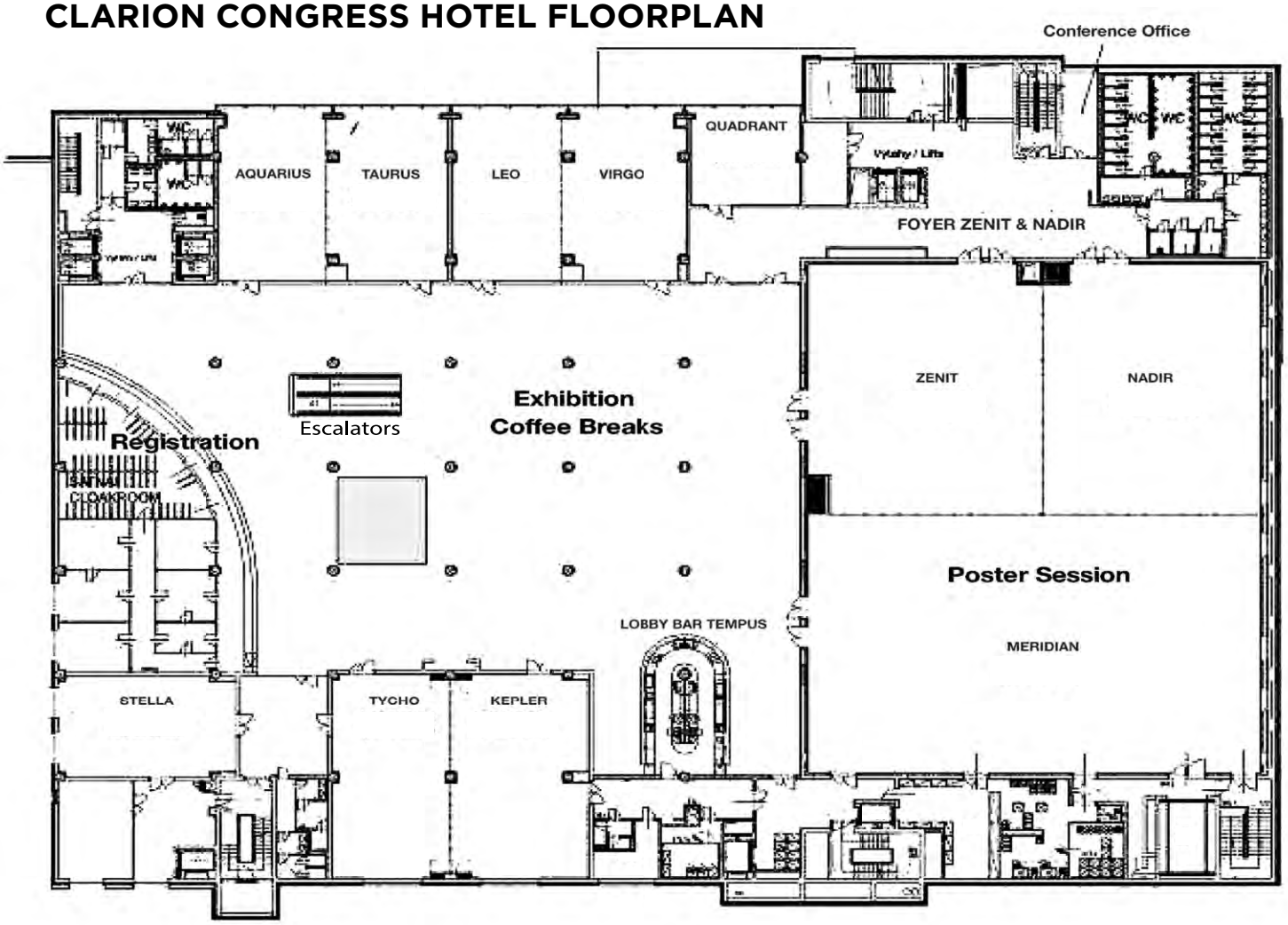
TECHNICAL PROGRAM | EXHIBIT GUIDE

SPIE. OPTICS+ OPTOELECTRONICS

24–27 APRIL 2023 | CLARION CONGRESS HOTEL PRAGUE
PRAGUE, CZECH REPUBLIC

CLARION CONGRESS HOTEL FLOORPLAN



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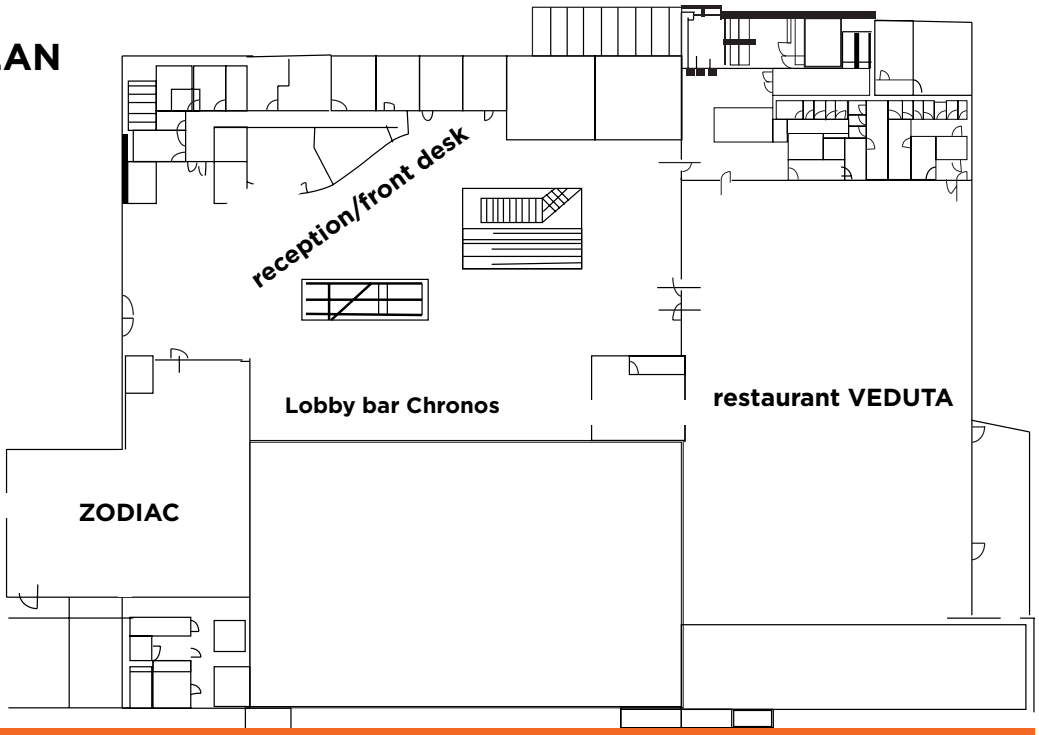


FOR A SAFER MEETING

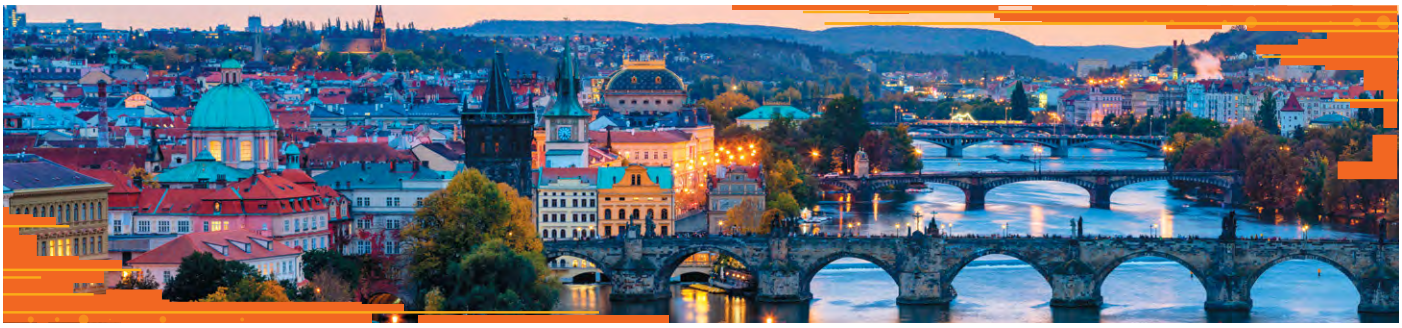
» SPIE will follow the latest published requirements and safe gathering protocols established in the location where each event occurs

» Among national, state, local, or facility-specific rules or recommendations, SPIE will abide by the most restrictive of them

» Event policies may change if local, state, or federal rules change prior to or during an event

SPIE. OPTICS+ OPTOELECTRONICS

Conferences: 24–27 April 2023
Exhibition: 25–26 April 2023
Clarion Congress Hotel
Prague, Czech Republic



Experience the energy of SPIE Optics + Optoelectronics

Plenary Presentations—PAGES 4–5
Hear pesentations about breakthrough discoveries and new approaches given by leading speakers from across the globe.

Technical Events—PAGE 8
Poster events, workshops, and panel discussions - connect with colleagues on topics critical to your work and interest areas.

Special Events—PAGE 9
Connect with your colleagues at various events and receptions offered onsite.

Conference Schedule—PAGES 10–14
Be inspired, learn, and connect with the global laser technology community

Technical Conferences—PAGES 24-90

EMERGING TECHNOLOGIES—PAGES 25-66
EXTREME LIGHT SOURCES—PAGES 67-90

General Information—PAGES 3–4
SPIE Corporate Members—PAGES 30–31
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Exhibition—PAGES 17–21

TUESDAY 25 APRIL . . . . . 10.00 - 17.00
WEDNESDAY 26 APRIL . . . . . 10.00 - 16.00

Make time for the exhibition to learn about various components, devices, and systems comprising the latest innovative technologies for the optics and optoelectronics application spaces. Find solutions from companies whose products and innovations drive industry.

Thank you to these sponsors for their support of the industry

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Thank you to our promotional partners

Electro Optics · the business of photonics optics.org · PHOTONICS MEDIA photonics.com

This programme is current as of 6 April 2023—Find the latest on the SPIE Conference and Exhibition App.

Badge pick up and registration hours

Location: Clarion Hotel, Conference Floor Foyer

Sunday 23 April	15:00 - 17:00
Monday 24 April	07:45 - 17:00
Tuesday 25 April	07:45 - 17:00
Wednesday 26 April	08:00 - 17:00
Thursday 27 April	08:00 - 16:00

SPIE Cashier

Registration Area. Open during registration hours.

Registration payments
If you are paying by cash or check as part of your onsite registration, and wish to add a special event requiring payment, or have questions regarding your registration, visit the SPIE Cashier.

Receipt and Certificate of Attendance
Preregistered attendees who did not receive a receipt, or attendees who need a Certificate of Attendance may obtain those at the Cashier.

Badge corrections
Badge corrections can be made at the Cashier. Please have your badge removed from the badge holder and marked with your changes before approaching the counter.

Refund information
There is a €50 ($50 US) service charge for processing refunds. Requests for refunds must be received by 13 April 2023; all registration fees will be forfeited after this date. Membership dues, SPIE Digital Library subscriptions or Special Events purchased are not refundable.

U.S. Government Credit Cards
U.S. Government credit card users: have your purchasing officer contact the credit card company and get prior authorization before attempting to register. Advise your purchasing agent that SPIE is considered a 5968 company for authorization purposes.

SPIE Member, SPIE student Member and Student Pricing
- SPIE Members receive conference registration discounts. Discounts are applied at the time of registration.
- Student registration rates are available only to undergraduate and graduate students who are enrolled full time and have not yet received their Ph.D. Post-docs may not register as students. A student ID number or proof of student status is required with your registration.

Speaker Check-in and Preview Station

Monday - Thursday . . . . . .08:00 - 17:00

Speakers are not able to present using their own devices. All conference rooms are equipped with a computer workstation, projector, screen, lapel microphone, and laser pointer. All presenters are requested to come to their confererence room during the breaks with their memory devices or laptops to confirm their presentation display settings.

SPIE will record the audio plus screen content of all presentations; Recordings will be published on the SPIE Digital Libary.

Wireless internet

Complimentary wireless internet access will be available; connection speed depends on the number of users. Please read the SPIE Wireless Service Policy.

Login details and password are available at the Registration Desk.

SPIE Conference and Exhibition App

This useful tool allows you to search and browse the programme, special events, participants, exhibitors, and more. It is free and available for iPhone and Android phones. If you don't already have it, you can download the SPIE app here.

Luggage and coat check

Location: next to the SPIE Registration Desk. Open during Registration Hours.

Complimentary luggage, package, and coat storage are available. Please note opening hours.

Child Care Services

This listing by SPIE does not imply an endorsement nor recommendation of these services. They are provided on an "information only" basis for your further analysis and decision. Other services may be available.

To book childcare services, please contact the Event Partners Registration Office at support@conference.cz

Did you know SPIE offers Family Care Grants to SPIE member? For more information on deadlines and how to apply check the details here

Fénix Shopping Centre amenities and services

The adjacent shopping Fénix Shopping centre has a multitude of shops as well as services such as restaurants, parking, Children's corner, self-delivery services, banks, ATMs, a post office and a copy centre. For further information, see: https://www.ncfenix.cz/obchody (open in Chrome and use English Translation extension).

Mothers' Room

Location: Please request key from Registration Desk

The Mothers' Room is a lockable room intended for nursing mothers. There is no storage, running water, or refrigeration available in this space.

Quiet Room

Location: Please request key from Registration Desk

The Quiet Room is intended for silent meditation, reflection, and prayer. No mobile devices or computer use is allowed, and no food nor beverages are allowed.

