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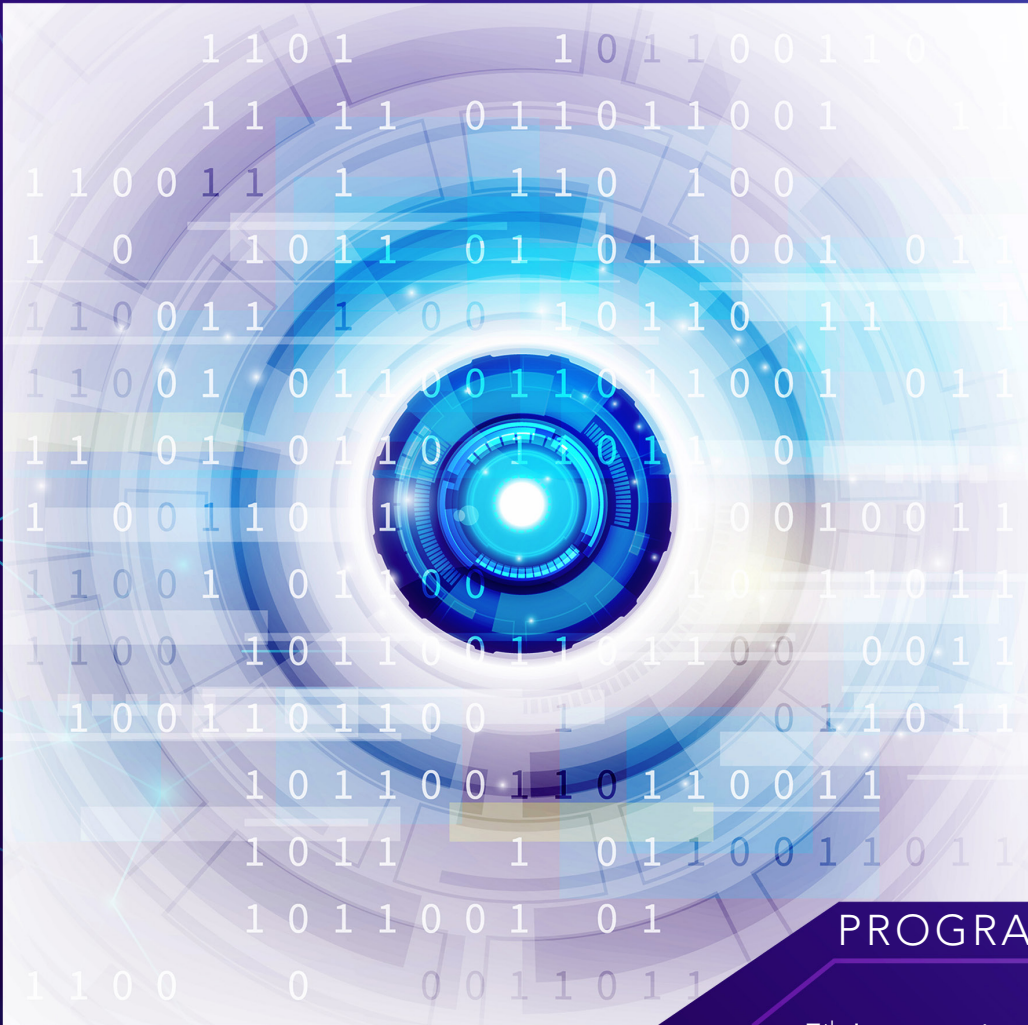


UNITED Scientific Group
A non-profit organization



Optics, Photonics and Lasers

November 25-27, 2024 | Valencia, Spain



PROGRAM

5th International Conference on

OPTICS, PHOTONICS AND LASERS

November 25-27, 2024 (Hybrid)

Valencia, Spain and Online

Venue

Barcelo Valencia Hotel

<https://optics.unitedscientificgroup.org/>

Join Zoom Meeting:

