

COLA 2024

Conference Program

17th International Conference on Laser Ablation
Hersonissos, Crete, Greece
September 29 – October 4, 2024
<https://cola2024.eventsadmin.com/>





COLA 2024

The 17th International Conference on Laser Ablation

CONFERENCE CHAIRS

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Organized by:



September 29 – October 4
Creta Maris Resort, Hersonissos
Crete, Greece

<https://cola2024.eventsadmin.com/>

Venue Layout

The Creta Maris Beach Resort



COMMITTEES

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COLA 2024
ORAL PRESENTATION
PROGRAM

Sunday, September 29th
WELCOME SESSION

WELCOME SESSION

17:00-20:00	REGISTRATION
19:00-20:30	CONFERENCE OPENING & WELCOME RECEPTION

Monday, September 30th ORAL SESSION		
OPENING SESSION		
08:30-09:00	REGISTRATION	
09:00-09:10	INTRODUCTION Maria Farsari Foundation for Research and Technology, Hellas	
09:10-10:00	PLENARY LECTURE Carlo Liberale KAUST, Kingdom of Saudi Arabia	Novel micro-3D printed photonic devices via two-photon lithography
10:00-10:30	Amy S. Mullin (Invited) University of Maryland, United States	Photoablation with time-evolving polarization states
10:30-11:00	Coffee Break	
	Session 1 – “Chair”	
11:00-11:30	Stephan Barcikowski (Invited) University of Duisburg-Essen, Germany	Pulsed laser crushing of microparticles into nanoparticles in liquid flow– insights, upscaling, and application
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 Spellaue 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 TiO ₂ 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	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
16:10-16:40	Coffee break	
	Session 3 – “Chair”	
16:40-17:10	Alexandra Palla-Papavlu (invited) INFILPR, Romania	Laser-processing of stimuli-responsive materials for the development of functional devices
17:10-17:30	Fabian Christ TU Darmstadt, Germany	Two photon polymerization for inertial fusion energy target fabrication
17:30-19:30	POSTER SESSION 1	

Tuesday, October 1st
ORAL SESSION

Session 4 – “Chair”		
08:30-09:00	Marti Duocastella (Invited) Universitat de Barcelona, Spain	Ultrasound-enabled light focusing for advanced materials processing
09:00-09:20	Hugo Bruhier Jean Monnet University, France	Multiscale characterization of the wettability of fs-laser textured thin film metallic glasses surfaces
09:20-09:40	Masabumi Miyabe Japan Atomic Energy Agency, Japan	High resolution ablation fluorescence spectroscopy for remote isotopic analysis
09:40-10:00	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	Ultrafast laser processing of narrow bandgap semiconductors
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”	
14:20-14:40	Dominyka Stonyte Vilnius University, Lithuania	Precision manipulation of surface machining at the nanoscale utilizing the fs-UV interference method.
14:40-15:00	Ying Tsui University of Alberta, Canada	Incubation effect dynamics of silicon irradiated by violet and near-infrared ultrashort laser pulses
15:00-15:30	Coffee Break	
	Session 7 – “Chair”	
15:30-15:50	Heinz Huber Munich University of Applied Sciences, Germany	How can time-resolved experiments contribute to a validated model of ultrashort pulse laser ablation?
15:50-16:10	Mykolas Karpavičius Light Conversion	Machining of through-glass vias (TGVs) with femtosecond laser GHz burst modes
16:10-16:30	Alexander Horn Mittweida University, Germany	Reconstruction of the ablation of thin gold films induced by ultrafast laser radiation
16:30-16:50	Johannes Heitz Johannes Kepler University Linz, Austria	Laser-induced periodic surface structures as substrates for Schwann cells alignment and oriented nanofiber collection
16:50-18:50	POSTER SESSION 2	

Wednesday, October 2nd

ORAL SESSION

Session 8 – “Chair”		
08:30-09:00	Koji Sugioka (Invited) RIKEN, Japan	Femtosecond Laser 3D printing of CYTOP for high resolution live cell imaging
09:00-09:20	Ernest Marti Jerez Universitat de Barcelona, Spain	Adding 3D shape control in LIFT with print-n-release
09:20-09:40	Christos Boutopoulos University of Montreal, Canada	In-situ laser-assisted bioprinting of corneal pro-regeneration biomaterials
09:40-10:00	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”		
10:50-11:40	PLENARY LECTURE Hidetoshi KATORI University of Tokyo, Japan	Make optical lattice clocks compact and useful for real-world applications
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
14:40-21:00	Excursion & Reception

Thursday, October 3 rd 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-Hönniger Université de Bordeaux- CNRS-CEA, France	Advances in micromachining 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	Listening to Light: Optoacoustic Imaging and Applications
11:50-12:10	Ivan Chapalo Munich University of Applied Sciences HM, Germany	Bragg gratings inscription in polypropylene light pipes using different laser sources.