Lost and Found

Location: SPIE Cashier

Found items will be kept at the SPIE Cashier in the Registration area during the meeting and available only during registration hours. At the Clarion Hotel security services.

Urgent message line

Messages for attendees can be left by calling the Clarion Hotel and Congress Centre and asking for the Events Partners Conference and Registration Desk. Message will be taken during registration hours Monday – Thursday. It is the attendees' responsibility to check the message board on a regular basis.

Coffee breaks

Complimentary Coffee - Location: Conference Foyer

Monday - Thursday . . . . . .07:00 - 16:00

Sponsored by: Argotech

Food and refreshment for purchase

Location: Food Court adjacent to Hotel

There are several food outlets in the food court in the adjacent shopping Fénix shopping centre.

Covid testing

The nearest COVID testing facility is at Harfa shopping gallery.
Českomoravská 2420/15a

Tel contact: (+420) 605 900 785

No reservation needed.
Opened daily (except Saturdays) 9:00-17:00 CET

HARASSMENT

consists of unwanted, unwelcomed, and uninvited behavior that demeans, threatens, or offends another.

To report harassment you have witnessed or experienced at this meeting, contact any SPIE staff member or use the SPIE reporting hotline at 1-888-818-6898 or spie.ethicspoint.com.

More information:

spie.org/conduct

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APS physics · IEEE ComSoc · IEEE Photonics Society · OPTICA · SPIE.

Download the SPIE Conference and Exhibition App

Enhance your SPIE conference experience

Download the free mobile app to enrich your meeting experience. View events, exhibitors and connect with participants all in the palm of your hand. The app is free, easy to use, and loaded with features designed for planning and connecting on the go.

Make the most of your time with these app features:

» Real-time programme updates
» Customize your schedule
» Organize your meeting notes
» Add new connections to your contacts
» Plan exhibitor visits
» Navigate the venue
» Bookmark specific research
» Create meeting reports
» And a whole lot more.

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Stay Connected

PLENARY SESSION

Optics + Optoelectronics plenary sessions feature presentations from a wide range of leaders in the field, with focus on developing research and visions of the future of laser technologies.

Monday Plenary Session

24 April 2023 • 16:15 - 18:00 | Nadir

Join us for the Symposium welcome and plenary talks on latest research in plasma physics with multi-petawatt laser pulses by Louise Willingale, Univ. of Michigan, and laser plasma accelerators by Victor Malka, Weizmann Institute of Science

16:15 to 16:25

Welcome and Introduction

Saša Bajt, Deutsches Elektronen-Synchrotron (Germany)

Bedrich Rus, ELI Beamlines (Czech Republic)
Symposium Chairs

16:25 to 17:10

Exploring plasma physics with multi-petawatt laser pulses

Louise Willingale
Gérard Mourou Center for Ultrafast Optical Science, University of Michigan (United States)

State-of-the-art multi-Petawatt laser facilities coming online include the Zettawatt Equivalent Ultrashort pulse laser System (ZEUS), a user facility being commissioned at the University of Michigan. The 3-PW pulses will make ZEUS the highest power laser in the USA. This talk will describe the various experimental approaches that can be used to produce ultrashort particle beams and light-sources, as well as their application to study strong-field plasma physics and beyond. One area of interest is to create extremely strong magnetic fields within the hot plasma in the laboratory, so we can study the microphysics likely to be occurring around the most energetic objects in the universe.

17:15 to 18:00

Laser plasma accelerators

Victor Malka
Weizmann Institute of Science (Israel)

Laser Plasma Accelerators (LPA) rely on our ability to control finely the electrons motion with intense laser pulses. Such manipulation allows to produce giant electric fields with values in the TV/m exceeding by more than 3 orders of magnitude those used in current accelerator technology. Controlling the collective electrons motion permit to shape the longitudinal and radial components of these fields that can be optimized for delivering high quality electrons beam or energetic photons. To illustrate the beauty of laser plasma accelerators I will explain the fundamental concepts we recently discovered, and I'll show the maturity of our approach in delivering particle and radiation beams for societal applications including for radiotherapy with the ebeam4therapy EIC project.

Tuesday Plenary Session

25 April 2023 • 08:50 - 10:30 | Nadir

Don't miss two exciting plenaries on the latest discoveries in AI and deep learning for microscopy by Giovanni Volpe, University of Gothenburg, and on the recent fusion breakthrough and high-power laser research at NIF by Tom Spinka, LLNL.

8:50 to 8:55

Welcome and Introduction

Bedrich Rus, ELI Beamlines (Czech Republic)

8:55 to 9:40

Fusion ignition at the National Ignition Facility

Thomas Spinka
Lawrence Livermore National Lab. (United States)

On December 5th, 2022, the National Ignition Facility in Livermore, California, USA performed the first experiment demonstrating controlled fusion ignition in the laboratory. With a 2.05MJ UV laser drive energy delivered to the target, a neutron yield of 3.15MJ was released by the fusion reactions in the capsule, providing a net target gain of ~1.5×. The results of this experiment will be discussed, along with the decades-long developments in optical materials, laser architectures, target fabrication, and target diagnostics enabling this recent accomplishment. We will discuss the next steps for NIF and provide an outlook on future applications and technologies, including the reinvigorated pursuit of Inertial Fusion Energy.

9:45 to 10:30

AI and deep learning for microscopy

Giovanni Volpe
University of Gothenburg (Sweden)

Video microscopy has a long history of providing insights and breakthroughs for a broad range of disciplines, from physics to biology. Image analysis to extract quantitative information from video microscopy data has traditionally relied on algorithmic approaches, which are often difficult to implement, time consuming, and computationally expensive. Recently, alternative data-driven approaches using deep learning have greatly improved quantitative digital microscopy, potentially offering automatized, accurate, and fast image analysis. However, the combination of deep learning and video microscopy remains underutilized primarily due to the steep learning curve involved in developing custom deep-learning solutions.

Wednesday Plenary Session

26 April 2023 • 08:50 - 10:30 CEST | Nadir

Wednesday plenary session showcases presentations by Sara Ducci, Univ. Paris Cité, on nonlinear integrated quantum optics with AlGaAs, and Philip Russell, Max Planck Inst. for the Science of Light, on the new era of photonic crystal fibres.

8:50 to 8:55

Welcome and Introduction

Ivo Rendina, Istituto di Scienze Applicate e Sistemi Intelligenti "Eduardo Caianiello" (Italy)

8:55 to 9:40

Nonlinear integrated quantum optics with AlGaAs

Sara Ducci
Université Paris Cité (France)

Photonic quantum technologies are a promising platform for a large variety of applications ranging from secure long-distance communications to the simulation of complex phenomena. Among the material platforms under study, semiconductors offer a wide range of functionalities opening several opportunities for the development of integrated quantum photonic circuits. AlGaAs is particularly attractive to monolithically integrate active and passive components since it combines high second order nonlinearity, electro-optic effect and direct bandgap. In this talk, I will present the work of our team on the generation of quantum states of light in the telecom range with nonlinear AlGaAs chips working at room temperature. The talk will review recent developments on monolithic and hybrid integrated devices, describe the versatility of these systems for the generation and manipulation of quantum frequency states and show their potential for the implementation of flexible entanglement-distribution networks for secure communications.

9:45 to 10:30

Photonic crystal fibres: three decades of novel science

Philip St. J. Russell
Max Planck Institute for the Science of Light (Germany)

Since they first appeared in the 1990s, photonic crystal fibres (PCFs)—thin strands of glass with an intricate array of hollow channels running along their length—have ushered in a new era of linear and nonlinear fibre optics. As well as permitting unprecedented control over dispersion and birefringence, they offer guidance in both solid glass and hollow cores. Many applications have emerged, for example: through pressure-adjustable dispersion, gas-filled hollow-core PCF provides an elegant means of compressing pulses to single-cycle durations, as well as underpinning a range of unique sources of tunable deep and vacuum ultraviolet light; chiral PCF is circularly and topologically birefringent, supporting optical vortices and in some cases strong circular dichroism; microparticles optically trapped inside hollow core PCF can be used to sense physical quantities with high spatial resolution; and strong optomechanical effects in solid-core PCF permit stable timing-modulated high harmonic mode-locking at few-GHz repetition rates.

See full details and updates at **spie.org/eoo** or on the **SPIE App**

TECHNICAL EVENTS

Connect with your colleagues and explore topics in depth. Events include a technical workshop, lab tour, and a poster session.

Real-time Processing of Image, Depth and Video Information Conference Poster Slams

25 April 2023 • 13:45 - 14:00

Join the poster presenters of the Real-time Processing of Image, Depth and Video Information Conference for their three-minute oral slams. Each poster author is invited to give a brief (three-minute) preview of their research with a maximum of three slides during this poster slam session.

13:45: **Patched arbitrary style transfer for local information [12571-19]**
Bumsoo Kim, Sanghyun Seo, Chung-Ang Univ. (Republic of Korea)

13:48: **Real-time rotational obstacle detection based intelligent safety management for construction machines [12571-20]**
Minwoo Woo, Jong-Pil Yun, Hong-In Won, Korea Institute of Industrial Technology (Republic of Korea); **SeungHyun Jeong,** Korea Univ. of Technology and Education (Republic of Korea); **Byeong Hak Kim,** Korea Institute of Industrial Technology (Republic of Korea)

13:51: **FedReal: real-time medical image segmentation using a federated deep learning model [12571-21]**
Akansha Singh, Sonal Kukreja, Bennett Univ. (India); **Krishna Kant Singh,** Amity Univ. (India)

13:54: **Real-Time Automatic Green Coffee Beans Inspection Using RGB-IR Multispectral Imaging [12571-23]**
Shih-Yu Chen, Xue-Wei Zou, National Yunlin Univ. of Science and Technology (Taiwan)

The posters will be available for viewing at the Poster Session 17:45 to 19:15 hrs on Tuesday following the poster slams.

Poster Session

25 April 2023 • 17:45 - 19:15 CEST | Meridian Hall

Conference attendees are invited to attend the poster session on Tuesday evening. Come view the posters, enjoy light refreshments, ask questions, and network with colleagues in your field.

Coherent Fiber Source Technology Workshop

26 April 2023 • 13:30 - 17:10 | Virgo

Attend this SPIE Coherent Fiber Source Technology Workshop featuring a series of invited lectures by leading researchers on specialty optical fibers and their applications in fiber laser devices, mainly in 2 μm spectral region.

Wednesday 26 April, 13:30 to 17:10 hrs

Workshop Chair: **Ivan Kašík,** Institute of Photonics and Electronics of the CAS (Czech Republic)

Coherent Fiber Source Technology Workshop contains a series of invited lectures on specialty optical fibers and their applications in fiber laser devices, mainly in 2 μm spectral region.

The Workshop is associated with the Specialty Optical Fiber Conference and with the NATO SET-294 research task group Advanced Mid-Infrared Laser Technology.

SESSION 1: 13:30 TO 15:20

Session Chair: **Ivan Kašík,** Institute of Photonics and Electronics of the CAS (Czech Republic)

13:30 to 14:15: **Career paths are not always straight: how one woman engineer wound her way to specialty fibers**
(Invited Presentation)
Leslie Rusch, COPL Univ. Laval (Canada)

14:15 to 14:40: **Recent progress on 2 μm fiber laser**
(Invited Presentation)
Anne Dhollande, Directed Photonics and Applications Group, ISL (France)

14:40 to 15:00: **Nanoparticle-doping method for specialty optical fibers preparation** *(Invited Presentation)*
Michal Kamrádek, Czech Academy of Sciences (Czech Republic)

15:00 to 15:20: **New crystal materials developed by Crytur for 2-micron solid state lasers**
Karel Nejezchleb, Crytur (Czech Republic):

15:20 to 15:50: Coffee Break

SESSION 2: 15:50 TO 17:10

Session Chair: **Ivan Kašík,** Institute of Photonics and Electronics of the CAS (Czech Republic)

15:50 to 16:20: **Progress in the European laser weapon project: Tactical Advanced Laser Optical System (TALOS)**
(Invited Presentation)
David Sabourdy, CILAS (France)

16:20 to 16:50: **Pair-induced quenching in holmium-doped optical fibers** *(Invited Presentation)*
Lars Holmen, FFI (Norway)

16:50 to 17:10: **Technology supporting triple-clad high-power fiber laser design**
Luka Perpar Samsa, Plasil (Slovenia)

Following the Workshop, registered participants are invited to a lab tour to the laboratory for fabrication of specialty optical fibres for fibre lasers and optical fibre sensors, part of the Institute of Photonics and Electronics (ÚFE) of the Czech Academy of Sciences.

More information about the tour can be found online.

INDUSTRY EVENTS

With a laser focus-attend offsite events highlighting the business side of the optics and photonics industry, with company visits to the Optical Fibre Lab, HiLASE Laser Centre, and ELI Beamlines Facility near Prague.

Lab Tour: Optical Fibre Technology at the Institute of Photonics and Electronics

UFE Institute of Photonics and Electronics The Czech Academy of Sciences

26 April 2023 • 17:30 - 21:30 CEST | Offsite Location

Join us for a lab visit at the Laboratory for Fabrication of Specialty Optical Fibres for fibre lasers and optical fibre sensors of the the Institute of Photonics and Electronics of the Czech Academy of Sciences

Registration for the tour will be possible onsite at the SPIE registration desk.

Lab Tour: HiLASE Laser Centre and ELI Beamlines Facility

eli hilase

28 April 2023 • 09:00 - 13:00 | Offsite Location

Join us to visit HiLASE Laser Centre, and ELI Beamlines Facility, a leading laser research centre, and part of The Extreme Light Infrastructure ERIC, pan-European research Infrastructure, hosting the world's most intense lasers.