<https://us06web.zoom.us/j/88139199792?pwd=IPS7xHTXlgrwTHfOBP5JKaERP2I1ox.1>

Meeting ID: **881 3919 9792**

Passcode: **869597**

08:00-08:40 **Registrations** @ **Foyer**

08:40-08:50 **Welcome and Inaugural Speech**

Plenary Talk

Session Chair: Felix Sima, National Institute for Laser, Plasma and Radiation Physics, Romania

08:50-9:35 **Roman Schnabel**, University of Hamburg, Germany
Quantum Correlated Light – Routinely Used in Gravitational Wave Detectors

Keynote Talks

09:35-10:05 **Koji Sugioka**, RIKEN Center for Advanced Photonics, Japan
GHz Burst Mode Femtosecond Laser Processing

10:05-10:35 **Cefe López**, Spanish National Research Council (CSIC), Spain
Semiconductor Random Laser Diode Manufactured by Pulsed Laser Ablation

10:35-10:55 Coffee Break @ **Foyer**

10:55-11:25 **Mikhail A. Vorontsov**, University of Dayton, OH, USA
Deep Machine Learning Based Atmospheric Turbulence Characterization and Forecasting

11:25-11:55 **Alfred Vogel**, University of Luebeck, Germany
Laser-induced Low-density Plasma in Biophotonics - From Molecular Changes to Nanobubbles

11:55-12:25 **Juan P. Martinez Pastor**, University of Valencia, Spain
Random Lasing Observed and Tailored in Tin Halide Perovskite Thin Films

12:25-13:05 Lunch Break @ **Foyer**

Laser and Photonics Engineering - I

Session Chair: Koji Sugioka, RIKEN Center for Advanced Photonics, Japan

13:05-13:25 **Ya Cheng**, Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China (**Invited**)
Thin Film Lithium Niobate Electro-optic Devices and Ultralarge-scale Photonic Integration

13:25-13:45 **Serguei Papernyi**, MPB Communications Inc., Canada
Pulsed Counter-pumped Raman Fiber Amplifiers for Super-resolution Microscopy

13:45-14:05 **Rui Wang**, National University of Defense Technology, China
Demonstration of Ar-based Electric Rocket-engine Type DPRGL

14:05-14:25 **Zining Yang**, National University of Defense Technology, China
Linewidth Narrowing of High-power Diode Laser Based on FADOF External Cavity

14:25-14:45 **Hongyan Wang**, National University of Defense Technology, China
Diode-pumped Metastable Krypton Laser

14:45-15:05 **Xiaojun Xu**, National University of Defense Technology, China
Kinetics Research of Diode Pumped Rare Gas Laser

15:05-15:25 Coffee Break @ Foyer

Advanced Optical Science and Applications

Session Chair: Julián Espinosa Tomás, University of Alicante, Spain

15:25-15:45 **Felix Sima**, National Institute for Laser, Plasma and Radiation Physics, Romania **(Invited)**
Ultrafast Laser 3D Processing of Tumor-on-chip Platforms for Cancer Research

15:45-16:05 **Boris Louis**, Katholieke Universiteit Leuven, Belgium
In Operando Locally-resolved Photophysics in Perovskite Solar Cells by Correlation Clustering Imaging

16:05-16:25 **Martin E. Garcia**, University of Kassel, Germany
Neural-network Interatomic Potentials to Describe Femtosecond Laser Processing of Materials

16:25-16:45 **Julián Espinosa Tomás**, University of Alicante, Spain
Analyzing Binocular Near-reflex Dynamics with a Video-based Eye Tracker

16:45-17:05 **Sebastian Rabien**, Max Planck Institute for Extraterrestrial Physics, Germany
Adaptive Parabolic Polymer Mirrors for Next Generation Space Telescopes

17:05-17:25 **Andres Granados del Aguila**, University of Valencia, Spain **(Invited)**
Ultrafast Exciton Fluid Flow in an Atomically Thin MoS₂ Semiconductor

17:25-17:45 **Ester Abram**, Advanced Research Center for Nanolithography (ARCNL)/University of Amsterdam, Netherlands
What is Damage? - Pre-ablation Regime Light-induced Optical changes in Nanometer Thick Films