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. Tsihidis Foundation for Research and Technology (FORTH), Greece	Controlling the damage threshold of Si with SiO ₂ coatings upon irradiation with Mid-IR femtosecond laser pulses
12:50-14:30	Lunch Break	
Session 12 – “Chair”		
14:30-15:00	Wilhelm Pflieger (Invited) Karlsruher Institut für Technologie, Germany	Laser ablation of electrodes for next generation batteries
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	
Session 13 – “Chair”		
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	Stefan A. Irimiciuc Institute of Physics CAS, Czech Republic	Defect tailoring in CuI film produced by pulsed laser deposition based on plasma diagnostic techniques
17:50-19:50	POSTER SESSION 3	

Friday, October 4th ORAL
SESSION

Session 14 – “Chair”		
08:30-08:50	Saulius Juodkazis Swinburne University of Technology, Australia	Large area mask writing with fs-laser pulses
08:50-09:10	Francisco Gontad AIMEN, Spain	Parallel 3D microfabrication using a SLM display
09:10-09:30	Artur Andrishak International Iberian Nanotechnology Laboratory, Portugal	Suspended 3D printed polymer waveguides for on-chip photonic interconnects
09:30-09:50	Makoto Nakajima Osaka University, Japan	Terahertz free electron laser induced periodic surface structures on Ge ₂ Sb ₂ Te ₅
09:50-10:10	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 15 – “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	Stephan Gräf Friedrich Schiller University Jena, Germany	Unveiling the formation process of laser-induced periodic surface structures on stainless steel using ion implantation
12:00-14:00	Awards & Closing	

COLA 2024
POSTER PRESENTATION
PROGRAM

POSTER SESSION 1

Monday, September 30, 2024

1	Godai Miyaji <i>Tokyo University of Technology, Japan</i>	Surface nanostructuring by short-range propagating surface plasmon excited with few-cycle femtosecond laser pulses
2	Panagiotis Loukakos <i>IESL-FORTH, Greece</i>	Laser-nanostructured electrodes for enhanced Hydrogen Evolution Reaction
3	Luisa D'Urso <i>University of Catania, Italy</i>	MoS2 structures modified by laser irradiation for semiconductor-SERS sensing
4	Eulàlia Puig Vilardell <i>Vilnius University, Lithuania</i>	3D Photonic Crystal for Rainbow Trapping Fabricated via Two-Photon Lithography
5	Maria Anna Chliara <i>NTUA, Greece</i>	Laser bioprinting of 3D structures in organ on chip devices
6	Michalis Stavrou <i>IESL – FORTH, Greece</i>	Indane-1,3-dione-based push-pull dyes as low fluorescent and highly efficient photoinitiators for free radical polymerization
7	Jean-Philippe Colombier <i>CNRS, France</i>	Oxidation of metals during topographic functionalization upon ultrafast laser irradiation
8	Ioannis Liontos <i>IESL – FORTH, Greece</i>	THz beam profile shaping through linear and nonlinear superposition of two-color laser filaments
9	David Redka <i>Munich University of Applied Sciences, Germany</i>	Local Versus Global: Rethinking Incubation in Ultra-Short Pulse Laser Ablation
10	Yasutaka Hanada <i>Hirosaki University, Japan</i>	LIPSS formation on transparent material by laser-induced plasma-assisted ablation (LIPAA) and its fundamental characteristics
11	Yuhai Li <i>Research Center of Laser Fusion, China</i>	Study on the degradation of high reflection film performance induced by stray light irradiation of CFRP in high-power continuous laser facilities
12	Rida Ahmed <i>University of Ljubljana, Slovenia</i>	Influence of MHz bursts on the ablation efficiency of thin metal foils