Bus departure: 9:00 hrs (return to the venue at cca 13:00 hrs)

Sign up and tour details will be available at SPIE Registration Desk.

SOCIAL AND NETWORKING EVENTS

Connect with your colleagues at various events and receptions offered onsite.

Welcome Reception

24 April 2023 • 19:00 - 21:30
Kaiserstein Palace, Offsite Location

All registered conference attendees are invited to join your colleagues at the Welcome Reception.

Please remember to wear your conference registration badges. Dress is casual.

See full details and updates at **spie.org/eoo** or on the **SPIE App**

CONFERENCE SCHEDULE

Emerging Technologies

TIME	CONF. 12568 Metamaterials XIV Room: Leo	CONF. 12569 Nonlinear Optics and Applications XIII Room: Aquarius	CONF. 12570 Quantum Optics and Photon Counting 2023 Room: Quadrant	CONF. 12571 Real-time Processing of Image, Depth and Video Information 2023 Room: Aquarius	CONF. 12572 Optical Sensors 2023 Room: Taurus	
MONDAY 24 APRIL						
MORNING		08:40 SESSION 1: Nonlinear Optical Imaging		08:30 SESSION 1: Real-time Imaging		
	COFFEE BREAK—check your conference listings for exact break times for all breaks					
		11:00 SESSION 2: Ultrafast Nonlinear Optics I		10:50 SESSION 2: Light Field Imaging		
AFTERNOON 16:15 - 18:00 Room: Nadir	LUNCH BREAK					
		13:50 SESSION 3: Ultrafast Nonlinear Optics II		13:40 SESSION 3 Machine Learning and AI	13:00 SESSION 1: Plasmonics for Biosensing	
	COFFEE BREAK					
	MONDAY PLENARY SESSION **Exploring plasma physics with multi-petawatt laser pulses,** Louise Willingale, Univ. of Michigan (United States) **Laser plasma accelerators** , Victor A. Malka, Weizmann Institute of Science (Israel)					
TUESDAY 25 APRIL						
MORNING 08:50 - 10:30 Room: Nadir	**TUESDAY PLENARY SESSION** **Fusion ignition at the National Ignition Facility,** Thomas M. Spinka, Lawrence Livermore National Lab. (United States) **AI and deep learning for microscopy,** Giovanni Volpe, Göteborgs Univ. (Sweden)					
	COFFEE BREAK					
		11:00 SESSION 4: Nonlinear Nano-optics		10:50 SESSION 4: Sensing and Coding	10:50 SESSION 2: Sensors for Biomedicine	
AFTERNOON	LUNCH/EXHIBITION BREAK					
		13:30 SESSION 5: Novel Nonlinear Materials, Plasmonic Structures		13:45 POSTER SLAM: Real-time Processing of Image, Depth and Video Information	13:20 SESSION 3: Optical Sensors	
				14:00 The Imaging Source Europe Best Paper Award Presentation		
	COFFEE BREAK					
		15:50 SESSION 6: Nonlinear Optical Devices			15:30 SESSION 4: Spectroscopic Sensors	

CONFERENCE CHAIRS

Bedřich Rus
ELI Beamlines and Institute of Physics, ASCR v.v.i. (Czech Republic)

Saša Bajt
Deutsches Elektronen-Synchrotron (Germany)

Ivo Rendina
CNR/Institute of Applied Sciences and Intelligent Systems "Eduardo Caianiello" (Italy)

Check the conference schedule frequently for updates, presentation times are subject to change

	CONF. 12573 Specialty Optical Fibres Room: Virgo	CONF. 12574 Holography: Advances and Modern Trends VIII Room: Zodiac	CONF. 12575 Integrated Optics: Design, Devices, Systems, and Applications VII Room: Nadir	CONF. 12576 EUV and X-ray Optics: Synergy between Laboratory and Space VIII Room: Stella	CONF. 12577 High-power, High-energy Lasers and Ultrafast Optical Technologies Room: Zenit	CONF. 12584 Smart Materials for Opto-Electronic Applications Room: Aquarius
MONDAY 24 APRIL						
	09:00 SESSION 1: Polymer Optical Fibers and Fiber Bragg Gratings	This year's conference is dedicated to the memory of John (Seán) Sheridan, University College Dublin (Ireland) 2011-2022 Chair of the Conference on Holography: Advances and Modern Trends	09:00 SESSION 1: Passive and Active Waveguide Devices		09:40 SESSION 1 OCPCA-based Short-pulse Laser Systems	
	11:00 SESSION 2: Optical Fiber Sensors and Devices		11:30 SESSION 2: Intergrated Photonic Sensors		SESSION 1 continued	
	13:50 SESSION 3: Soft Glass Fibers and Optical Fiber Technology	13:00 SESSION 1: Advanced Holography: Special Session Honoring John (Seán) Sheridan	14:10 SESSION 3: Advanced Photonic States and their Applications		14:00 SESSION 2: Pulse Generation and Characterisation	
TUESDAY 25 APRIL						
	10:50 SESSION 4: Specialty fibers for Fiber Laser Devices	11:00 SESSION 2: Metamaterials and Digital Holography	11:10 SESSION 4: Integrable Light Sources		11:00 SESSION 3: High-energy Nanosecond Laser Systems	
	13:20 SESSION 5: Novel Optical Fiber Designs	13:20 SESSION 3: Holographic Materials I	13:20 SESSION 5: Diffractive and Subwavelength-based Devices		13:30 SESSION 4: New Technologies for PW Systems	
	15:40 SESSION 6: Optical Fibers for Biomedical Applications	15:40 SESSION 4: Holographic Materials II	SESSION 5 continued		15:30 SESSION 5: Short-pulse Post-compression	15:30 Smart Materials I

Chris Edwards
Central Laser Facility, Science and Technology Facilities Council (United Kingdom)

Mike Dunne
SLAC National Accelerator Lab. (United States)

CONFERENCE SCHEDULE

Emerging Technologies

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EVENING 17:45 - 19:15 Room: Meridian Hall	**POSTER SESSION**					
WEDNESDAY 26 APRIL						
MORNING 08:50 - 10:30 Room: Nadir	**WEDNESDAY PLENARY SESSION** **Nonlinear integrated quantum optics with AlGaAs,** Sara Ducci, Lab. Matériaux et Phénomènes Quantiques (France) **Photonic crystal fibres: three decades of novel science,** Philip St. John Russell, Max-Planck-Institut für die Physik des Lichts (Germany)					
	COFFEE BREAK					
	10:50 SESSION 1: Hyperbolic and Topological Metamaterials		10:50 Opening Remarks 11:00 SESSION 1: Quantum Optics		11:00 SESSION 5: Optical Biosensors	
AFTERNOON	LUNCH/EXHIBITION BREAK					
	13:50 SESSION 2: Non-Hermitian Photonics		14:00 SESSION 2: Solid State Photon Counting and its Applications I		13:40 SESSION 6: Applications of Optical Sensors	
	COFFEE BREAK					
	SESSION 2 continued		15:40 SESSION 3: Solid State Photon Counting and its Applications II		16:10 SESSION 7: Optical Fibre Sensors	
	16:15 SESSION 3: Temporal Photonic Crystals, Active and Nonlinear Metamaterials					
THURSDAY 27 APRIL						
MORNING	08:30 SESSION 4: Chiral Metamaterials		09:00 SESSION 4: Solid State Photon Counting and its Applications III			
	COFFEE BREAK					
	10:50 SESSION 5: Dielectric Metasurfaces		SESSION 4: continued			
AFTERNOON	LUNCH BREAK					
	13:50 SESSION 6: Plasmonic Fundamentals I		13:30 SESSION 5: X-ray and Other Photon Detection Concepts			
	COFFEE BREAK					
	16:00 SESSION 7: Plasmonic Fundamentals II		15:30 SESSION 6: Other Photon Detection Concepts			

Check the conference schedule frequently for updates, presentation times are subject to change

	CONF. 12573 Specialty Optical Fibres Room: Virgo	CONF. 12574 Holography: Advances and Modern Trends VIII Room: Zodiac	CONF. 12575 Integrated Optics: Design, Devices, Systems, and Applications VII Room: Nadir	CONF. 12576 EUV and X-ray Optics: Synergy between Laboratory and Space VIII Room: Stella	CONF. 12577 High-power, High-energy Lasers and Ultrafast Optical Technologies Room: Zenit	CONF. 12584 Smart Materials for Opto-Electronic Applications Room: Aquarius
WEDNESDAY 26 APRIL						
		10:50 SESSION 5: Digital Holography I	11:10 SESSION 6: Optical Waveguide Theory, Modeling and Simulations	11:00 SESSION 1: Astronomical X-ray Optics I	**ROOM CHANGE: VIRGO** 10:50 SESSION 6: Large-scale PW Lasers	10:50 SESSION 2: Keynote Session
		13:50 SESSION 6: Digital Holography II	13:40 SESSION 7: Integrated Photonics for Communications	13:40 SESSION 2: Astronomical X-ray Optics II		13:45 SESSION 3: Smart Materials II
		SESSION 6 continued	SESSION 7 continued	15:50 SESSION 3: Multilayer X-ray Optics		16:05 SESSION 4: Smart Materials III
		16:20 SESSION 7: 3D Holography		16:50 SESSION 4: X-ray Optics: a Historical Review		
THURSDAY 27 APRIL						
				08:50 SESSION 5: Laboratory X-ray/ EUV Optic		08:05 SESSION 5: PULSE-COM I Workshop
				11:10 SESSION 6: Integrated Devices		10:40 SESSION 6: PULSE-COM II Workshop
				11:30 SESSION 7: Refractive and Diffractive X-ray Optics		12:20 PANEL DISCUSSION: Workshop Roundtable
						14:15 SESSION 7: Smart Materials IV
						16:00 SESSION 8: Smart Materials V

CONFERENCE SCHEDULE

Check the conference schedule frequently for updates, presentation times are subject to change

Extreme Light Sources

TIME	CONF. 12578 Optics Damage and Materials Processing by EUV/X-ray Radiation (XDam8) Room: Kepler	CONF. 12579 Laser Acceleration of Electrons, Protons, and Ions VII Room: Stella (Tue)/ Tycho (Wed-Thur)	CONF. 12580 Research Using Extreme Light: Entering New Frontiers with Petawatt-Class Lasers V Room: Tycho	CONF. 12581 X-Ray Free-Electron Lasers: Advances in Source Development and Instrumentation VI Room: Zenit	CONF. 12582 Compact Radiation Sources from EUV to Gamma-rays: Development and Applications Room: Kepler	
MONDAY 24 APRIL						
MORNING	08:30 SESSION 1 Damage to Optics/ Detectors I		08:30 SESSION 1: Extreme Field Limits I			
	COFFEE BREAK					
	10:50 SESSION 2: Mechanisms and Theory I		10:40 SESSION 2: Extreme Field Limits II			
AFTERNOON 16:15 - 18:00 Room: Nadir	LUNCH BREAK					
	13:40 SESSION 3: Damage to Optics/ Detectors II 14:35 SESSION 4: Mechanisms and Theory II		13:30 SESSION 3: Acceleration of Particles Using High Power PW Class Lasers I			
	COFFEE BREAK					
	MONDAY PLENARY SESSION **Exploring plasma physics with multi-petawatt laser pulses,** Louise Willingale, Univ. of Michigan (United States) **Laser plasma accelerators** , Victor A. Malka, Weizmann Institute of Science (Israel)					
TUESDAY 25 APRIL						
MORNING 08:50 - 10:30 Room: Nadir	**TUESDAY PLENARY SESSION** **Fusion ignition at the National Ignition Facility,** Thomas M. Spinka, Lawrence Livermore National Lab. (United States) **AI and deep learning for microscopy,** Giovanni Volpe, Göteborgs Univ. (Sweden)					
	COFFEE BREAK					
	10:50 SESSION 5: Damage to Optics/ Detectors III 11:20 SESSION 6: Mechanisms and Theory III	10:50 SESSION 1 Relativistic Plasma Waves and Particle Beams I: Ultraintense X-ray & THz	10:50 SESSION 4: Extreme Light Facilities, Projects, Directions I			
AFTERNOON	LUNCH/EXHIBITION BREAK					
		14:00 SESSION 2: Relativistic Plasma Waves and Particle Beams II: Emission of Energetic Particles	13:30 SESSION 5: Extreme Light Facilities, Projects, Directions II		13:30 SESSION 1: Plasma-based X-ray Lasers	
	COFFEE BREAK					
		16:00 SESSION 3: Relativistic Plasma Waves and Particle Beams III: Plasma Optics	15:20 SESSION 6: Acceleration of Particles Using High Power PW Class Lasers II		15:45 SESSION 2: HHG from Gas Targets I	
EVENING 17:45 - 19:15 Room: Meridian Hall	**POSTER SESSION**					

	CONF. 12583 Applying Laser-driven Particle Acceleration III: Uses of Distinctive Energetic Particle and Photon Sources Room: Quadrant
	09:00 SESSION 1: Material Studies, Elemental Analysis, Radiolysis I
	10:55 SESSION 2: Material Studies, Elemental Analysis, Radiolysis II
	13:50 SESSION 3: Dosimetry, Radiobiology, Radiotherapy I
	11:00 SESSION 4: Dosimetry, Radiobiology, Radiotherapy II
	13:25 SESSION 5: Energetic Source Development
	16:10 ALPA Roundtable Discussion

CONFERENCE SCHEDULE

Check the conference schedule frequently for updates, presentation times are subject to change