17:45-18:05 **Nitin Chaudhary**, University of Hyderabad, India
Interferometric-based Ultrafast Laser Patterning to Fabricate Ultra-black Surfaces on Stainless Steel by Femtosecond Laser

18:05-18:25 **Esther Perales**, Universidad de Alicante, Spain
Evaluation of Colorimetric Characterization in OLED Displays

18:30-19:00 Networking Drinks @ Foyer

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Keynote Talks

Session Chair: Juan P Martinez Pastor, University of Valencia, Spain

- 08:30-09:00 **Jaime Gomez Rivas**, Eindhoven University of Technology, Netherlands
Metasurfaces for Light Emission: From Solid-state Lighting to Quantum Condensation
- 09:00-09:30 **Xingjie Ni**, Pennsylvania State University, PA, USA
Advancing Towards Large-scale, Functional Meta-optics
- 09:30-10:00 **Guillermo Aguilar**, Texas A&M University, TX, USA
Laser-based Optical Diagnostics, Therapeutics and Materials Processing at the Agui-Lab
- 10:00-10:30 **Nikitas Papasimakis**, University of Southampton, United Kingdom
Supertoroidal Electrodynamics
- 10:30-10:50 Coffee Break** @ Foyer
- 10:50-11:20 **Zouheir Sekkat**, Optics & Photonics Center, MAScIR, University Mohammed VI Polytechnic, Morocco
Creating Mechanical Work from Smart Polymers by Light

Laser and Photonics Engineering - II

Session Chair: Jaime Gomez Rivas, Eindhoven University of Technology, Netherlands

- 11:20-11:40 **Alexander Kir'yanov**, Center for Research in Optics AC, Mexico **(Invited)**
Bismuth-doped Yttria-alumino-silicate Fiber as a Tool for Sensing High-energy Electrons Dosage
- 11:40-12:00 **Maxim Durach**, Georgia Southern University, GA, USA **(Invited)**
Novel Electromagnetic Solutions in Isotropy-broken Metamaterials: Layers, Spheres, Beams
- 12:00-12:20 **Victor Velázquez**, National Autonomous University of Mexico, Mexico
Experimental Measurement of the Noise of the Particle-wave Light
- 12:20-12:40 **Alexandra Bran**, National Institute for Laser, Plasma and Radiation Physics, Romania
Cancer Cells Interaction with 3D tissue-like Scaffolds Fabricated by Two Photon Polymerization
- 12:40-13:40 Lunch Break** @ Foyer

Multidimensional Applications of Photonics, Optics and Lasers

Session Chairs: **Benedikt Beck**, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
Mateu Colom Serra, Universitat de Barcelona, Spain

- 13:40-14:00 **Amir Mohammad Ketabchi**, Koc University, Turkey
Improving Contrast in Fiber Bundle-based Fluorescence Microscopy through the Application of Generative Adversarial Networks
- 14:00-14:20 **Albert Redo**, University of Zaragoza, Spain
Dirac Notation and a Cohesive Framework for Non-line-of-sight Imaging
- 14:20-14:40 **Benedikt Beck**, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
Real Time Pulse Duration Tunability in Fiber Laser Chirped Pulse Amplification Systems Using an Electro-optic Time Lens
- 14:40-15:00 **Daisuke Nakamura**, Kyushu University, Japan **(Invited)**
Laser Welding of Copper Wire Using a High-Power Blue Laser
- 15:00-15:20 **Vinicius M. Pepino**, University of Sao Paulo, Brazil
Passive Amplification and Pulse Generation via Temporal Talbot Effect in Microwaves and Submillimeter Waves
- 15:20-15:50 **Alexander A. Oraevsky**, TomoWave Laboratories, TX, USA **(Virtual keynote)**
Three-dimensional Quantitative Optoacoustic Tomography for Functional Imaging in Preclinical and Clinical Research
- 15:50-16:10 **PoI SOPEÑA**, Aix-Marseille University, France **(Invited)**
In-volume Laser Processing of Semiconductors: The Need for Unconventional Approaches
- 16:10-16:30 Coffee Break @ Foyer**
- 16:30-16:50 **Lyubomir Stoyanov**, Sofia University, Bulgaria
Coherent Beam Recombination of Split and Spectrally Broadened Femtosecond Beams/Pulses: Singular Optics Approach
- 16:50-17:10 **Daniel Puerto Garcia**, University of Alicante, Spain
Fine Control of Laser Processing of Commercial Polymers under High-frequency Femtosecond Irradiation
- 17:10-17:30 **Mateu Colom Serra**, Universitat de Barcelona, Spain
Direct Laser-guiding in Uniform and Scattering Media Using Photoacoustically Generated Ultrasound
- 17:30-17:50 **Shilpa M**, University of Hyderabad, India
Ultrafast Mid-IR Transient Spectroscopy for Studying Carrier Dynamics in MoS₂ and V-MoS₂
- 17:50-18:10 **Jabczyński Jan**, Military University of Technology, Poland
Optical Bottle Generation by Coherent Beam Combining