13	Yu-Hsuan Lin <i>Taiwan Instrument Research Institute, National Applied Research Laboratories</i>	Investigating the impact of ultraviolet laser parameters on the surface characteristics of silicon carbide (SiC) substrates
14	Denys Miakota <i>Technical University of Denmark, Denmark</i>	Femtosecond UV laser enhancement of silver nanowires based transparent conductive electrodes
15	Takuma Hamachi <i>Kyushu University, Japan</i>	Formation of ultra-low dielectric constant film by non-thermal laser deposition
16	Stefan Irimiciuc <i>Czech Academy of Sciences, Czechia</i>	Insight into pulsed laser deposition of selected oxynitride system. Oxidation control via plasma diagnostic tools
17	Leon Geiger <i>Karlsruhe Institute of Technology, Germany</i>	Laser-induced crystallization: enhanced predictability of urea crystallization by optimized laser repetition rate
18	Krzysztof Dzierzega <i>Jagiellonian University, Poland</i>	Exploring nonlinear optical effects in NV-doped diamond
19	Ciro D'Amico <i>Jean Monnet University, Saint-Etienne, France</i>	Ultrafast laser induced anisotropic carrier transport dynamics in smooth and surface pre-structured crystal semiconductors, detected by terahertz pulses
20	Sang-Ho Nam <i>Mokpo National University, Republic of Korea</i>	Classification of soybean paste using laser-induced breakdown spectroscopy and k-nearest neighbors analysis
21	Yu-Hsuan Lin <i>Taiwan Instrument Research Institute, National Applied Research Laboratories</i>	Ultraviolet laser-assisted micropattern fabrication and its impact on viral activity inhibition under electrical stimulation
22	Denys Miakota <i>Technical University of Denmark, Denmark</i>	The use of femtosecond UV laser for selective layer processing of CIGS thin-film solar cells
23	Carla Raquel Fontana <i>São Paulo State University, Brazil</i>	Treatment of gingival melanin pigmentation by CO ₂ and Nd:YAG laser ablation
24	Vincenzo De Michele <i>Université Jean Monnet, France</i>	Time resolved mid-infrared absorption in silica: ultrafast heat transfer observed by direct probing of anharmonic vibrations
25	Tatsunori Shibuya <i>National Institute of Advanced Industrial Science and Technology, Japan</i>	Selective laser assisted chemical etching of aluminum nitride
26	Christoph Rehbock <i>University of Duisburg-Essen, Germany</i>	The size and composition-dependent mechanisms of High-entropy-alloy nanoparticle formation by laser ablation in liquids
27	Cleber Mendonca <i>IFSC/USP, Brazil</i>	Femtosecond direct laser writing for fabricating structures with NV centers
28	Masayuki Kakehata <i>National Institute of Advanced Industrial Science and Technology (AIST), Japan</i>	Laser-induced periodic surface structures on titanium alloy and zirconia ceramics formed by irradiation of femtosecond two-color double-pulse sequences
29	Grigorios Boulogiannis <i>Fraunhofer Institute for Solar Energy Systems (ISE), Germany</i>	Characterization of the nonlinear optical properties of glass using the Z-scan technique for advancing laser-glass processing in photovoltaics