Extreme Light Sources

TIME	CONF. 12578 Optics Damage and Materials Processing by EUV/X-ray Radiation (XDam8) Room: Kepler	CONF. 12579 Laser Acceleration of Electrons, Protons, and Ions VII Room: Tycho (Wed-Thur)	CONF. 12580 Research Using Extreme Light: Entering New Frontiers with Petawatt-Class Lasers V Room: Tycho	CONF. 12581 X-Ray Free-Electron Lasers: Advances in Source Development and Instrumentation VI Room: Zenit	CONF. 12582 Compact Radiation Sources from EUV to Gamma-rays: Development and Applications Room: Kepler
WEDNESDAY 26 APRIL					
MORNING 08:50 - 10:30 Room: Nadir	**WEDNESDAY PLENARY SESSION** **Nonlinear integrated quantum optics with AlGaAs,** Sara Ducci, Lab. Matériaux et Phénomènes Quantiques (France) **Photonic crystal fibres: three decades of novel science,** Philip St. John Russell, Max-Planck-Institut für die Physik des Lichts (Germany)				
	COFFEE BREAK				
		10:50 SESSION 4: Laser Electron Acceleration I		10:50 SESSION 1: Updates on Facilities and New FEL Sources	10:50 SESSION 3: HHG from Gas Targets II
AFTERNOON	LUNCH/EXHIBITION BREAK				
		13:50 SESSION 5: Laser Ion Acceleration I		13:40 SESSION 2: Advanced Lasing Sources	13:30 SESSION 4: X-rays from Relativistic Electrons I
	COFFEE BREAK				
		16:00 SESSION 6: Laser Electron Acceleration II		16:00 SESSION 3: Instrumentation/ Techniques: X-ray Diagnostic Methods	16:00 SESSION 5: X-rays from Relativistic Electrons II
THURSDAY 27 APRIL					
MORNING		09:00 SESSION 7: Laser Ion Acceleration II		08:30 SESSION 4: Instrumentation/ Techniques: X-ray Optics & Beam Delivery	09:00 SESSION 6: X-rays from Relativistic Electrons III
	COFFEE BREAK				
	10:30 SESSION 7: Damage by X-ray Radiation *Joint Session with Conferences 12578 and 12582*	10:50 SESSION 8: Laser Ion Acceleration III		10:50 SESSION 5: Instrumentation/ Techniques: Instruments	10:30 SESSION 7: Damage by X-ray Radiation: *Joint Session with Conferences 12578 and 12582*
AFTERNOON	LUNCH BREAK				
		13:40 SESSION 9: Laser Ion Acceleration IV		14:00 SESSION 6: Instrumentation/ Techniques: Detector & Data Techniques	13:10 SESSION 8: Incoherent Plasma X-ray Sources
	COFFEE BREAK				
				15:40 SESSION 7: Scientific Experiment Results	15:50 SESSION 9: HHG from Solid Targets

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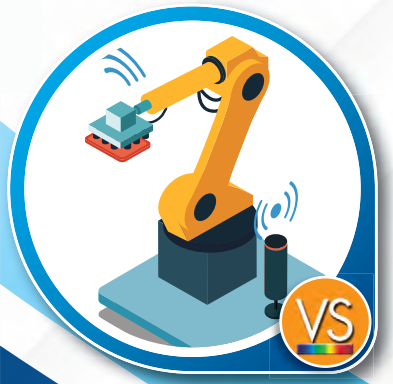

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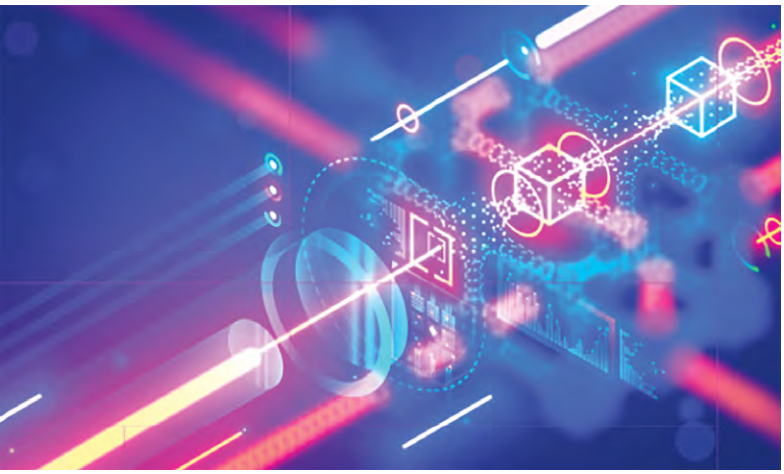
SPIE Optics and Optoelectronics Exhibition Directory

TUESDAY 25 APRIL	10.00 - 17.00
WEDNESDAY 26 APRIL	10.00 - 16.00

Exhibitors are listed in alphabetical order with full contact information and booth location. Full company descriptions, product announcements, and other information are available on the SPIE App and on spie.org.



FEATURED TECHNOLOGIES

» Laser components and accessories,
» Fiber optics, industrial sensing and measurement
» Cameras and imaging systems
» LED, OLED, non-laser light sources
» Nanotechnology
» Materials processing
» Optomechanical components and devices
» Spectroscopy equipment
» Detectors and sensor

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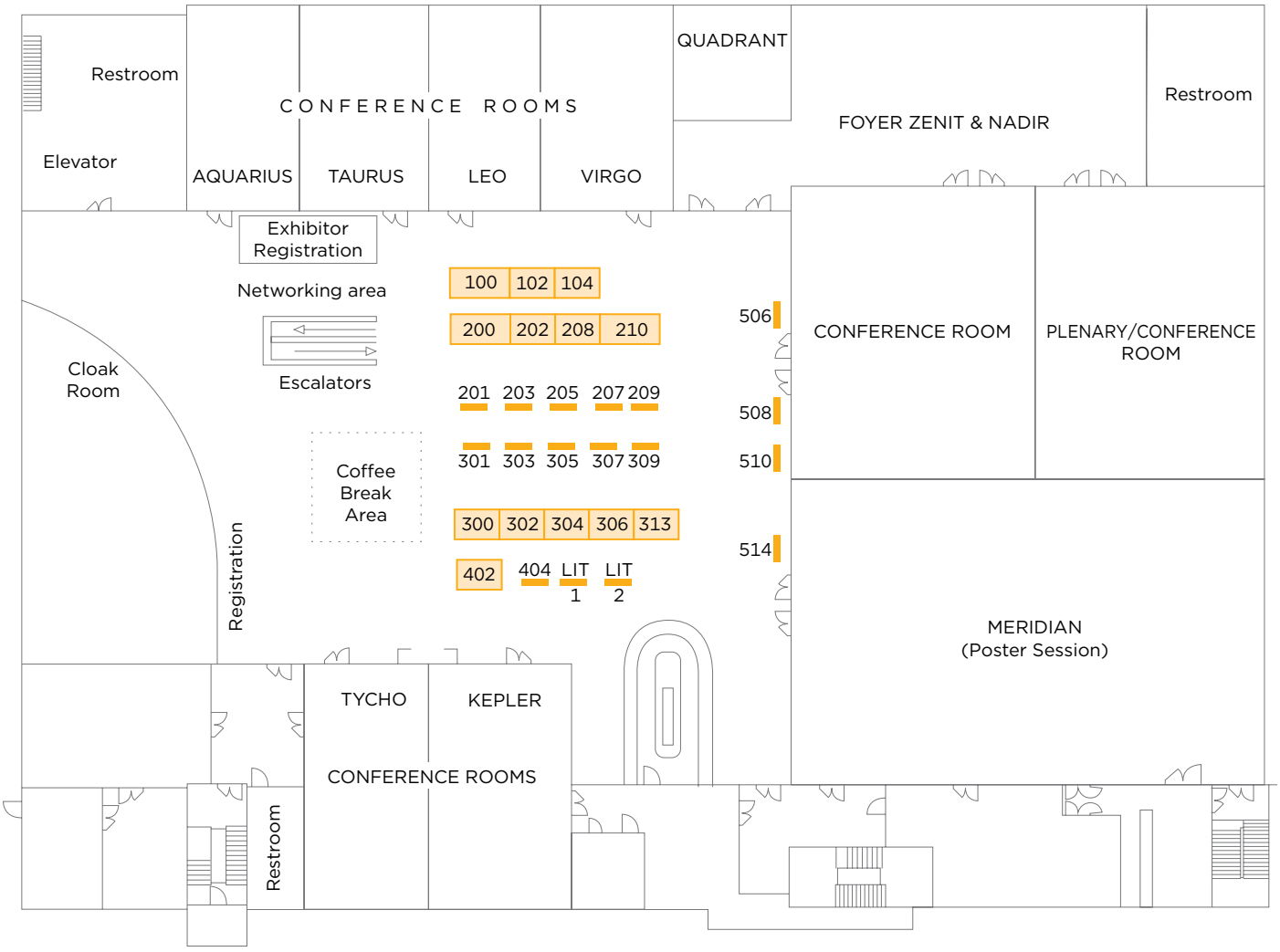
EXHIBITOR FLOOR PLAN



EXHIBITOR BOOTH LISTING

1LIT Electro Optics
2Lit Photonics Media
100 optics.org
102 I-Photonics UAB
104 Fluence Sp. z o.o.
200 Argotech a.s.
201 AdlOptica Optical Systems GmbH
202 EKSPLA
203 OptoSigma S.A.S.
205 HiLASE Centre, Institute of Physics
207 scia Systems GmbH
208 Light Conversion
209 AMETEK Germany GmbH, BU Zygo
210 Mitutoyo Cesko s.r.o.
300 Hamamatsu Photonics Deutschland GmbH
301 AMPHOS GmbH
301 TRUMPF Scientific Lasers
302 MIT, spol. s r.o.
303 LAYERTEC GmbH
304 OPTOMAN
305 EXAIL SAS - Photonics Division
306 The Extreme Light Infrastructure ERIC
307 Amplitude
309 Femto Easy
313 STREICHER, Spol. s r.o
402 kiutra GmbH
404 SET
506 CRYTUR
508 OXXIUS
510 Hangzhou Freqcontrol Electronic Technology Ltd.
514 LASERLAB-EUROPE

AdlOptica Optical Systems GmbH #201

SPIE. CORPORATE MEMBER

Rudower Chaussee 29, Berlin, 12489 Germany
+49 305 6590 8880; fax +49 305 6590 8881
info@adloptica.com; www.adloptica.com

Featured Product: piShaper 12_12_2.05_HP - beam shaper for high power NIR-lasers

AdlOptica GmbH develops and manufactures high efficient Laser Beam Shaping Optics for variety of scientific and industrial applications, customized industrial optics for high-power and ultra-short pulse lasers, special optics for microscopy, geophysics researches, and interferometry, provides service of optical systems design.Families of optics: piShaper, foXXus, quattroXX, peaXXus, aplanoXX, trioFokus, today more than 100 models. Contact: Birgit Kaufmann, Marketing Assistant, info@adloptica.com; Alexander Laskin, Project Manager, info@adloptica.com

AMETEK Germany GmbH, BU Zygo #209

Business Unit Zygo, Rudolf-Diesel-Str 16, Weiterstadt, 64331 Germany
+49 6150 543 7064; fax +49 6150 543 1500
zygoinfo.de@ametek.com; www.zygo.de

Featured Product: Laser Interferometers, Optical Profilers, Optical Assemblies

Zygo Corporation is a global leader in the design and manufacture of advanced optical metrology systems and ultra-precise optical components and assemblies. Our mission is to enable customer success by delivering innovative precision optical and metrology solutions that exceed expectations. Zygo manufactures high-precision products in the following categories: 3D Optical Profiler Systems, Laser Interferometer Systems, Nanometer Position Sensors, Optical Assemblies Contact: Zygo Info, zygoinfo.de@ametek.com

AMPHOS GmbH #301

Kaiserstr 100, Herzogenrath, 52134 Germany
+49 241 565292 10; fax +49 241 565292 99
sales@amphos.de; www.amphos.de

Featured Product: Amphos8000: up to 200W, 5mJ ultrashort pulsed Laser system. State of the Art InnoSlab Lasersystem.

