - Université d'Orléans, France*	LIPSS formation on soda-lime glass by femtosecond laser beam : effect of repetition rate with two different wavelengths (1030nm and 515 nm)
134	**Stavroula Elezoglou** *National Technical University of Athens, Greece*	Laser induced forward transfer of cells towards engineered grafts
135	**Andrew Hainer** *University of Ottawa, Canada*	Laser modification of polymer-embedded metal nanorods for plasmonic colour picture generation
136	**Alexander Bulgakov** *HiLASE Centre, Institute of Physics CAS, Czech Republic*	Incongruent and delayed evaporation of multicomponent materials: Manifestations in laser-ablation plumes
137	**Valentina Dinca** *University of Bucharest, Romania*	Alteration in the pathophysiology of the foreign body response by surface chemistry and topography modification induced by laser methods for breast implant applications
138	**Jiawei Zhang** *RIKEN Center for Advanced Photonics, Japan*	Rapid Fabrication of Numerous Glass Micro-Channels by Ultrafast Bessel Beam for Cell Migration Assay
139	**Reza Nekouie Esfahani** *Manufacturing Technology Centre, UK*	Three-Dimensional (3D) Laser-Induced Surface Metallisation for the Fabrication of 3D Printed Electronics
140	**David Girard** *University of Ottawa, Canada*	Silver (I) Oxide and Silver (I, III) Oxide Formation via Femtosecond Laser Micromachining
141	**Masoud Mahjouri-Samani** *Auburn University, USA*	Inkless Printing Multimaterial Electronics – A Laser-Based Additive Nanomanufacturing Approach
142	**Inam Mirza** *HiLASE Centre, Institute of Physics of the Czech Academy of Sciences, Czechia*	Non-thermal regimes of laser annealing of semiconductor nanostructures
143	**Philipp Maack** *Ruhr-University Bochum, Germany*	Underwater femtosecond laser micromachining of porous transport layers for electrolysis applications
144	**Shu Hayashi** *Princeton University, USA*	Laser direct writing of carbon complexes from polymeric precursors by laser-induced graphitization
145	**Jan Marx** *Applied Laser Technologies, Ruhr University Bochum, Germany*	Reflectance investigation on ultrashort pulsed laser generated surface microstructures
146	**Maria Pervolaraki** *IESL – FORTH, Greece*	Laser Sintering: Igniting Innovation Across Sensing, Automotive, and Space
147	**Mangirdas Malinauskas** *Laser Research Center, Faculty of Physics, Vilnius University, Lithuania*	Synthesis and study of YAG:Ln for multiphoton 3D lithography
148	**Hidehiko Yashiro** *National Institute for Advanced Industrial Science and Technology (AIST), Japan*	Tansmission electron microscope measurement of the hydroxyapatite layers coated by droplets elimineated type pulsed-laser deposition
149	**Shigeki Matsuo** *Shibaura Institute of Technology, Japan*	Possibility of fabricating tetragonal periodic surface structures using circularly-polarized laser pulses
150	**Simon Jelinek** *FZU - Institute of Physics, Czech Academy of Sciences, Czechia*	Ablation damage characterizes non-Gaussian beam profiles – extension of Liu's method