30	Hidehiko Yashiro <i>National Institute of Advanced Industrial Science and Technology (AIST), Japan</i>	Adhesion strength of hydroxyapatite layer on zirconia substrates coated by droplets eliminated type pulsed-laser deposition
31	Alex Capelle <i>GREMI - CNRS - Université d'Orléans, France</i>	LIPSS formation on soda-lime glass by femtosecond laser beam: effect of repetition rate with two different wavelengths (1030nm and 515 nm)
32	Stavroula Elezoglou <i>National Technical University of Athens, Greece</i>	Laser induced forward transfer of cells towards engineered grafts
33	Andrew Hainer <i>University of Ottawa, Canada</i>	Laser modification of polymer-embedded metal nanorods for plasmonic color picture generation
34	Alexander Bulgakov <i>HiLASE Centre, Institute of Physics CAS, Czech Republic</i>	Incongruent and delayed evaporation of multicomponent materials: Manifestations in laser-ablation plumes
35	Reza Nekouie Esfahani <i>Manufacturing Technology Centre, UK</i>	Three-dimensional (3D) laser-induced surface metallisation for the fabrication of 3D printed electronics
36	David Girard <i>University of Ottawa, Canada</i>	Silver (I) oxide and silver (I, III) oxide formation via femtosecond laser micromachining
37	Masoud Mahjouri-Samani <i>Auburn University, USA</i>	Inkless printing multimaterial electronics – A laser-based additive nanomanufacturing approach
38	Inam Mirza <i>HiLASE Centre, Institute of Physics of the Czech Academy of Sciences, Czechia</i>	Non-thermal regimes of laser annealing of semiconductor nanostructures
39	Philipp Maack <i>Ruhr-University Bochum, Germany</i>	Underwater femtosecond laser micromachining of porous transport layers for electrolysis applications
40	Shu Hayashi <i>Princeton University, USA</i>	Laser direct writing of carbon complexes from polymeric precursors by laser-induced graphitization
41	Shu Hayashi <i>Princeton University, USA</i>	Three-dimensional carbon fiber networks with multiple self-orienting laser-induced periodic surface structures enabled by ultrafast laser processing
42	Jan Marx <i>Applied Laser Technologies, Ruhr University Bochum, Germany</i>	Reflectance investigation on ultrashort pulsed laser generated surface microstructures
43	Maria Pervolaraki <i>IESL – FORTH, Greece</i>	Laser sintering: igniting innovation across sensing, automotive and space
44	Mangirdas Malinauskas <i>Laser Research Center, Faculty of Physics, Vilnius University, Lithuania</i>	Synthesis and study of YAG:Ln for multiphoton 3D lithography
45	Hidehiko Yashiro <i>National Institute for Advanced Industrial Science and Technology (AIST), Japan</i>	Transmission electron microscope measurement of the hydroxyapatite layers coated by droplets eliminated type pulsed-laser deposition
46	Shigeki Matsuo <i>Shibaura Institute of Technology, Japan</i>	Possibility of fabricating tetragonal periodic surface structures using circularly-polarized laser pulses

47	Simon Jelinek <i>FZU - Institute of Physics, Czech Academy of Sciences, Czechia</i>	Ablation damage characterizes non-Gaussian beam profiles – extension of Liu's method
48	Tien-Li Chang <i>Department of Mechatronic Engineering, National Taiwan Normal University, Taiwan</i>	Ultrafast Laser Induced Bio-Inspired Metallic Structures for Biological Response
49	Tatsuki Nakayama <i>Graduate School of Science and Technology, Nihon University, Japan</i>	Development of visible light responsive TiO ₂ photocatalyst with highly oriented gold nanoislands fabricated by PLD
50	Keitaro Shimada <i>The University of Tokyo, Japan</i>	Portable STAMP with thin-plate-based spectral broadening for picosecond single-shot imaging in laser ablation systems
51	Esther Rebollar <i>Instituto de Química Física Blas Cabrera, CSIC, Spain</i>	Modification of polymers wettability by laser irradiation with nanosecond and femtosecond pulses
52	Nicolas Thomae <i>Munich University of Applied Sciences HM, Germany</i>	Impact of Topography and Thermophysical Properties on Multi-Shot LIPSS Generation
53	Linda Pabst <i>Laserinstitute Hochschule Mittweida, Germany</i>	High rate laser polishing using a polygon scanner
54	Wojciech Talik <i>Jagiellonian University in Cracow, Poland</i>	Upconversion luminescence in Er-doped tellurite-phosphate glass during crystallization with femtosecond laser pulses
55	Béla Hopp <i>University of Szeged, Hungary</i>	Laser ablation as a tool for fragmentation of active pharmaceutical ingredient particles
56	Tamás Smausz <i>University of Szeged, Hungary</i>	Production of composite nanoparticles by ablating along the contact line of silver and gold plates placed in V geometry