AMPHOS develops and manufactures ultrashort pulsed lasers with world record parameters for advanced applications in science and materials processing. Based on the unique InnoSlab amplifier a broad parameter range is covered. Commercialized output power up to 600W, pulse duration down to 750 fs and energy up to 20 mJ are covered with our product portfolio. AMPHOS is part of the TRUMPF group since 2018 and has established a vertical integration for all main components. Contact: Kevin Schneider, Sales Manager, kevin.schneider@amphos.de; Claus Schnitzler, General Manager, claus.schnitzler@amphos.de

Amplitude #307

Cite de la Photonique, 11 av de Canteranne,
Pessac, 33600 France
+33 5 5646 4060
info@amplitude-laser.com; www.amplitude-laser.com

Featured Product: Come and see our next generation ultrafast laser - Satsuma X - 50 W / 500 µJ / 400 fs

Amplitude manufactures ultrafast lasers for scientific, medical, and industrial applications. The group has a strong manufacturing and commercial presence in Europe, Asia and North America, producing diode-pumped high repetition rate femtosecond lasers, ultra-high energy Ti:Sapphire lasers, and a full line of high-energy solid-state laser products. Contact: Mingming Pan, Sales Engineer - Science, Europe, mingming.pan@amplitude-laser.com

SPONSOR

Argotech a.s. #200

Holubova 978, Nachod, 547 01 Czech Republic
+420 778 437 750
info@argotech.cz; www.argotech.cz

Argotech is the packaging One Stop House focused in MICRO & OPTO electronics located in the Czech Republic. The team of 70+ experts with more than 20 years experience supports packaging design of electrical layout, high frequency towards 100G, optical coupling and hybrid micro-assembly integration from wafer to discreet component. Production scalability from 1 piece to 1kk in a clean room 1 000 m2. Industry, space, security, medical and automotive markets experience and Silicon Photonics. Contact: Martin T?ma, Sales, sales@argotech.cz

CRYTUR #506

Na Lukách 2283, Turnov, 511 01 Czech Republic
+420 481 319 511; fax +420 481 322 323
sales@crytur.cz; www.crytur.cz

Featured Product: Laser rods - Nd, Er, Tm, Yb, Ho doped YAG and YAP, Ti:Sapphire, Laser optics, Q-switched laser heads

Crytur is one of the world leaders in crystal manufacturing and processing with a strong focus on proprietary research and customised solutions. We provide laser crystal rods (YAG, YAP) with various doping options (Nd, Er, Yb, Tm, Ho), Ti:S, laser optics and Q-switches as well as custom laser q-switched laser heads. All our manufacturing is done in-house - from growth to cut,ting polishing, coating and high precision CNC machining while maintaining strict process control and precise measuring. Contact: Karel Nejezchleb, Head of Laser department, sales@crytur.cz; Matous Lubas, Sales specialist - lasers, matous.lubas@crytur.cz

SPONSOR

EKSPLA #202

Savanoriu Ave 237, Vilnius, 02300 Lithuania
+370 5 264 9629
sales@ekspla.com; www.ekspla.com

Featured Product: High intensity laser systems

EKSPLA presents femtosecond, picosecond and nanosecond high intensity lasers and amplifiers. Broad knowledge in high energy laser physics and more than 30 years of experience enables us to offer unique solutions. Lasers feature flash-lamp for ultra-high pulse energy or diode pump for high average power technologies. Innovative solutions for pulse shaping, precise synchronization between different laser sources enable to fit these systems to numerous experiments of modern fundamental science. Contact: Justas Varpucianskis, Program manager, sales@ekspla.com

PROMOTIONAL PARTNER

Electro Optics #1LIT

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editor.electro@europascience.com; www.electro-optics.com

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EXAIL SAS - Photonics Division #305

3 Rue Sophie Germain, Besançon, 25000 France
+33 1 30 08 87 43
contact.photonics@exail.com; www.exail.com

From design to manufacturing, EXAIL masters the complete production chain of specialty fibers, Bragg gratings, high-speed modulation solutions and micro-optic assemblies. We provide turn-key laser systems delivering continuous and sub-ns pulsed signal wave, and instruments. Our solutions support numerous applications: high speed communications, fibers-based sensing, space, science, medical, and quantum technologies. Contact: SOPHIE POGUET, sales and marketing assistant, sophie.poguet@exail.com; HERVE GOURAUD, sales and marketing director, herve.gouraud@exail.com

Femto Easy #309

Bât Gienah, Cité de la Photonique, 11 avenue de Canteranne,
Pessac, 33600 France
+33 9 72 60 37 92
info@femtoeasy.eu; www.femtoeasy.eu

Featured Product: µ-ROC : the most compact autocorrelator for OEM applications

Femto Easy is a company specialized in ultrafast lasers metrology. We have a strong expertise in the production and characterization of high energy ultrashort pulses and we provide robust and reliable measurement devices for ultrafast lasers, both for scientific and industrial applications. Our autocorrelators and FROG systems are compact, robust, easy to use and provide unparalleled accuracy. For non-ultrafast lasers, we provide the most comprehensive range of laser beam profilers Contact: Mathieu SEMENOU, Chief Commercial Officer, semenou@femtoeasy.eu

EXHIBITOR LISTING

Fluence Sp. z o.o. #104

SPIE. CORPORATE MEMBER

ul. Kolejowa 5/7, Warsaw, Masovian Voivodeship, Poland, 01-217
+48 22 1189 600; info@fluence.pl; www.fluence.technology

Hamamatsu Photonics Deutschland GmbH #300

SPIE. CORPORATE MEMBER

Arzbergerstr 10, Herrsching, 82211 Germany
+49 8152 375 0; fax +49 8152 375 0
info@hamamatsu.de; www.hamamatsu.de

Featured Product: Wide range of imaging sensors, light sources and optical systems, designed for customers needs

Hamamatsu Photonics is a leading provider of cutting-edge photonics technology and products. With 70 years of experience, the company delivers innovative solutions to customers across a wide range of industries, including medical, scientific research, industrial, and telecommunications. More information at www.hamamatsu.com Contact: Christoph Seibel, Group Leader Academic, cseibel@hamamatsu.de

Hangzhou Freqcontrol Electronic Technology Ltd. #510

1106 Crystal International Business Ctr, No 198 Wuxing Rd
Qianjiang New City, Hangzhou, 310006 China
+86 571 85803723
sales@csimc-freqcontrol.com; www.csimc-freqcontrol.com

Featured Product: $LiNbO_3$/$LITAO_3$/Quartz WAFER; AT/SC/IT/BT/CT Quartz Blanks; fused silica/borofloat/BK7/ Corning wafers

Founded in 1999, Hangzhou Freqcontrol Electronic Technology Ltd. is a China leading manufacturer of piezoelectric crystal wafers,substrates,componets and single crystal growth. We known as the "CQT Group" in global market, headquarter is located in Hangzhou of China, empowered by it's manufacturing sites in Shanghai, Jiaxing and Deqin etc Our products are mainly used in RF Telecom, Semiconductor, Optical engnieering and frequency control industries. Contact: Li Zhu, Vice manager, sales@csimc-freqcontrol.com; Ying Ren, sales manager, sales@csimc-freqcontrol.com

HiLASE Centre, Institute of Physics #205

Institute of Physics of the CAS vvi, Za Radnici 828, Dolní Brezany, 25241 Czech Republic
+420 314 007 700
communication@hilase.cz; www.hilase.cz/en/

Featured Product: Compact laser PERLA®100 | Laser Multi-beam Laser Nanostructuring | Laser Shock Peening

The HiLASE Centre represents an excellent technological infrastructure in the field of laser research and development. Our main goal is to create "Superlasers for the real world", therefore we combine experimental laser development with advanced industrial applications. Our expertise is in laser induced damage threshold (LIDT), laser shock peening (LSP) and laser micromachining/multi-beam laser nanostructuring. We offer compact laser systems adjusted to clients' needs. Contact: Martina Rehakova, Business Development Manager, martina.rehakova@hilase.cz; Sanin Zulic, International Business Development Manager, sanin.zulic@hilase.cz

I-Photonics UAB #102

Parko Str. 3, Avizienai, Vilnius raj 14198
Lithuania
+37066890702; khomich@izovac.com; www.i-photonics.lt

kiutra GmbH #402

Flößergasse 2, München, 81369 Germany
+49 89 35647977-0
info@kiutra.com; www.kiutra.com

Featured Product: S-Type Optical Cryostat

kiutra, founded in 2018, has established itself as a supplier of innovative cryogenic solutions, products and services providing ultra-low temperatures. We design and build turnkey cryostats for the development, characterization, and testing of quantum systems, as well as for their continuous operation. Our systems do not require liquid cooling media, making them fast, cost-effective, and scalable - ideal for providing cooling along the whole quantum technology chain. Contact: Manuel Rucker, Sales Specialist, manuel.rucker@kiutra.com

LASERLAB-EUROPE #514

Bât 84 Ecole Polytechnique, rte de Saclay, Palaiseau CEDEX, 91128 France
+33 1 69 33 53 00
office@laserlab-europe.eu; www.laserlab-europe.eu

Laserlab-Europe unites 46 leading organisations in laser-based interdisciplinary research from 22 countries. Its main objectives are to maintain a sustainable interdisciplinary network of European national laboratories, strengthen the leading European role in laser science, and offer access to state-of-the-art laser research facilities for cutting-edge experiments in a large variety of interdisciplinary research. Laserlab-Europeis funded through the European Union's Horizon 2020 programme.

LAYERTEC GmbH #303

Ernst-Abbe-Weg 1, Mellingen, 99441 Germany
+49 36453 744 0; fax +49 36453 744 40
info@layertec.de; www.layertec.de

Featured Product: Large Scale Optics, High Power Optics, Ultrafast Optics, Aspheric Mirrors, OPO Optics, Custom Optics

LAYERTEC develops, manufactures and globally sells complex high-performance laser components. Coatings range from high power, broadband, ultrafast, filters and polarizers to complicated custom designs for fs, ps, ns up to cw lasers. New: large scale optics. Technologies include magnetron sputtering, IBS, IAD and thermal evaporation. In-house optics facility. Flexible prototype manufacturing up to high-volume series production. 350 employees. 40 coating chambers. Contact: Frank Wunderlich, Head of Sales, info@layertec.de

Light Conversion #208

SPIE. CORPORATE MEMBER

Keramiku 2B, Vilnius, 10233 Lithuania
+370 69853426
sales@lightcon.com; www.lightcon.com

Featured Product: Industrial 50 W UV femtosecond laser with exceptional beam quality and long-term reliability.

LIGHT CONVERSION is the world-leading manufacturer of wavelength-tunable femtosecond optical parametric amplifiers with worldwide recognized TOPAS and ORPHEUS series products. Company designs and manufactures industrial femtosecond lasers PHAROS and CARBIDE, harmonics generators, and comprehensive spectroscopy systems HARPIA, as well as optical parametric chirped-pulse amplification (OPCPA) systems. All together the portfolio forms a best-in-class set of devices for femtosecond applications.

MIT, spol. s r.o. #302

Klanova 71/56, Praha 4, 147 00 Czech Republic
+420 241712548; fax +420 241710252
info@mit-laser.com; www.mit-laser.cz

Business, consulting and maintenance services in the area of laser technology, photonics and micromechanics.

Mitutoyo Česko s.r.o.. #210

Dubská 1626, Teplice, 415 01 Czech Republic
+420 417 514 011
info@mitutoyo.cz; www.mitutoyo.cz

Featured Product: TAGLENS - varifocal lens, a system with significantly greater depth of field.

Mitutoyo is one of the world's leading manufacturer of precision measuring equipment. In addition to measuring technology, Mitutoyo also supply components for industrial microscopes as lenses, microscobe units (bodies) and other special optical equipment. Mitutoyo also offer the TAGLENS - varifocal lens, a system that can achieve significantly greater depth of field compared to standard systems. Contact: Martin Maru?ák, Product manager, M.Marusak@mitutoyo.cz; Ralf Kruse, Product manager, R.Kruse@mitutoyo.eu

See full details and updates at **spie.org/eoo** or on the **SPIE App**

PROMOTIONAL PARTNER

optics.org #100

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CF24 2SA United Kingdom
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sales@optics.org; www.optics.org

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OptoSigma S.A.S. #203

SPIE. CORPORATE MEMBER

3 rue de la Terre de Feu, Les Ulis Essonne, 91940 France
+33 169181700; fax +33 160100929
sales@optosigma-europe.com; www.optosigma.com

OXXIUS #508

SPIE. CORPORATE MEMBER

4 Rue Louis de Broglie, Lannion, 22300 France
+33 2 96 48 70 28; fax +33 2 96 48 21 90
sales@oxxius.com; www.oxxius.com

Featured Product: Continuous and modulated lasers, SLM lasers, High Power lasers, Wavelength Combiners

Oxxius develops and manufactures DPSS and laser diodemodules in the UV, visible and near-infrared wavelength ranges. The LCX series of DPSS lasers and the LBX series of laser diode modules provide exceptional optical performances in an ultra-compact design which can be easily integrated into various instruments for life science, measurement and manufacturing markets. Our Wavelength combiners are the most compact and flexible all-in -on multicolor laser sources, with up to 7 lasers lines. Contact: David ASSOUS, VP Sales & Marketing, dassous@oxxius.com

PROMOTIONAL PARTNER

Photonics Media #2Lit

SPIE. CORPORATE MEMBER

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scia Systems GmbH #207

SPIE. CORPORATE MEMBER

Clemens-Winkler-Str. 6c, Chemnitz, 09116 Germany
+49 371 33561 0; fax +49 371 33561 200
info@scia-systems.com; www.scia-systems.com

Featured Product: High quality multilayer deposition & superior uniformity by ion beam sputtering with scia Coat 200

scia Systems is a full range supplier for precise surface processing equipment, based on advanced ion beam and plasma technologies. The systems are applicable for optical thin film coatings, etching, figuring and cleaning processes, especially for the MEMS, microelectronics and precision optics industries.The process equipment of scia Systems is flexible and modular in design, thus can be configured easily for high volume production and for research applications. Contact: Karl Gündel, Technical Sales Manager, sales@scia-systems.com

SET #404

BP 24, 131 Impasse Barteudet, Saint-Jeoire, 74490 France
+33 450 35 83 92
info@set-sas.fr; www.set-sas.fr

SET is a world leading supplier of high accuracy Flip-Chip Bonders. Since 1975, we have been designing and manufacturing semiconductor equipment dedicated to high precision applications. We accompany laboratories and industries, which look for a high precision and an important reliability in the assembly of their components. With Flip-Chip Bonders installed worldwide, SET is globally renowned for the unsurpassed sub-micron accuracy and the flexibility of its equipment.