151	**Nadjib Semmar** *GREMI - CNRS - Université d'Orléans, France*	LIPSS formation on soda-lime glass by femtosecond laser beam : effect of repetition rate with two different wavelengths (1030nm and 515 nm)
152	**Stavroula Elezoglou** *National Technical University of Athens, Greece*	Laser induced forward transfer of cells towards engineered grafts
153	**Andrew Hainer** *University of Ottawa, Canada*	Laser modification of polymer-embedded metal nanorods for plasmonic colour picture generation
154	**Alexander Bulgakov** *HiLASE Centre, Institute of Physics CAS, Czech Republic*	Incongruent and delayed evaporation of multicomponent materials: Manifestations in laser-ablation plumes
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157	**Reza Nekouie Esfahani** *Manufacturing Technology Centre, UK*	Three-Dimensional (3D) Laser-Induced Surface Metallisation for the Fabrication of 3D Printed Electronics
158	**David Girard** *University of Ottawa, Canada*	Silver (I) Oxide and Silver (I, III) Oxide Formation via Femtosecond Laser Micromachining
159	**Masoud Mahjouri-Samani** *Auburn University, USA*	Inkless Printing Multimaterial Electronics – A Laser-Based Additive Nanomanufacturing Approach
160	**Inam Mirza** *HiLASE Centre, Institute of Physics of the Czech Academy of Sciences, Czechia*	Non-thermal regimes of laser annealing of semiconductor nanostructures
161	**Philipp Maack** *Ruhr-University Bochum, Germany*	Underwater femtosecond laser micromachining of porous transport layers for electrolysis applications
162	**Shu Hayashi** *Princeton University, USA*	Laser direct writing of carbon complexes from polymeric precursors by laser-induced graphitization
163	**Jan Marx** *Applied Laser Technologies, Ruhr University Bochum, Germany*	Reflectance investigation on ultrashort pulsed laser generated surface microstructures
164	**Maria Pervolaraki** *IESL – FORTH, Greece*	Laser Sintering: Igniting Innovation Across Sensing, Automotive, and Space
165	**Mangirdas Malinauskas** *Laser Research Center, Faculty of Physics, Vilnius University, Lithuania*	Synthesis and study of YAG:Ln for multiphoton 3D lithography
166	**Hidehiko Yashiro** *National Institute for Advanced Industrial Science and Technology (AIST), Japan*	Tansmission electron microscope measurement of the hydroxyapatite layers coated by droplets elimineated type pulsed-laser deposition
167	**Shigeki Matsuo** *Shibaura Institute of Technology, Japan*	Possibility of fabricating tetragonal periodic surface structures using circularly-polarized laser pulses

151	**Tien-Li Chang** *Department of Mechatronic Engineering, National Taiwan Normal University, Taiwan*	Ultrafast Laser Induced Bio-Inspired Metallic Structures for Biological Response
152	**Tatsuki Nakayama** *Graduate School of Science and Technology, Nihon University, Japan*	Development of visible light responsive TiO2 photocatalyst with highly oriented gold nanoislands fabricated by PLD
153	**Keitaro Shimada** *The University of Tokyo, Japan*	Portable STAMP with thin-plate-based spectral broadening for picosecond single-shot imaging in laser ablation systems
154	**Esther Rebollar** *Instituto de Química Física Blas Cabrera, CSIC, Spain*	Modification of polymers wettability by laser irradiation with nanosecond and femtosecond pulses
155	**Nicolas Thomae** *Munich University of Applied Sciences HM, Germany*	Impact of Topography and Thermophysical Properties on Multi-Shot LIPSS Generation
156	**Linda Pabst** *Laserinstitute Hochschule Mittweida, Germany*	High rate laser polishing using a polygon scanner
157	**Raphaëlle Escoube** *Institut de Radioprotection et de Sûreté Nucléaire (IRSN), PSE-SANTE/SESANE/LRSI, France*	Multi points Calibration for Laser Ablation/ICP-MS imaging of biological tissues
158	**Vita Petrikaitė** *Center for physical sciences and technology (FTMC), Italy*	Nanosecond Laser Synthesis of Tunable Bimetallic Au-Ag Nanoparticle Substrates for SERS Applications
159	**Wojciech Talik** *Jagiellonian University in Cracow, Poland*	Upconversion luminescence in Er-doped tellurite-phosphate glass during crystallization with femtosecond laser pulses
160	**Peter Balling** Aarhus University, Denmark	Femtosecond laser ablation of free-standing Al2O3 thin films