Closing Remarks

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Virtual Talks

Session Chair: **Lyubomir Stoyanov**, Sofia University, Bulgaria

- 08:30-09:00 **Koichi Shimizu**, Xidian University, China **(Keynote)**
3D Transillumination Imaging of a Living Animal Body to Visualize Internal
- 09:00-09:30 **Boris N. Chichkov**, Leibniz University Hannover, Germany **(Keynote)**
Laser Printing
- 09:30-10:00 **Francesca Calegari**, German Electron Synchrotron DESY, Germany **(Keynote)**
Attosecond Technology and Control of Matter at the Electron Time Scale
- 10:00-10:20 **David C. Hyland**, Augusta Quantum Electrodynamics Inc, TX, USA
An Intensity Correlation Imaging Observatory for Commercial Satellite Inspection
- 10:20-10:40 **Mario Chemnitz**, Leibniz Institute of Photonic Technology Jena, Germany **(Invited)**
Fiber-Integrated Brain-inspired Optical Computing with Nonlinear Wave Dynamics
- 10:40-11:00 **Ondrej Hort**, Extreme Light Infrastructure Beamlines, Czech Republic **(Invited)**
Perspectives on Nonlinear XUV Science at ELI Beamlines

11:00-11:20 Break

Session Chair: **Boris Louis**, Katholieke Universiteit Leuven, Belgium

- 11:20-11:40 **Shigeru Kubota**, Yamagata University, Japan
Practical Light Management Technique for Thin-film Solar Cells with Nanoimprinted Structures
- 11:40-12:00 **Hernan Ferrari**, LIDTUA, Austral University - CONICET, Argentina
Forces and Binding of Nanoparticles Mediated by Graphene Surface Plasmons: Towards Tunable Optical Matter
- 12:00-12:20 **Pablo Saldanha**, Federal University of Minas Gerais, Brazil
Describing Squeezed-light Experiments Without Squeezed-light States
- 12:20-12:40 **Junko Omachi**, Kwansai Gakuin University, Japan
Interferometric FRAME for High-speed Videography
- 12:40-13:00 **Francisco Antonio De Zela Martínez**, Pontifical Catholic University of Peru, Peru
Weak Value Measurements of Geometric Phases
- 13:00-13:20 **Ke Wang**, University of Minnesota, MN, USA **(Invited)**
Electron-optics and Valleytronics in Gate-defined Graphene Nanostructures
- 13:20-13:40 **Franzette Paz-Buclatin**, University of La Laguna, Spain
3D Laser Nanolithography of Microlenses Inside Optical Crystals
- 13:40-14:00 **Matt Kalinski**, Utah State University, UT, USA
Dynamic Ferroelectricity of Trojan Electrons on Parallel Kagome Lattices

Conference closing remarks

We wish to see you at
OPL-2025
November, San Francisco, CA, USA

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