STREICHER, Spol. s r.o #313

Machinery, Plzeňská 565 332 09 Stenovire, Štěnovice,
332 09 Czech Republic
+420 377 150 311
randova@streicher.cz; www.streicher-machinery.cz

Featured Product: Vacuum chamber

Custom vacuum chamber fabrication and design. Supporting technological companies and research labs with vacuum solution around the worldFor over 30 years, STREICHER, spol. s r.o. Plzen manufactures special equipment, machinery and components in fields where vacuum technology is used. We offer services starting fromprocessing initial design concepts to the manufacturing and assembly of individual equipment or complete systems. Contact: Jirí Lopata, CEO, lopata@streicher-machinery.cz; Email, Head of Construction, cerny@streicher-machinery.cz

The Extreme Light Infrastructure ERIC #306

ELI Beamlines Facility, Za Radnici 835, Dolni Brezhany,
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CONFERENCE 12568

Metamaterials XIV

26 - 27 April 2023 | Leo

Conference Chairs: **Vladimír Kuzmiak,** Institute of Photonics and Electronics of the ASCR, v.v.i. (Czech Republic); **Tomasz Stefaniuk,** Univ. of Warsaw (Poland); **Kęstutis Staliūnas,** Univ. Politècnica de Catalunya (Spain)

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TUESDAY 25 APRIL

POSTERS-TUESDAY

25 April 2023 • 17:45 - 19:15 | Meridian Hall

Conference attendees are invited to attend the Optics + Optoelectronics Symposium Poster Session on Tuesday afternoon. Enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster session.

Poster authors, visit Poster Presentation Guidelines for set-up instructions.

12568-33
Design and analysis of multiband metamaterial in microwave regime
Author(s): Ankit ., Kamal Kishor, Ravindra Kumar Sinha, Delhi Technological Univ. (India)

12568-34
Carrier density modulation and thermal effects in electrically tuned metal-dielectric-semiconductor metamaterial
Author(s): Alexander Korneluk, Tomasz Stefaniuk, Univ. of Warsaw (Poland)

12568-35
Angle-dependent chiro-optical characterization of self-assembled nanohole arrays in silver over a wide spectrum range
Author(s): Hari Prasath Ram Kumar, Emilija Petronijevic, Sapienza Univ. di Roma (Italy); Zakaria El-Ansary, Univ. Ibn Tofail (Morocco); Bilal Brioual, Univ. Abdelmalek Essaadi (Morocco); Tiziana Cesca, Carlo Scian, Giovanni Mattei, Univ. degli Studi di Padova (Italy); Mohamed El Hasnao, Univ. Ibn Tofail (Morocco); Concita Sibilia, Alessandro Belardini, Sapienza Univ. di Roma (Italy)

12568-36
Semi-analytical technique for the design of passive daytime radiative cooling coating
Author(s): Bhrigu Rishi Mishra, Karthik Sasihithlu, Indian Institute of Technology Bombay (India)

12568-37
Quality factor enhancement via lattice coupled toroidal mode in a terahertz metamaterial
Author(s): Angana Bhattacharya, Gagan Kumar, Indian Institute of Technology Guwahati (India)

12568-38
Design of an efficient broadband reflective graphene based microwave polarization converter
Author(s): Syeda Rida Tahir Bukhari, Muhammad Zubair, Usman Younis, Information Technology Univ. of the Punjab (Pakistan)

12568-39
Dielectric metalens with reduced meta-atom aspect ratio and high focusing efficiency
Author(s): Vishakha Sharma, Yogita Kalra, Ravindra Kumar Sinha, Delhi Technological Univ. (India)

12568-40
A bowtie antenna plasmonic metamaterial emitter for high-performance radiative cooling
Author(s): Niloufar Pirouzfam, Kursat Sendur, Sabanci Univ. (Turkey)

12568-41
Enhanced strong confinement in photonic crystal slab using bound states in the continuum and its interaction with TMDCs
Author(s): Brijesh Kumar, Anuj K. Singh, Kishor K. Mandal, Parul Sharma, Anshuman Kumar, Indian Institute of Technology Bombay (India)

12568-42
Far-field molecular sensing platform using biaxial hyperbolic polaritons in van der Waals crystals
Author(s): Nihar Ranjan Sahoo, Saurabh Dixit, Anshuman Kumar, Indian Institute of Technology Bombay (India)

12568-43
Nonlocality-driven enhancement of magnetooptical effects in epsilon-near-zero metamaterials
Author(s): Vladimir B. Novikov, Tatiana V. Murzina, M. V. Lomonosov Moscow State Univ. (Russian Federation)

12568-44
Hierarchical plasmon-optical cavities based on porous silicon photonic crystals for strong light-matter coupling with quantum emitters
Author(s): Irina Kryukova, National Research Nuclear Univ. MEPhI (Russian Federation), Univ. de Reims Champagne-Ardenne (France); Evelyn Granizo, Pavel Samokhvalov, National Research Nuclear Univ. MEPhI (Russian Federation); Igor Nabiev, Univ. de Reims Champagne-Ardenne (France); Victor Krivenkov, Univ. del País Vasco (Spain), Ctr. de Física de Materiales (Spain)

12568-45
Design of all-dielectric High N A mid infra-red metalens using inverse design and topology optimization
Author(s): Mohamed A. Swillam, Abdallah Maher, The American Univ. in Cairo (Egypt)

12568-46
Ultrasensitive biosensor using a Fano resonant asymmetric all-dielectric metasurface
Author(s): Norhan Ahmed Salama, National Institute of Laser Enhanced Sciences, Cairo Univ. (Egypt), The American Univ. in Cairo (Egypt); Salah S. A. Obayya, Zewail City of Science and Technology (Egypt); Shaimaa M. Alexeree, National Institute of Laser Enhanced Sciences, Cairo Univ. (Egypt); Mohamed A. Swillam, The American Univ. in Cairo (Egypt)

12568-47
Ultra-sensitive gas sensor using Fano resonance in hybrid nano-bar/nano-elliptic dielectric metasurface
Author(s): Norhan Ahmed Salama, The American Univ. in Cairo (Egypt), National Institute of Laser Enhanced Sciences, Cairo Univ. (Egypt); Salah S. A. Obayya, Ctr. for Photonics and Smart Materials, Zewail City of Science and Technology (Egypt); Shaimaa M. I. Alexeree, National Institute of Laser Enhanced Sciences, Cairo Univ. (Egypt); Mohamed A. Swillam, The American Univ. in Cairo (Egypt)

12568-54
Perfect invisibility with nested inside-out cloaks
Author(s): Matúš Sobona, CEITEC Brno Univ. of Technology (Czech Republic); Johannes Courtial, Univ. of Glasgow (United Kingdom); Jakub Belín, CEITEC Brno Univ. of Technology (Czech Republic), Brno Univ. of Technology (Czech Republic); Maik Locher, Univ. of Glasgow (United Kingdom); Tomáš Tyc, Masaryk Univ. (Czech Republic)

WEDNESDAY 26 APRIL

WEDNESDAY PLENARY SESSION

26 April 2023 • 08:50 - 10:30 | Nadir

12570-700 • 08:55 - 09:40 | Nadir
Nonlinear integrated quantum optics with AlGaAs *(Plenary Presentation)*
Author(s): Sara Ducci, Lab. Matériaux et Phénomènes Quantiques (France)

12575-701 • 09:45 - 10:30 | Nadir
Photonic crystal fibres: three decades of novel science *(Plenary Presentation)*
Author(s): Philip St. John Russell, Max-Planck-Institut für die Physik des Lichts (Germany)

Coffee Break 10:30 - 10:50

SESSION 1: HYPERBOLIC AND TOPOLOGICAL METAMATERIALS

26 April 2023 • 10:50 - 12:50 | Leo
Session Chair: Vladimír Kuzmiak, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic)

12568-1 • 10:50 - 11:20 | Leo
Shaping vector beams and ultrashort pulses in hyperbolic metamaterials *(Invited Paper)*
Author(s): Vittorio Aita, Diane J. Roth, King's College London (United Kingdom); Tomasz Stefaniuk, Univ. of Warsaw (Poland); Mykyta A. Shevchenko, Alexey V. Krasavin, Anatoly V. Zayats, King's College London (United Kingdom)

12568-2 • 11:20 - 11:50 | Leo
Controlling light's darkness: tuning near-field coldspots and their properties *(Invited Paper)*
Author(s): Francisco José Rodríguez-Fortuño, King's College London (United Kingdom)

12568-3 • 11:50 - 12:20 | Leo
Influence of extrinsic properties on magnetism and magnetotransport in Mn doped Bi2Te3 topological insulator with self-organized MnBi2Te4 layers *(Invited Paper)*
Author(s): Joanna Sitnicka, Univ. of Warsaw (Poland); Kyungwha Park, Virginia Tech (United States); Marcin Konczykowski, Ecole Polytechnique (France); Kamil Sobczak, Jolanta Borysiuk, Univ. of Warsaw (Poland); Pawel Skupinski, Krzysztof Grasza, Institute of Physics (Poland); Zbigniew Adamus, Institute of Physics PAS (Poland); Anna Reszka, Institute of Physics (Poland); Mateusz Tokarczyk, Univ. of Warsaw (Poland); Natalia Olszowska, National Synchrotron Radiation Centre SOLARIS (Poland); Jacek Kołodziej, National Synchrotron Radiation Centre SOLARIS (Poland), Jagiellonian University (Poland); Bogdan J. Kowalski, Institute of Physics PAS (Poland); Lia Krusin-Elbaum, The City College of New York (United States); Agnieszka Wolos, Univ. of Warsaw (Poland)

12568-4 • 12:20 - 12:50 | Leo**Non-trivial band geometry and polariton lasing in electrically tunable birefringent microcavities with 2D and 3D perovskites** *(Invited Paper)*
Author(s): Barbara Pietka, Karolina Lempicka-Mirek, Mateusz Król, Univ. of Warsaw (Poland); Przemyslaw Morawiak, Rafal Mazur, Wojskowa Akademia Techniczna im. Jaroslawa Dabrowskiego (Poland); Marcin Muszynski, Univ. of Warsaw (Poland); Wiktor Piecek, Przemyslaw Kula, Wojskowa Akademia Techniczna im. Jaroslawa Dabrowskiego (Poland); Tomasz Stefaniuk, Univ. of Warsaw (Poland); Luisa De Marco, Istituto di Nanotecnologia (Italy); Pavlos G. Lagoudakis, Univ. of Southampton (United Kingdom); Dario Ballarini, Daniele Sanvitto, Istituto di Nanotecnologia (Italy); Helgi Sigurdsson, Univ. of Iceland (Iceland); Jacek Szczytko, Univ. of Warsaw (Poland)

Lunch/Exhibition Break 12:50 - 13:50

SESSION 2: NON-HERMITIAN PHOTONICS

26 April 2023 • 13:50 - 16:15 | Leo
Session Chair: Anatoly V. Zayats, King's College London (United Kingdom)

12568-5 • 13:50 - 14:20 | Leo
Amplification and dissipation eigenchannels in non-Hermitian photonics *(Invited Paper)*
Author(s): Konstantinos Makris, Univ. of Crete (Greece), Foundation for Research and Technology-Hellas (Greenland)

12568-6 • 14:20 - 14:50 | Leo
Light control by scattering cancellation in ordered and disordered non-Hermitian media, direct and inverse design *(Invited Paper)*
Author(s): Muriel Botey Cumella, Ramon Herrero, Kestutis Staliunas, Univ. Politècnica de Catalunya (Spain)

26 April 2023
Show Abstract +

12568-7 • 14:50 - 15:10 | Leo
Effect of the symmetry breaking on the scattering properties of the Fano-Anderson waveguide structure
Author(s): Vladimír Kuzmiak, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic); Jirí Petrácek, Brno Univ. of Technology (Czech Republic), CEITEC Brno Univ. of Technology (Czech Republic)

Coffee Break 15:10 - 15:35

12568-8 • 15:35 - 15:55 | Leo

Linear and nonlinear optical phenomena in electrically tuned metal-oxide-semiconductor multilayer

Author(s): Alexander Korneluk, Tomasz Stefaniuk, Univ. of Warsaw (Poland)

12568-9 • 15:55 - 16:15 | Leo

Optical resonance and coupling characteristics of electric and magnetic dipole of uniaxial hyperbolic nanospheroids

Author(s): Arumona Edward Arumona, Tomasz J. Antosiewicz, Univ. of Warsaw (Poland)

SESSION 3: TEMPORAL PHOTONIC CRYSTALS, ACTIVE AND NONLINEAR METAMATERIALS

26 April 2023 • 16:15 - 18:10 | Leo

Session Chair: Konstantinos Makris, Univ. of Crete (Greece)

12568-10 • 16:15 - 16:50 | Leo

Metamaterial photonic time crystals and parametric machines *(Keynote Presentation)*

Author(s): Nikolay I. Zheludev, Univ. of Southampton (United Kingdom), Nanyang Technological Univ. (Singapore); Kevin F. MacDonald, Optoelectronics Research Ctr. (United Kingdom)

12568-11 • 16:50 - 17:20 | Leo

Engineering light scattering through temporal structure *(Invited Paper)*

Author(s): Emanuele Galiffi, Gengyu Xu, Shixiong Yin, Andrea Alu, The City Univ. of New York Advanced Science Research Ctr. (United States)

12568-12 • 17:20 - 17:50 | Leo

Stabilization of microlasers by non-Hermitian potentials *(Invited Paper)*

Author(s): Ramon Herrero, Muriel Botey Cumella, Kestutis Staliunas, Salim Benadouda Ivars, Mohammad Nayeem Akhter, Univ. Politècnica de Catalunya (Spain)

12568-13 • 17:50 - 18:10 | Leo

Non-Hermitian spatiotemporal potentials for turbulence control in parabolic and fractional dispersion

Author(s): Salim Benadouda Ivars, Muriel Botey Cumella, Ramon Herrero, Kestutis Staliunas, Univ. Politècnica de Catalunya (Spain)

THURSDAY 27 APRIL

SESSION 4: CHIRAL METAMATERIALS

27 April 2023 • 08:50 - 10:20 | Leo

Session Chair: Emanuele Galiffi, The City Univ. of New York Advanced Science Research Ctr. (United States)