POSTER SESSION 2

Tuesday, October 1 , 2024

201	**Michalis Stavrou** *IESL – FORTH, Greece*	Remarkable Nonlinear Optical Response of non van der Waals 2D Hematene and Magnetene Nanoplatelets Exfoliated from Mineral Ores Using a Green Synthesis Method for Ultrafast Photonic Applications
202	**Carlos Esteban Cifuentes Quintal** *Aix Marseille Univ, CNRS, France*	Exploring laser ultra-fast ablation techniques on UO2: Advancements in Nuclear Fuel Micro-Machining
203	**Laura Loi** *ALPhANOV, France*	Laser-based surface functionalization of transparent materials by Direct Laser Interference Patterning technique
204	**Béla Hopp** *University of Szeged, Hungary*	Surface darkening of different metals using nanosecond pulsed laser ablation
205	**Motoaki Nakatsutsumi** *European XFEL, Germany*	Grazing-incidence XFEL scattering to study ultrafast surface ablation and nano-structuring dynamics
206	**Hanan Mir** *Fraunhofer Institute for Solar Energy Systems, Germany*	High-Speed Ultrashort Pulse Laser Dicing of 4H-SiC via Polygon Scanner
207	**Nadezhda Bulgakova** *HiLASE Centre, Institute of Physics CAS, Czech Republic*	Volumetric modification of fused silica with double laser pulses: the effect of pulse separation on energy deposition
208	**Yoshihiro Iwata** *Japan Atomic Energy Agency, Japan*	Gadolinium ion emission in a water Cherenkov detector
209	**Florin Andrei** *National Institute for Laser, Plasma and Radiation Physics, Romania*	Strain engineering of epitaxial perovskite-based heterostructures for efficient photoelectrochemical water splitting
210	**Joerg Schille** *Laserinstitut Hochschule Mittweida, Germany*	High-efficient ultrashort pulse laser ablation in the long burst GHz pulse regime
211	**Eugenia Bosler** *Technische Univeristät Berlin, Germany*	Influence of Material and Process Interactions in Two-Photon Polymerization: Application-Oriented Methods for Resolution Analysis
212	**Matthias Domke** *Vorarlberg University of Applied Sciences, Austria*	One-shot imaging of laser-induced surface acoustic waves on silicon and metal films using pump-probe microscopy

213	**Gonzalo Gómez Muñoz** *Laser Processing Group IO-CSIC, Spain*	Controlled Formation of Spike-Like Structures in Silicon by fs-Laser Processing for Enhanced Light Absorption
214	**Francisco Gontad** *AIMEN Laser Technology Centre O Porriño, Spain*	Parallel laser texturing with Diffractive Optical Elements for friction reduction in pistons
215	**Antonios S. Valavanis** *University of Virginia, USA*	Dynamics of Laser-Induced Phase Explosion in Ag Films: Insights from Atomistic Simulations and Optical Imaging
216	**Anna Münzer** *Fraunhofer Institute for Solar Energy Systems ISE, Germany*	Annealing of TCO Thin Films on Temperature-Sensitive Solar Cells with Short and Ultrashort UV Laser Pulses
217	**Pol Sopeña** *Aix-Marseille Université, CNRS, LP3, France*	Semiconductors laser writing by multiphoton-initiated nanosecond mid-infrared pulse absorption
218	**Peter Gregorcic** *University of Ljubljana, Faculty of Mechanical Engineering, Slovenia*	Ablation of metal surfaces by low-fluence laser pulses in different gas atmospheres
219	**Shih-Feng Tseng** *National Taipei University of Technology, Taiwan*	Characteristic investigation of laser thermal oxidation treatment for maskless marking QR codes on SS316 and Ti-64 surfaces
220	**Yonghoon Lee** *Mokpo National University, Republic of Korea*	Classification of Kimchi using Laser-Induced Breakdown Spectroscopy and k-Nearest Neighbors Modeling
221	**Nils Schott** *Institute of Nuclear Physics, Germany*	Laser micromachining for proton fast ignition laser fusion target fabrication
222	**Laimis Zubauskas** *Center for Physical Science and Technology (FTMC), Lithuania*	Top-down ablation of fused silica by BiBurst femtosecond laser
223	**Miglė Mackevičiūtė** *Center for Physical Sciences and Technology, Lithuania*	Soda-lime glass machining with GHz bursts using a bottom-up technique
224	**Keita Katayama** *Kyushu University, Japan*	Localized and shallow laser doping by excimer laser annealing
225	**Johannes Roth** *University Stuttgart, Germany*	Novel excitation-induced non-thermal effects and ablation mechanisms in silicon from atomistic simulations with a thermal spike model
226	**Yury Ryabchikov** *HiLASE Centre, Institute of Physics of the Czech Academy of Sciences, Czechia*	Laser Synthesis and Heating of Semiconductor-Based Nanocomposites with Tuned Plasmonic Properties
227	**Kuder Aiyyzhy** *Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia*	Laser assisted synthesis of boron nanoparticles
228	**Stephen Dondieu** *The Manufacturing Technology Centre, UK*	Laser micro-hole drilling of thin titanium foil and felt for proton exchange membrane water electrolyser application.
229	**Malek Tabbal** *American University of Beirut (AUB), Lebanon*	Fluence dependence of LIPSS formation and orientation on Gd-doped Ceria thin films