POSTER SESSION 2

Tuesday, October 1, 2024

1	Michalis Stavrou <i>IESL – FORTH, Greece</i>	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
2	Carlos Esteban Cifuentes Quintal <i>Aix Marseille Univ, CNRS, France</i>	Exploring laser ultra-fast ablation techniques on UO ₂ : Advancements in Nuclear Fuel Micro-Machining
3	Laura Loi <i>ALPhANOV, France</i>	Laser-based surface functionalization of transparent materials by Direct Laser Interference Patterning technique
4	Béla Hopp <i>University of Szeged, Hungary</i>	Surface darkening of different metals using nanosecond pulsed laser ablation
5	Motoaki Nakatsutsumi <i>European XFEL, Germany</i>	Grazing-incidence XFEL scattering to study ultrafast surface ablation and nano-structuring dynamics
6	Hanan Mir <i>Fraunhofer Institute for Solar Energy Systems, Germany</i>	High-Speed Ultrashort Pulse Laser Dicing of 4H-SiC via Polygon Scanner
7	Nadezhda Bulgakova <i>HiLASE Centre, Institute of Physics CAS, Czech Republic</i>	Volumetric modification of fused silica with double laser pulses: the effect of pulse separation on energy deposition
8	Yoshihiro Iwata <i>Japan Atomic Energy Agency, Japan</i>	Gadolinium ion emission in a water Cherenkov detector
9	Florin Andrei <i>National Institute for Laser, Plasma and Radiation Physics, Romania</i>	Strain engineering of epitaxial perovskite-based heterostructures for efficient photoelectrochemical water splitting
10	Joerg Schille <i>Laserinstitut Hochschule Mittweida, Germany</i>	High-efficient ultrashort pulse laser ablation in the long burst GHz pulse regime
11	Eugenia Bosler <i>Technische Universität Berlin, Germany</i>	Influence of Material and Process Interactions in Two-Photon Polymerization: Application-Oriented Methods for Resolution Analysis
12	Matthias Domke <i>Vorarlberg University of Applied Sciences, Austria</i>	One-shot imaging of laser-induced surface acoustic waves on silicon and metal films using pump-probe microscopy
13	Gonzalo Gómez Muñoz <i>Laser Processing Group IO-CSIC, Spain</i>	Controlled Formation of Spike-Like Structures in Silicon by fs-Laser Processing for Enhanced Light Absorption

14	Francisco Gontad <i>AIMEN Laser Technology Centre O Porriño, Spain</i>	Parallel laser texturing with Diffractive Optical Elements for friction reduction in pistons
15	Antonios S. Valavanis <i>University of Virginia, USA</i>	Dynamics of Laser-Induced Phase Explosion in Ag Films: Insights from Atomistic Simulations and Optical Imaging
16	Anna Münzer <i>Fraunhofer Institute for Solar Energy Systems ISE, Germany</i>	Annealing of TCO Thin Films on Temperature-Sensitive Solar Cells with Short and Ultrashort UV Laser Pulses
17	Peter Gregorcic <i>University of Ljubljana, Faculty of Mechanical Engineering, Slovenia</i>	Ablation of metal surfaces by low-fluence laser pulses in different gas atmospheres
18	Shih-Feng Tseng <i>National Taipei University of Technology, Taiwan</i>	Characteristic investigation of laser thermal oxidation treatment for maskless marking QR codes on SS316 and Ti-64 surfaces
19	Yonghoon Lee <i>Mokpo National University, Republic of Korea</i>	Classification of Kimchi using Laser-Induced Breakdown Spectroscopy and k-Nearest Neighbors Modeling
20	Nils Schott <i>Institute of Nuclear Physics, Germany</i>	Laser micromachining for proton fast ignition laser fusion target fabrication
21	Laimis Zubauskas <i>Center for Physical Science and Technology (FTMC), Lithuania</i>	Top-down ablation of fused silica by BiBurst femtosecond laser
22	Miglė Mackevičiūtė <i>Center for Physical Sciences and Technology, Lithuania</i>	Soda-lime glass machining with GHz bursts using a bottom-up technique
23	Keita Katayama <i>Kyushu University, Japan</i>	Localized and shallow laser doping by excimer laser annealing
24	Johannes Roth <i>University Stuttgart, Germany</i>	Novel excitation-induced non-thermal effects and ablation mechanisms in silicon from atomistic simulations with a thermal spike model
25	Yury Ryabchikov <i>HiLASE Centre, Institute of Physics of the Czech Academy of Sciences, Czechia</i>	Laser Synthesis and Heating of Semiconductor-Based Nanocomposites with Tuned Plasmonic Properties
26	Kuder Aiiyyzhy <i>Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia</i>	Laser assisted synthesis of boron nanoparticles
27	Stephane Guizard <i>Laboratoire Interactions Dynamiques et Lasers, CEA, Université Paris-Saclay, France.</i>	Femtosecond and subfemtosecond carrier dynamics in wide-band gap dielectrics.
28	Lasse Bienkowski <i>Fraunhofer Institute for Solar Energy Systems ISE, Germany</i>	Utilizing Transient Effects for Ablating Glass Using Combined Picosecond and Nanosecond Laser Pulses
29	Shuntaro Tani <i>The Institute for Solid State Physics, Japan</i>	Mid-infrared light emission during laser ablation
30	Hiroshi Yoshikawa <i>Osaka University, Japan</i>	High-Speed Polarization Imaging of Laser Ablation-Induced Crystallization of Ice in Supercooled Water
31	Ecem Demir <i>Ruhr University Bochum, Germany</i>	Process Simulation and Development for Laser Beam Welding with Rotating Bifocal Optics