12568-14 • 08:50 - 09:20 | Leo

Chiral effects in hybrid asymmetric nanostructures: towards unconventional experiments and simulations *(Invited Paper)*

Author(s): Emilija Petronijevic, Alessandro Belardini, Grigore Leahu, Roberto Li Voti, Concita Sibilia, Sapienza Univ. di Roma (Italy)

12568-15 • 09:20 - 09:40 | Leo

Circular dichroism in plasmonic array of elliptical nanoholes with square lattice

Author(s): Hanan Ali, Lucio Andreani, Univ. degli Studi di Pavia (Italy); Emilija Petronijevic, Concita Sibilia, Sapienza Univ. di Roma (Italy); Giovanni Pellegrini, Univ. degli Studi di Pavia (Italy)

12568-17 • 09:40 - 10:00 | Leo

Light beaming and outcoupling enhancement from quantum wells with Al metasurfaces

Author(s): Mohamed Mahmoud Saad Abdelkhalik Mohamed, Aleksandr V. Vaskin, Technische Univ. Eindhoven (Netherlands); Toni Lopez, Lumileds Germany GmbH (Germany); Anton Matthijs Berghuis, Technische Univ. Eindhoven (Netherlands); Aimi Abass, Lumileds Germany GmbH (Germany); Jaime Gomez Rivas, Technische Univ. Eindhoven (Netherlands)

12568-18 • 10:00 - 10:20 | Leo

Absorptance control based on integrated devices with phase change materials

Author(s): Israel Alves Oliveira, Igor Leonardo Gomes de Souza, Univ. Federal da Bahia (Brazil); Vitaly F. Rodriguez-Esquerre, Escola Politécnica da Univ. Federal da Bahia (Brazil)

Coffee Break 10:20 - 10:50

SESSION 5: DIELECTRIC METASURFACES

27 April 2023 • 10:50 - 12:40 | Leo

Session Chair: Kestutis Staliunas, Univ. Politècnica de Catalunya (Spain)

12568-19 • 10:50 - 11:20 | Leo

Dielectric metasurfaces for spatial filtering and polarization control *(Invited Paper)*

Author(s): Lina Grineviciute, Julianija Nikitina, Ctr. for Physical Sciences and Technology (Lithuania); Ceren Babayigit, Univ. of California, Irvine (United States); Darius Gailevicius, Vilnius Univ. (Lithuania); Kestutis Staliunas, Univ. Politècnica de Catalunya (Spain)

12568-20 • 11:20 - 11:40 | Leo

Extremely narrow, sharp-peaked resonances at the edge of the continuum

Author(s): Ignas Lukošiunas, Vilnius Univ. (Lithuania); Lina Grineviciute, Ctr. for Physical Sciences and Technology (Lithuania); Julianija Nikitina, Darius Gailevicius, Vilnius Univ. (Lithuania); Kestutis Staliunas, Vilnius Univ. (Lithuania), ICREA - Institució Catalana de Recerca i Estudis Avançats (Spain), Univ. Politècnica de Catalunya (Spain)

12568-21 • 11:40 - 12:00 | Leo

Directive emission enhancement and wavelength-dependent lifetime modification by polymeric fluorophore with organic epsilon-near-zero film

Author(s): Kyu Ri Choi, Chungbuk National Univ. (Republic of Korea); Jeong Weon Wu, Ewha Womans Univ. (Republic of Korea); Anthony D'Aléo, Institut de Physique et de Chimie des Matériaux de Strasbourg, CNRS (France); Yeon Ui Lee, Chungbuk National Univ. (Republic of Korea)

12568-22 • 12:00 - 12:20 | Leo

Towards the ideal emitter: an inverse-designed metasurface for radiative cooling

Author(s): Joeri Lenaerts, Vincent Ginis, Vrije Univ. Brussel (Belgium)

12568-23 • 12:20 - 12:40 | Leo

A new physical framework to investigate scattering suppression from coated spheres

Author(s): Vincenzo Miranda, Daniele Riccio, Giuseppe Ruello, Univ. degli Studi di Napoli Federico II (Italy); Riccardo Lattanzi, New York Univ. (United States)

Lunch Break 12:40 - 13:50

SESSION 6: PLASMONIC FUNDAMENTALS I

27 April 2023 • 13:50 - 15:20 | Leo

Session Chair: Tomasz Stefaniuk, Univ. of Warsaw (Poland)

12568-24 • 13:50 - 14:20 | Leo

Large-area nanogap plasmonic structures for light manipulation at a few-nm scale *(Invited Paper)*

Author(s): Piotr Wróbel, Aleksandra Szymanska, Malgorzata Jakubowska, Univ. of Warsaw (Poland)

12568-25 • 14:20 - 14:40 | Leo

Nanoscale polaritons of plasmon-molecule systems

Author(s): Tomasz J. Antosiewicz, Maria Bancerek, Katarzyna Kluczyk-Korch, Rania Zaier, Univ. of Warsaw (Poland)

12568-26 • 14:40 - 15:00 | Leo

Engineering the spectral response of disordered plasmonic nanoparticle suspensions

Author(s): Timothée Guerra, CNRS (France); Jean-Paul Hugonin, Institut d'Optique Graduate School (France), CNRS (France); Olivier Rozenbaum, CNRS (France); Cédric Blanchard, Conditions Extrêmes et Matériaux : Haute Température et Irradiation, CNRS (France)

12568-27 • 15:00 - 15:20 | Leo

Plasmon-enhanced high operating temperature infrared photodetectors

Author(s): Andrzej Janaszek, VIGO Photonics S.A. (Poland), Univ. of Warsaw (Poland); Piotr Wróbel, Rafal Kotynski, Univ. of Warsaw (Poland); Maciej Dems, Lodz University of Technology (Poland); Ömer Ceylan, Yasar Gurbuz, Sabanci Univ. (Turkey); Lukasz Kubiszyn, Józef Piotrowski, VIGO Photonics S.A. (Poland)

Coffee Break 15:20 - 15:40

SESSION 7: PLASMONIC FUNDAMENTALS II

27 April 2023 • 15:40 - 17:10 | Leo

Session Chair: Vladimír Kuzmiak, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic)

12568-29 • 15:40 - 16:10 | Leo

Optimizing the coupling of light to plasmons through engineered dipolar scatterers *(Invited Paper)*

Author(s): Saad Abdullah, Jan Krpensky, Vahagn Mkhitaryan, Eduardo Dias, Javier Garcia de Abajo, ICFO - Institut de Ciències Fotòniques (Spain)

12568-28 • 16:10 - 16:30 | Leo

Nonlocal techniques for investigation of nonlocal plasmonic nanostructures

Author(s): Pavel Kwiecien, Milan Burda, Ivan Richter, Czech Technical Univ. in Prague (Czech Republic)

12568-31 • 16:30 - 16:50 | Leo

Hybrid plasmonic waveguides for SERS in remote mode

Author(s): Nebras E. Al-Attar, Aoife Gowen, Univ. College Dublin (Ireland); Katia Gallo, KTH Royal Institute of Technology (Sweden); Brian Rodriguez, James Rice, Univ. College Dublin (Ireland)

CONFERENCE 12569

Nonlinear Optics and Applications XIII

24 - 25 April 2023 | Leo

Conference Chairs: **Mario Bertolotti,** Univ. degli Studi di Roma La Sapienza (Italy); **Anatoly V. Zayats,** King's College London (United Kingdom); **Alexei M. Zheltikov,** Texas A&M Univ. (United States)

Programme Committee: **Javier Aizpurua,** Centro de Fisica de Materiales (Spain); **Kiyoshi Asakawa,** Univ. of Tsukuba (Japan): **Sophie Brasselet,** Institut Fresnel (France); **Bruno Crosignani,** Caltech (Italy); **Reinhard Kienberger,** Max-Planck-Institut für Quantenoptik (Germany); **Yuri S. Kivshar,** The Australian National Univ. (Australia); **Jan Perina,** Palacky Univ. (Czech Republic); **Mark I. Stockman,** Georgia State Univ. (United States)

MONDAY 24 APRIL

SESSION 1: NONLINEAR OPTICAL IMAGING

24 April 2023 • 08:40 - 10:30 | Leo

Session Chair: Anatoly V. Zayats, King's College London (United Kingdom)

12569-1 • 08:40 - 09:10 | Leo

Compressive optical imaging with super resolution *(Keynote Presentation)*

Author(s): Liubov V. Amitonova, Vrije Univ. Amsterdam (Netherlands)

12569-2 • 09:10 - 09:30 | Leo

Infrared upconversion imaging with a spatially shaped pump

Author(s): Maxime Mertens, Romain Demur, Luc Leviandier, Arnaud Grisard, Thales Research & Technology (France)

12569-3 • 09:30 - 09:50 | Leo

Digital harmonic holographic microscope for the study of nanostructures in nonlinear regime

Author(s): Serena Goldmann, Institut Langevin (France), ESPCI ParisTech (France), Univ. PSL (France); Samuel Grésillon, Institut Langevin (France), ESPCI ParisTech (France), Univ. PSL (France); Ignacio Izeddin, Institut Langevin (France), ESPCI ParisTech (France), Univ. PSL (France); Gilles Tessier, Sorbonne Univ. (France), Institut de la Vision (France); Yannick De Wilde, Institut Langevin (France), ESPCI ParisTech (France), Univ. PSL (France)

12569-4 • 09:50 - 10:10 | Leo

Probing nonlinear optical dynamics with free electrons

Author(s): Jan-Wilke Henke, Max-Planck-Institut für Multidisziplinäre Naturwissenschaften (Germany), IV Physikalisches Institut, Georg-August-Univ. Göttingen (Germany); Yujia Yang, Institute of Physics, Ecole Polytechnique Fédérale de Lausanne (Switzerland), Ctr. for Quantum Science and Engineering, Ecole Polytechnique Fédérale de Lausanne (Switzerland); F. Jasmin Kappert, Max-Planck-Institut für Multidisziplinäre Naturwissenschaften (Germany), IV Physikalisches Institut, Georg-August-Univ. Göttingen (Germany); Arslan S. Raja, Institute of Physics, Ecole Polytechnique Fédérale de Lausanne (Switzerland), Ctr. for Quantum Science and Engineering, Ecole Polytechnique Fédérale de Lausanne (Switzerland); Germaine Arend, Max-Planck-Institut für Multidisziplinäre Naturwissenschaften (Germany), IV Physikalisches Institut, Georg-August-Univ. Göttingen (Germany); Guanhao Huang, Institute of Physics, Ecole Polytechnique Fédérale de Lausanne (Switzerland), Ctr. for Quantum Science and Engineering, Ecole Polytechnique Fédérale de Lausanne (Switzerland); Armin Feist, Max-Planck-Institut für Multidisziplinäre Naturwissenschaften (Germany), IV Physikalisches Institut, Georg-August-Univ. Göttingen (Germany); Zheru Qiu, Rui N. Wang, Tobias J. Kippenberg, Institute of Physics, Ecole Polytechnique Fédérale de Lausanne (Switzerland), Ctr. for Quantum Science and Engineering, Ecole Polytechnique Fédérale de Lausanne (Switzerland); Claus Ropers, Max-Planck-Institut für Multidisziplinäre Naturwissenschaften (Germany), IV Physikalisches Institut, Georg-August-Univ. Göttingen (Germany)

12569-5 • 10:10 - 10:30 | Leo

Characterization of interface charge traps in PE-TEOS and HDP oxide with different annealing temperatures using time-dependent second-harmonic generation

Author(s): Ingi Kim, Suhwan Park, Minhwan Seo, Sunhong Jun, SungYoon Ryu, Sangwoo Bae, Namil Koo, Yusin Yang, SAMSUNG Electronics Co., Ltd. (Republic of Korea)

Coffee Break 10:30 - 11:00

SESSION 2: ULTRAFAST NONLINEAR OPTICS I

24 April 2023 • 11:00 - 12:20 | Leo

Session Chair: Aart J. Verhoef, Texas A&M Univ. (United States)

12569-7 • 11:00 - 11:20 | Leo

Nonthermal ultrafast charge and spin dynamics in magnetoplasmonic nanostructures

Author(s): Tilaike Tapani, Nils Henriksson, Umeå Univ. (Sweden); Agne Ciuciulkaite, Uppsala Univ. (Sweden); Thomas Deckert, Univ. du Luxembourg (Luxembourg); Jonas Allerbeck, EMPA (Switzerland); Heon Lee, Korea Univ. (Republic of Korea); Denis Garoli, Istituto Italiano di Tecnologia (Italy); Paolo Vavassori, CIC nanoGUNE (Spain); Vassilios Kapaklis, Uppsala Univ. (Sweden); Daniele Brida, Univ. du Luxembourg (Luxembourg); Nicolò Maccaferri, Umeå Univ. (Sweden)

12569-8 • 11:20 - 11:40 | Leo

Measurement of nonlinear refractive index dispersion in photonic crystal fiber

Author(s): Jokubas Pimpe, Migle Kuliesaite, Vygandas Jarutis, Julius Vengelis, Vilnius Univ. (Lithuania)

12569-9 • 11:40 - 12:00 | Leo

Investigation of IR-UV nonlinear absorptance in HfO2, ZrO2 and Al2O3 single- and multi-layer coatings

Author(s): Erikas Atkocaitis, Andrius Melninkaitis, Vilnius Univ. (Lithuania); Simonas Kicas, Vaida Grasyte, OPTOMAN (Lithuania); Austeja Aleksiejute, Justinas Galinis, LIDARIS Ltd. (Lithuania)

12569-10 • 12:00 - 12:20 | Leo

Generation of broadband cascaded four-wave mixing products in a dispersion engineered dual-slot Si3N4-Si waveguide