231	**Stephane Guizard** *Laboratoire Interactions Dynamiques et Lasers, CEA, Université Paris-Saclay, France.*	Femtosecond and subfemtosecond carrier dynamics in wide-band gap dielectrics.
232	**Lasse Bienkowski** *Fraunhofer Institute for Solar Energy Systems ISE, Germany*	Utilizing Transient Effects for Ablating Glass Using Combined Picosecond and Nanosecond Laser Pulses
233	**Shuntaro Tani** *The Institute for Solid State Physics, Japan*	Mid-infrared light emission during laser ablation
234	**Hiroshi Yoshikawa** *Osaka University, Japan*	High-Speed Polarization Imaging of Laser Ablation-Induced Crystallization of Ice in Supercooled Water
235	**Ecem Demir** *Ruhr University Bochum, Germany*	Process Simulation and Development for Laser Beam Welding with Rotating Bifocal Optics
236	**Emmanuel Haro-Poniatowski** *Departamento de Física, Universidad Autónoma Metropolitana Iztapalapa, Mexico*	Au Nanostructured glasses fabricated simultaneously by PLD and Sol-Gel techniques.
237	**Thibault Derrien** *Institute of Physics of the Czech Academy of sciences, Czechia*	Linear absorption of single-layer graphene deposited on quartz: density-functional tight binding vs optical measurements
238	**Ankit Das** *Princeton University, USA*	Mitigating undulations via external electric fields in laser powder bed fusion
239	**Dalila Fontana** *Università Campus Bio-Medico di Roma, Italy*	Light-mediated Processes to Selectively Biofunctionalize 2PP 3D Microstructures
240	**Stefano Orlando** *CNR-ISM, Italy*	Surface electrical conductivity variations induced by ultrashort laser pulses in wide bandgap semiconductors
241	**Markéta Janková** *University of West Bohemia, Czechia*	Room-temperature reactive interactions between transition metal monoxides and silicon monoxide sols generated by laser ablation in liquid leading to the formation of silicides and silicates
242	**Tomáš Křenek** *University of West Bohemia, Czechia*	Newly discovered potentials of laser ablation in liquids for energy-saving formation of solar light-driven photocatalytic materials
243	**MiHye Kim** *LG Electronics Production engineering Research Institute, South Korea*	Study of Selective Laser-induced Etching for Micro-hole Formation in Glass using a Bessel Beam
244	**Mehdi Abedi-Varaki** *FTMC - Center for Physical Sciences and Technology, Lithuania*	Density effect on the electron acceleration by Bessel-Gauss laser beam from a laser wakefield accelerator
245	**Esther Rebollar** *Seoul National Instituto de Química Física Blas Cabrera, CSIC, Spain*	Modification of polymers wettability by laser irradiation with nanosecond and femtosecond pulses
246	**Tobias Held** *Department of Physics and Research Center OPTIMAS, RPTU Kaiserslautern-Landau, Germany*	Band-resolved relaxation of laser-excited gold
247	**Caterina Gaudiuso** *National Research Council (CNR), Institute for*	LIPSS generation with bursts of femtosecond pulses for controlling the wettability of copper