32	Emmanuel Haro-Poniatowski <i>Departamento de Física, Universidad Autónoma Metropolitana Iztapalapa, Mexico</i>	Au Nanostructured glasses fabricated simultaneously by PLD and Sol-Gel techniques.
33	Thibault Derrien <i>Institute of Physics of the Czech Academy of sciences, Czechia</i>	Linear absorption of single-layer graphene deposited on quartz: density-functional tight binding vs optical measurements
34	Ankit Das <i>Princeton University, USA</i>	Mitigating undulations via external electric fields in laser powder bed fusion
35	Stefano Orlando <i>CNR-ISM, Italy</i>	Surface electrical conductivity variations induced by ultrashort laser pulses in wide bandgap semiconductors
36	Markéta Janková <i>University of West Bohemia, Czechia</i>	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
37	Tomáš Křenek <i>University of West Bohemia, Czechia</i>	Newly discovered potentials of laser ablation in liquids for energy-saving formation of solar light-driven photocatalytic materials
38	MiHye Kim <i>LG Electronics Production engineering Research Institute, South Korea</i>	Study of Selective Laser-induced Etching for Micro-hole Formation in Glass using a Bessel Beam
39	Mehdi Abedi-Varaki <i>FTMC - Center for Physical Sciences and Technology, Lithuania</i>	Density effect on the electron acceleration by Bessel-Gauss laser beam from a laser wakefield accelerator
40	Tobias Held <i>Department of Physics and Research Center OPTIMAS, RPTU Kaiserslautern-Landau, Germany</i>	Band-resolved relaxation of laser-excited gold
41	Jean-francois GLEYZE <i>CEA-CESTA, Bordeaux, France</i>	CO2 laser ablation process for laser induced-damage mitigation of fused silica optics for LMJ
42	Nastaran Hayatiroodbari <i>Joanneum Research Forschungsgesellschaft mbH, Austria</i>	Pulsed laser ablation processes in photovoltaics
43	Paulius Gečys <i>Center for Physical Sciences and Technology (FTMC), Lithuania</i>	Polarization controlled crack propagation in Bessel beam processing of soda-lime glass
44	Oliver Dubnack <i>Friedrich-Schiller-Universität Jena, Germany</i>	Mechano-responsive wetting of fs-laser-structured PDMS surfaces
45	Falko Jahn <i>Laserinstitut Hochschule Mittweida, Germany</i>	Investigations on various approaches in order to reduce droplet incorporation into films produced by Pulsed Laser Deposition
46	Jijil JJ Nivas <i>University of Naples Federico II, Italy</i>	Influence of ambient pressure on LIPSS formation in silicon
47	Modestas Sadauskas <i>FTMC – Center for Physical Sciences and Technology, Lithuania</i>	Metal micro mesh electrode formation on transparent dielectric surface using Selective Surface Activation Induced by Laser technology

48	Sena Maru <i>Waseda University, Japan</i>	Dynamics observation of pressure waves during femtosecond laser irradiation in amorphous silica glass
49	Andrius Žemaitis <i>Center for Physical Sciences and Technology (FTMC), Lithuania</i>	Femtosecond bursts advancing ablation efficiency and quality of metals
50	Antonio Brancato <i>University of Study of Catania, Italy</i>	Study of magnetic nanoparticles obtained by Laser ablation of Mount Etna volcanic rocks
51	Misa Beppu <i>Kyushu University, Japan</i>	Sn doping into β -Ga ₂ O ₃ by a KrF excimer laser
52	Mao Sudo <i>Osaka University, Japan</i>	The effect of plume removal on welding efficiency and behavior in welding copper using 1.5kW blue diode laser
53	Antonio Santagata <i>CNR-ISM, Italy</i>	A comparative survey of nanostructured surfaces generated by wet chemistry and LIPSS for NELIBS detection of trace metals in liquids