	Photonics and Nanotechnologies (IFN), Italy	
248	**Jean-francois GLEYZE** *CEA-CESTA, Bordeaux, France*	CO2 laser ablation process for laser induced-damage mitigation of fused silica optics for LMJ
249	**Nastaran Hayatiroodbari** *Joanneum Research Forschungsgesellschaft mbH, Austria*	Pulsed laser ablation processes in photovoltaics
250	**Paulius Gečys** *Center for Physical Sciences and Technology (FTMC), Lithuania*	Polarization controlled crack propagation in Bessel beam processing of soda-lime glass
251	**Oliver Dubnack** *Friedrich-Schiller-Universität Jena, Germany*	Mechano-responsive wetting of fs-laser-structured PDMS surfaces
252	**Falko Jahn** *Laserinstitut Hochschule Mittweida, Germany*	Investigations on various approaches in order to reduce droplet incorporation into films produced by Pulsed Laser Deposition
253	**Jijil JJ Nivas** *University of Naples Federico II, Italy*	Influence of ambient pressure on LIPSS formation in silicon
254	**Modestas Sadauskas** *FTMC – Center for Physical Sciences and Technology, Lithuania*	Metal micro mesh electrode formation on transparent dielectric surface using Selective Surface Activation Induced by Laser technology
255	**Sena Maru** *Waseda University, Japan*	Dynamics observation of pressure waves during femtosecond laser irradiation in amorphous silica glass
256	**Nicolas Sanner** *Aix Marseille Univ., CNRS, LP3, France*	Towards laser-fabricated nanophotonic structures in bulk glass
257	**Andrius Žemaitis** *Center for Physical Sciences and Technology (FTMC), Lithuania*	Femtosecond bursts advancing ablation efficiency and quality of metals
258	**Antonio Brancato** *University of Study of Catania, Italy*	Study of magnetic nanoparticles obtained by Laser ablation of Mount Etna volcanic rocks
259	**Misa Beppu** *Kyushu University, Japan*	Sn doping into β-Ga2O3 by a KrF excimer laser

POSTER SESSION 3

Thursday, October 3, 2024

301	**Meenu M S** *Cochin University of Science And Technology, India*	Femtosecond Laser Written Polymer Micro-Scaffolds for Tissue Engineering
302	**Kevin Lubig** *Friedrich Schiller University Jena, Germany*	Investigation of contact friction on material surfaces nanostructured with fs-lasers
303	**Bogusz Stepak** *Fluence, Poland*	Enhancing metal processing efficiency with femtosecond fiber laser: drilling, deep engraving, cutting, and polishing
304	**Christos Boutopoulos** University of Montreal, Canada	Modeling and optimization of NIR photothermal immunotherapy for melanoma treatment
305	**Lucrezia Catanzaro** *University of Catania, Italy*	Tuning the Aggregation of Metal Nanoparticles prepared by Laser Ablation with Halide Salt solutions
306	**Markus Uehlein** *Department of Physics and Research Center OPTIMAS, RPTU Kaiserslautern-Landau, Germany*	Tracing non-thermal electrons in laser-excited metals with an extended two-temperature model

307	**Yu-Hsuan Lin** *National Applied Research Laboratories, Taiwan*	Enhancement of hydrophobicity and biocompatibility in embedded pressure sensor through laser surface modification
308	**Wolfgang Husinsky** *Technische Universität Wien, Austria*	Simulations of Ripple Formation under Ultra short Laser Pulses – A try
309	**Sharath Rameshbabu** *Swiss Federal Laboratories for Materials Science and Technology (Empa), Switzerland*	Pulsed laser deposition of Ho2O3 thin films for Nano-Photonics
310	**Simon Kümmel** *Institute for Functional Matter and Quantum Technologies, Germany*	Investigation of excitation-induced non-thermal effects in semiconductors, metals and alloys
311	**Mark Braun** *German Aerospace Center (DLR), Institute of Quantum Technologies, Germany*	Fiber-based pulsed laser ablation setup for the release of neutral atoms within an ultra-high vacuum chamber
312	**Hendrik Wrigge** *Institut für Nanophotonik Göttingen, Germany*	Broadband pump probe setup for ultrafast transient reflectivity measurements
313	**Angela De Bonis** *Dipartimento di Scienze, Università della Basilicata, Italy*	Tailored Nanozyme Composite Materials via Laser Ablation in Liquid: Towards Enhanced Photocatalytic and Antimicrobial Capabilities
314	**Makoto Nakajima** *Osaka University, Japan*	Laser processing of organic wood-plastic composite materials
315	**Anu Avarachan** *Cochin University of Science and Technology, India*	Time-Resolved Wollaston Interferometry for Laser-produced Plasma Characterization
316	**Salvatore Almaviva** *ENEA, Italian National Agency for New Technologies, Italy*	LIBS spectroscopy for Biological threats
317	**Xuan Wang** *Wuhan University, China*	Surface Enhanced Raman Scattering Studies of Femtosecond Laser Written Ripple-like Nanostructures in Air and Vacuum
318	**George Perrakis** *IESL – FORTH, Greece*	Hybrid electromagnetic surface modes impact on low spatial frequency LIPSS formation and periodicity reduction
319	**Antonio Santagata** *CNR-ISM, Italy*	LIPSS for Li-less lithium metal negative electrodes of secondary aprotic batteries

320	**Panagiotis Konstantakis** *IESL – FORTH, Greece*	Retrieving Optical Information in Nonlinear Chaotic Systems using Neural Networks
321	**Tatsunori Shibuya** *National Institute of Advanced Industrial Science and Technology, Japan*	Development of sub-microsecond delay pump-probe imaging method for hydrodynamic micro liquid deformation
322	**Achu Purushothaman** *Università degli Studi di Napoli Federico II, Italy*	Metallic film deposition by femtosecond laser ablation in air at atmospheric pressure
323	**Lukáš Vála** *University of West Bohemia, Czech Republic*	Comparative study of pulsed laser induced synthesis and precipitation of nanostructured ternary Co-Fe-S based coat and nanoparticles
324	**Giulio Gorni** *Laser Processing Group – Institute of Optics (IO-CSIC), Spain*	Near-white light emission of thin film glasses prepared by pulsed laser deposition for application in white LEDs
325	**Xiaona Zhao** *Wuhan University,China*	Direct Laser Written Periodic Si Ripples Decorated with Au Nanoparticles as a Platform for Surface Enhanced Raman Spectroscopyof inorganic elements in Banana Peels using LIBS
326	**Argyro Klini** *IESL – FORTH, Greece*	Role of substrate temperature and laser fluence on cesium lead bromide thin films by Pulsed Laser Deposition
327	**Aram Melkonyan** *UJM Saint-Etienne, CNRS, Institute of Optics Graduate School, France*	Densification of amorphous silica obtained from different polymorphs
328	**Rodrigas Liudvinavičius** *Department of Laser Technologies, Center for Physical Sciences and Technology, Lithuania*	Formation of periodic plasmonic structures on a thin gold layer sputtered on different surfaces
329	**Sathiesh Kumar V** *MIT Campus, Anna University, India*	Investigation of Nutrient Content (Normal/Deficit) in Psidium guajava using remote-LIBS method combined with Machine Learning Approach
330	**Yuan Chen** *China Academy of Engineering Physics (CAEP), China*	Talbot effect replicative transcription on downstream optics in high-power laser diagnostics system

331	**Mikuru Okazaki** *Course of Science and Technology, Japan*	Antibacterial effect of periodic structure formed on stainless steel by using femtosecond pulsed laser
332	**Rajeev Rajendran** *Cochin University of Science and Technology, India*	Femtosecond Laser Processing of Chalcogenide Glass Thin Films
333	**Jinsi C P** *Cochin University of Science and Technology, India*	Modeling and Femtosecond Laser Micromachining of 2D Photonic Crystal Heat Reflectors for Energy Saving Smart Windows
334	**Kiran Kumar K** *Technology Innovation Institute, United Arab Emirates*	Numerical Simulation of Ultrashort Pulse Laser - Material Interaction with an Angle of Incidence
335	**Mario García-Lechuga** *Universidad Autónoma de Madrid, Spain*	Femtosecond laser processing of gold-implanted glass: assisted absorption and optoplasmonic tuneability
336	**Sandra Stroj** *Research Center for Microtechnology, Austria*	Realization of miniaturized PMN-PT piezo actuators by femtosecond laser processing for compensation of fine structure splitting of entangled photon quantum emitters
337	**Deividas Andriukaitis** *Ekspla, Lithuania*	Efficient Dielectric Material Processing In Femtosecond GHz Burst Mode
338	**Marnix Vreugdenhil** *Utrecht University, Netherlands*	Wavelength dependence of single-shot laser ablation thresholds for semiconductors
339	**Lebogang Kotsedi** *iThemba LABS-NRF, South Africa*	Comparison of thermal and Laser heating activation energy calculation of Sn-Zn
340	**Hiroshi Ogawa** *National Institute of Advanced Industrial Science and Technology, Japan*	Predictive Multimodal AI model for Laser Processed Material Functions and Properties
341	**Iaroslav Gnilitskyi** *King's College London, UK*	Laser-Induced Self-Organized Microrod Arrays
342	**Wen-Tse Hsiao** *Taiwan Instrument Research Institute, National Applied Research Laboratories, Taiwan*	Characterization analysis of 1064 nm and 532 nm dual pulsed laser fragmentation in liquid on copper target