POSTER SESSION 3

Thursday, October 3, 2024

1	Meenu M S <i>Cochin University of Science and Technology, India</i>	Femtosecond Laser Written Polymer Micro-Scaffolds for Tissue Engineering
2	Kevin Lubig <i>Friedrich Schiller University Jena, Germany</i>	Investigation of contact friction on material surfaces nanostructured with fs-lasers
3	Bogusz Stepak <i>Fluence, Poland</i>	Enhancing metal processing efficiency with femtosecond fiber laser: drilling, deep engraving, cutting, and polishing
4	Lucrezia Catanzaro <i>University of Catania, Italy</i>	Tuning the Aggregation of Metal Nanoparticles prepared by Laser Ablation with Halide Salt solutions
5	Markus Uehlein <i>Department of Physics and Research Center OPTIMAS, RPTU Kaiserslautern-Landau, Germany</i>	Tracing non-thermal electrons in laser-excited metals with an extended two-temperature model
6	Yu-Hsuan Lin <i>National Applied Research Laboratories, Taiwan</i>	Enhancement of hydrophobicity and biocompatibility in embedded pressure sensor through laser surface modification
7	Sharath Rameshbabu <i>Swiss Federal Laboratories for Materials Science and Technology (Empa), Switzerland</i>	Pulsed laser deposition of Ho ₂ O ₃ thin films for Nano-Photonics
8	Simon Kümmel <i>Institute for Functional Matter and Quantum Technologies, Germany</i>	Investigation of excitation-induced non-thermal effects in semiconductors, metals and alloys
9	Hendrik Wrigge <i>Institut für Nanophotonik Göttingen, Germany</i>	Broadband pump probe setup for ultrafast transient reflectivity measurements
10	Angela De Bonis <i>Dipartimento di Scienze, Università della Basilicata, Italy</i>	Tailored Nanozyme Composite Materials via Laser Ablation in Liquid: Towards Enhanced Photocatalytic and Antimicrobial Capabilities
11	Makoto Nakajima <i>Osaka University, Japan</i>	Laser processing of organic wood-plastic composite materials

12	Xuan Wang <i>Wuhan University, China</i>	Surface Enhanced Raman Scattering Studies of Femtosecond Laser Written Ripple-like Nanostructures in Air and Vacuum
13	George Perrakis <i>IESL – FORTH, Greece</i>	Hybrid electromagnetic surface modes impact on low spatial frequency LIPSS formation and periodicity reduction
14	Antonio Santagata <i>CNR-ISM, Italy</i>	LIPSS for Li-less lithium metal negative electrodes of secondary aprotic batteries
15	Panagiotis Konstantakis <i>IESL – FORTH, Greece</i>	Retrieving Optical Information in Nonlinear Chaotic Systems using Neural Networks
16	Tatsunori Shibuya <i>National Institute of Advanced Industrial Science and Technology, Japan</i>	Development of sub-microsecond delay pump-probe imaging method for hydrodynamic micro liquid deformation
17	Achu Purushothaman <i>Università degli Studi di Napoli Federico II, Italy</i>	Metallic film deposition by femtosecond laser ablation in air at atmospheric pressure
18	Lukáš Vála <i>University of West Bohemia, Czech Republic</i>	Comparative study of pulsed laser induced synthesis and precipitation of nanostructured ternary Co-Fe-S based coat and nanoparticles
19	Xiaona Zhao <i>Wuhan University, China</i>	Direct Laser Written Periodic Si Ripples Decorated with Au Nanoparticles as a Platform for Surface Enhanced Raman Spectroscopy
20	Argyro Klini <i>IESL – FORTH, Greece</i>	Role of substrate temperature and laser fluence on cesium lead bromide thin films by Pulsed Laser Deposition
21	Aram Melkonyan <i>UJM Saint-Etienne, CNRS, Institute of Optics Graduate School, France</i>	Densification of amorphous silica obtained from different polymorphs
22	Rodrigas Liudvinavičius <i>Department of Laser Technologies, Center for Physical Sciences and Technology, Lithuania</i>	Formation of periodic plasmonic structures on a thin gold layer sputtered on different surfaces
23	Yuan Chen <i>China Academy of Engineering Physics (CAEP), China</i>	Talbot effect replicative transcription on downstream optics in high-power laser diagnostics system
24	Mikuru Okazaki <i>Course of Science and Technology, Japan</i>	Antibacterial effect of periodic structure formed on stainless steel by using femtosecond pulsed laser
25	Kiran Kumar K <i>Technology Innovation Institute, United Arab Emirates</i>	Numerical Simulation of Ultrashort Pulse Laser - Material Interaction with an Angle of Incidence
26	Irene Solana <i>Universidad Autónoma de Madrid, Spain</i>	Femtosecond laser processing of gold-implanted glass: assisted absorption and optoplasmonic tuneability