343	**Yu-Jen Hsiao** *National Kaohsiung University of Science and Technology, Taiwan*	Gas Sensing Films Using Laser Annealing for MEMS Applications
344	**Daisuke Satoh** *National Institute of Advanced Industrial Science and Technology*	Laser processing for the fabrication of high-power millimeter-wave components
345	**Evaldas Stankevicius** *Center for Physical Sciences and Technology, Lithuania*	Direct laser writing for the formation of nanophotonic structures
346	**Meirong Dong** *South China University of Technology, China*	Study on Characteristics of Combustion Process of Solid Fuel Particles by Laser Ignition
347	**Lebogang Kotsedi** *iThemba LABS-NRF, South Africa*	Zinc Surface Modification by Femtosecond Laser Studied using Rutherford Backscattering Spectrometry
348	**Hamza Qayyum** *COMSATS University Islamabad, Pakistan*	Radiofrequency pulse generation by nanosecond pulsed laser irradiation of aluminum: the effect of laser fluence
349	**Hongbin Ding** *Dalian University of Technology, China*	Dynamic plasma sheath of laser-ablated Tungsten plasma
350	**Yuan Lu** *Ocean University of China China*	Laser-induced breakdown spectroscopy for ocean applications
351	**Ran Hai** *Dalian University of Technology, China*	Double pulse laser-induced breakdown spectroscopic diagnosis of plasma facing materials in Tokamak
352	**Dimitra Ladika** *IESL – FORTH, Greece*	Wavelength-independent and photoinitiator-free multiphoton lithography
353	**Eudokia Kyriakou** *IESL – FORTH, Greece*	Bioinspired Hierarchical Materials with enhanced mechanical properties
354	**Andreas Parlanis** *IESL – FORTH, Greece*	Auxetic Scaffolds via Multiphoton Lithography for Neuroregeneration
355	**Antonis Kordas** *IESL – FORTH, Greece*	Development of in vitro biomimetic environments for the regeneration of the nervous tissue
356	**Konstantina Terzaki** *IESL – FORTH, Greece*	Fabrication of porous mastic gum scaffolds by UV laser for drug delivery applications

357	**Savvas Papamakarios** *IESL – FORTH, Greece*	Fabrication of Split Ring Resonators (SRRs) for IR energy harvesting using multiphoton lithography
358	**Vasileia Melissinaki** *IESL – FORTH, Greece*	Micro-optical elements fabricated by multiphoton lithography on various substrates
359	**Gordon Zyla** *IESL – FORTH, Greece*	Laser-based 3D printing of micro-optics with high fidelity
360	**Elmina Kabouraki** *IESL – FORTH, Greece*	3D micro-optical elements by multiphoton lithography and nano-imprinted patterns using high laser induced damage threshold photoresists
361	**Ioannis Syngelakis** *IESL – FORTH, Greece*	Laser direct writing of effiecient 3D TiO2 nano-photocatalyst
362	**Argyro Klini** *IESL – FORTH, Greece*	Role of substrate temperature and laser fluence on cesium lead bromide thin films by Pulsed Laser Deposition
363	**Ioannis Liontos** *IESL – FORTH, Greece*	THz beam profile shaping through linear and nonlinear superposition of two-color laser filaments