27	Sandra Stroj <i>Research Center for Microtechnology, Austria</i>	Realization of miniaturized PMN-PT piezo actuators by femtosecond laser processing for compensation of fine structure splitting of entangled photon quantum emitters
28	Deividas Andriukaitis <i>Ekspla, Lithuania</i>	Efficient Dielectric Material Processing In Femtosecond GHz Burst Mode
29	Marnix Vreugdenhil <i>Utrecht University, Netherlands</i>	Wavelength dependence of single-shot laser ablation thresholds for semiconductors
30	Lebogang Kotsedi <i>iThemba LABS-NRF, South Africa</i>	Comparison of thermal and Laser heating activation energy calculation of Sn-Zn
31	Eichi Terasawa <i>Chil-Chyuan National Institute of Advanced Industrial Science and Technology, Japan</i>	Predictive Multimodal AI model for Laser Processed Material Functions and Properties
32	Iaroslav Gnilitzkyi <i>King's College London, UK</i>	Laser-Induced Self-Organized Microrod Arrays
33	Wen-Tse Hsiao <i>Taiwan Instrument Research Institute, National Applied Research Laboratories, Taiwan</i>	Characterization analysis of 1064 nm and 532 nm dual pulsed laser fragmentation in liquid on copper target
34	Yu-Jen Hsiao <i>National Kaohsiung University of Science and Technology, Taiwan</i>	Gas Sensing Films Using Laser Annealing for MEMS Applications
35	Daisuke Satoh <i>National Institute of Advanced Industrial Science and Technology</i>	Laser processing for the fabrication of high-power millimeter-wave components
36	Evaldas Stankevicius <i>Center for Physical Sciences and Technology, Lithuania</i>	Direct laser writing for the formation of nanophotonic structures
37	Dimitra Ladika <i>IESL – FORTH, Greece</i>	Wavelength-independent and photoinitiator-free multiphoton lithography
38	Eudokia Kyriakou <i>IESL – FORTH, Greece</i>	Bioinspired Hierarchical Materials with enhanced mechanical properties
39	Andreas Parlanis <i>IESL – FORTH, Greece</i>	Auxetic Scaffolds via Multiphoton Lithography for Neuroregeneration
40	Antonis Kordas <i>IESL – FORTH, Greece</i>	Development of in vitro biomimetic environments for the regeneration of the nervous tissue
41	Konstantina Terzaki <i>IESL – FORTH, Greece</i>	Fabrication of porous mastic gum scaffolds by UV laser for drug delivery applications
42	Savvas Papamakarios <i>IESL – FORTH, Greece</i>	Fabrication of Split Ring Resonators (SRRs) for IR energy harvesting using multiphoton lithography
43	Vasileia Melissinaki <i>IESL – FORTH, Greece</i>	Micro-optical elements fabricated by multiphoton lithography on various substrates
44	Gordon Zyla <i>IESL – FORTH, Greece</i>	Laser-based 3D printing of micro-optics with high fidelity

45	Elmina Kabouraki <i>IESL – FORTH, Greece</i>	3D micro-optical elements by multiphoton lithography and nano-imprinted patterns using high laser induced damage threshold photoresists
46	Ioannis Syngelakis <i>IESL – FORTH, Greece</i>	Laser direct writing of efficient 3D TiO ₂ nano-photocatalyst
47	Pol Sopena <i>Aix-Marseille Université, CNRS, LP3</i>	Semiconductors laser writing by multiphoton-initiated nanosecond mid-infrared pulse absorption
48	Christos Boutopoulos <i>University of Montreal, Canada</i>	Computational modeling and printing optimization in fiber-based laser-assisted bioprinting