Author(s): Yehia Massoud, Partha Mondal, King Abdullah Univ. of Science and Technology (Saudi Arabia)

Lunch Break 12:20 - 13:50

SESSION 3: ULTRAFAST NONLINEAR OPTICS II

24 April 2023 • 13:50 - 15:40 | Leo

Session Chair: Liubov V. Amitonova, Vrije Univ. Amsterdam (Netherlands)

12569-11 • 13:50 - 14:20 | Leo

Multicolor sub-diffraction-limited two- and three-photon microscopy *(Keynote Presentation)*

Author(s): Aart J. Verhoef, Texas A&M Univ. (United States)

12569-12 • 14:20 - 14:40 | Leo

Seeded optical parametric generator based on OP-GaAs for mid-wave and long-wave infrared beam generation

Author(s): Ziya Gürkan Figen, TÜBITAK BILGEM ILTAREN (Turkey)

12569-13 • 14:40 - 15:00 | Leo

Characterization of self-pulsing in active silicon ring resonators

Author(s): Abdou Shetewy, Mircea Catuneanu, Menglong He, Hrishikesh Vithalani, TU Dresden (Germany); Ryan Hamerly, Massachusetts Institute of Technology (United States); Kambiz Jamshidi, TU Dresden (Germany)

12569-14 • 15:00 - 15:20 | Leo

Microlaser pumped subnanosecond optical parametric generator based on a fan-out type MgO:PPLN crystal

Author(s): Jonas Banys, Simona Armalyte, Vygandas Jarutis, Ona Balachninaite, Julius Vengelis, Vilnius Univ. (Lithuania)

12569-15 • 15:20 - 15:40 | Leo

Femtosecond and continuous wave nonlinear optical properties of Au-Fe2O3 decorated reduced graphene oxide

Author(s): Saravanan Mani, Anna Univ. Chennai (India); Sabari Girisun T.C., Bharathidasan Univ. (India); Vetha Potheher I., Anna Univ. Chennai (India)

Coffee Break 15:40 - 16:15

MONDAY PLENARY SESSION

24 April 2023 • 16:15 - 18:00 | Nadir

12577-500 • 16:25 - 17:10 | Nadir

Exploring plasma physics with multi-petawatt laser pulses (Plenary Presentation)

Author(s): Louise Willingale, Univ. of Michigan (United States)

12579-501 • 17:15 - 18:00 | Nadir

Laser plasma accelerators (Plenary Presentation)

Author(s): Victor A. Malka, Weizmann Institute of Science (Israel)

TUESDAY 25 APRIL

TUESDAY PLENARY SESSION

25 April 2023 • 08:50 - 10:30 | Nadir

12577-600 • 08:55 - 09:40 | Nadir

Fusion ignition at the National Ignition Facility *(Plenary Presentation)*

Author(s): Thomas M. Spinka, Lawrence Livermore National Lab. (United States)

12571-601 • 09:45 - 10:30 | Nadir

AI and deep learning for microscopy *(Plenary Presentation)*

Author(s): Giovanni Volpe, Göteborgs Univ. (Sweden)

Coffee Break 10:30 - 11:00

SESSION 4: NONLINEAR NANO-OPTICS

25 April 2023 • 11:00 - 12:10 | Leo

Session Chair: Nicolò Maccaferri, Umeå Univ. (Sweden)

12569-16 • 11:00 - 11:30 | Leo

Time-reversal asymmetric nonlinear metasurface *(Keynote Presentation)*

Author(s): Sergejs Boroviks, Andrei Kiselev, Karim Achouri, Olivier J. F. Martin, Ecole Polytechnique Fédérale de Lausanne (Switzerland)

12569-17 • 11:30 - 11:50 | Leo

Transfer function analysis of Si-photonics based add-drop micro-ring resonator for high-speed applications

Author(s): Assylkhan Nurgali, Nazarbayev Univ. (Kazakhstan); Bikash Nakarmi, Nanjing Univ. of Aeronautics and Astronautics (China); Ikechi Augustine Ukaegbu, Nazarbayev Univ. (Kazakhstan)

12569-18 • 11:50 - 12:10 | Leo

Light transfer in complex photonic lattices in elliptical geometry

Author(s): Jadranka M. Vasiljevic, Institute of Physics Belgrade (Serbia); Dejan V. Timotijevic, Institute for Multidisciplinary Research, Univ. of Belgrade (Serbia); Dragana M. Jovic Savic, Institute of Physics Belgrade (Serbia)

Lunch/Exhibition Break 12:10 - 13:30

SESSION 5: NOVEL NONLINEAR MATERIALS, PLASMONIC STRUCTURES

25 April 2023 • 13:30 - 15:00 | Leo

Session Chair: Costantino De Angelis, CSMT Gestione Scarl (Italy)

12569-19 • 13:30 - 14:00 | Leo

K-space engineering in nonlinear metasurfaces *(Keynote Presentation)*

Author(s): Domenico de Ceglia, Costantino De Angelis, Univ. degli Studi di Brescia (Italy), Istituto Nazionale di Ottica, Consiglio Nazionale delle Ricerche (Italy)

12569-20 • 14:00 - 14:20 | Leo

Broadband polarization chaos in optically pumped QD spin-VCSELs under optical injection for ultrafast random bit generation

Author(s): Christos Tselios, Univ. of Peloponnese (Greece); Anastasios Tsakas, Univ. of Patras (Greece); Christina Politi, Univ. of Peloponnese (Greece); Dimitris Alexandropoulos, Univ. of Patras (Greece)

12569-21 • 14:20 - 14:40 | Leo

Design of a buried grating structure for the optimization of surface plasmon polariton wave excitation at the lower interface of a metallic nanostrip

Author(s): Arif Nabizada, Hamed Tari, Eugenio Fazio, Sapienza Univ. di Roma (Italy)

12569-23 • 14:40 - 15:00 | Leo

Enhanced third-order nonlinear optical response of gold@carbon (Au@C) core-shell due to Tamm-plasmon cavity

Author(s): Hasana Jahan Elamkulavan, Athulya Kadeprath Satheesan, Chandrasekharan Keloth, National Institute of Technology, Calicut (India)

SESSION 6: NONLINEAR OPTICAL DEVICES

25 April 2023 • 15:00 - 15:50 | Leo

Session Chair: Olivier J.F. Martin,
Ecole Polytechnique Fédérale de Lausanne (Switzerland)

12569-6 • 15:00 - 15:30 | Leo

Ultrafast nanophotonics: from all-optical control of exciton dynamics towards plasmon-driven nano-chemistry and information processing based on cavity electrodynamics *(Invited Paper)*

Author(s): Nicolò Maccaferri, Umeå Univ. (Sweden)

12569-25 • 15:30 - 15:50 | Leo

Whispering gallery mode resonator surface functionalization for active applications

Author(s): Inga Brice, Vyacheslav V. Kim, Univ. of Latvia (Latvia); Armands Ostrovskis, Riga Technical Univ. (Latvia); Arvids Sedulis, Univ. of Latvia (Latvia), Riga Technical Univ. (Latvia); Toms Salgals, Sandis Spolitis, Vjaceslavs Bobrovs, Riga Technical Univ. (Latvia); Janis Alnis, Rashid A. Ganeev, Univ. of Latvia (Latvia)

POSTERS-TUESDAY

25 April 2023 • 17:45 - 19:15 | Meridian Hall

Conference attendees are invited to attend the Optics + Optoelectronics Symposium Poster Session on Tuesday afternoon. Enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster session.

Poster authors, visit Poster Presentation Guidelines for set-up instructions.

12569-29

A new ultrasensitive nonlinear magneto-optical Voigt device operating in the blue spectral region

Author(s): Watheq Al-Basheer, King Fahd Univ. of Petroleum & Minerals (Saudi Arabia)

12569-30

Comparative study of high repetition rate supercontinuum generation in undoped sapphire, YAG, and KGW crystals

Author(s): Vaida Marciulionyte, Kawthar Reggui, Gintaras Tamošauskas, Audrius Dubietis, Laser Research Ctr., Vilnius Univ. (Lithuania)

12569-31

Advanced techniques to improving the transmission capacity of passive optical networks

Author(s): Jan Litvik, Jozef Dubovan, Univ. of Žilina (Slovakia)

12569-32

Picosecond harmonic frequencies in VIS, UV and DUV range generated at Yb:YAG diode-pumped thin-disk lasers

Author(s): Hana Turcicová, Ondrej Novák, Jiri Muzik, Jan Vanda, Martin Smrz, Tomas Mocek, HiLASE Ctr. (Czech Republic)

12569-33

Low-phase noise compact optical delay line optoelectronic oscillator

Author(s): Patrice Salzenstein, Mikhail Zarubin, FEMTO-ST (France)

12569-34

Modulation instability of surface plasmon polaritons in graphene double-layer structure

Author(s): Sergey G. Moiseev, Ulyanovsk State Univ. (Russian Federation), Kotelnikov Institute of Radio Engineering and Electronics (Russian Federation), Institute of Nanotechnologies of Microelectronics (Russian Federation); Dmitry A. Korobko, Ulyanovsk State Univ. (Russian Federation); Igor O. Zolotovskii, Ulyanovsk State Univ. (Russian Federation), Institute of Nanotechnologies of Microelectronics (Russian Federation); Patrice Mégret, Ivan Chapalo, University of Mons (Belgium); Andrei A. Fotiadi, University of Mons (Belgium), University of Oulu (Finland)

12569-35

Fine tuning of the repetition rate and stabilization of harmonically mode-locked fiber laser with CW component in the spectrum

Author(s): Dmitry A. Korobko, Valeria Ribenek, Pavel Itrin, Ulyanovsk State Univ. (Russian Federation); Patrice Megret, Ivan Chapalo, Andrei Fotiadi, Univ. de Mons (Belgium)

12569-36

Brillouin-like effects in rare-earth-doped bi-directional optical fiber amplifiers

Author(s): Andrei A. Fotiadi, Univ. de Mons (Belgium), Univ. of Oulu (Finland); Dmitry A. Korobko, Ulyanovsk State Univ. (Russian Federation); Ivan Chapalo, Patrice Mégret, Univ. de Mons (Belgium); Igor O. Zolotovskii, Ulyanovsk State Univ. (Russian Federation)

12569-37

Label-free three photon deep imaging in streptomyces bacterial communities

Author(s): Alma Fernandez, Dipankar Sen, Alexei V. Sokolov, Marlan O. Scully, Aart J. Verhoef, Texas A&M Univ. (United States)

CONFERENCE 12570

Quantum Optics and Photon Counting 2023

26 - 27 April 2023 | Quadrant

Conference Chairs: **Ivan Prochazka,** Czech Technical Univ. in Prague (Czech Republic); **Roman Sobolewski,** Univ. of Rochester (United States)

Programme Committee: **Josef Blazej,** Czech Technical Univ. in Prague (Czech Republic); **Ralph B. James,** Savannah River National Lab. (United States); **Ulrich Schreiber,** Technische Univ. München (Germany); **Valery Zwiller,** KTH Royal Institute of Technology (Sweden)

TUESDAY APRIL 25

POSTERS-TUESDAY

25 April 2023 • 17:45 - 19:15 | Meridian Hall

Conference attendees are invited to attend the Optics + Optoelectronics Symposium Poster Session on Tuesday afternoon. Enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster session.

Poster authors, visit Poster Presentation Guidelines for set-up instructions.

12570-25

Development of a silicon photomultiplier-based detector for spatial detection of X-ray photons impacting on a scintillating fibre grid

Author(s): Nikolaos Panagopoulos, Georgios Asfis, TWI Hellas (Greece); Jannis Koch, Fraunhofer-Institut für Nachrichtentechnik, Heinrich-Hertz-Institut, HHI (Germany); Scott H. B. Wilbur, The Univ. of Sheffield (United Kingdom)

12570-26

Single photon detection with silicon-based avalanche photodiode

Author(s): Burcu Yerli, Ozyegin Univ. (Turkey), Institute of Information Technologies, TÜBITAK BILGEM (Turkey); Can Eraydin, Department of Electrical and Electronics Engineering (Turkey); Hatun Cinkaya, Institute of Information Technologies, TÜBITAK BILGEM (Turkey); Kadir Durak, Ozyegin Univ. (Turkey)

12570-27

Intraband absorption of GaAs cylindrical quantum dot with Kratzer confinement potential in the presence of external electric and magnetic fields

Author(s): Eduard Hakobyan, Russian-Armenian Univ. (Armenia)

12570-29

Optimal configuration of a superconducting photon number resolving detector

Author(s): Pasquale Ercolano, Univ. degli Studi di Napoli Federico II (Italy); Daniela Salvoni, Photon Technology (Zhejiang) Co., Ltd. (China); Ciro Bruscino, Univ. degli Studi di Napoli Federico II (Italy); Matteo Di Giancamillo, Politecnico di Milano (Italy); Chengjun Zhang, Photon Technology (Zhejiang) Co., Ltd. (China); Mikkel Ejrnaes, Superconducting and Other Innovative Materials and Devices Institute, Consiglio Nazionale delle Ricerche (Italy); Jia Huang, Hao Li, Lixing You, Shanghai Institute of Microsystem and Information Technology (China); Loredana Parlato, Univ. degli Studi di Napoli Federico II (Italy), Superconducting and Other Innovative Materials and Devices Institute, Consiglio Nazionale delle Ricerche (Italy); Mario Martinelli, Politecnico di Milano (Italy); Giovanni Piero Pepe, Univ. degli Studi di Napoli Federico II (Italy), Superconducting and Other Innovative Materials and Devices Institute, Consiglio Nazionale delle Ricerche (Italy)

12570-30

Quantum wire material modulated geometrical factors and electronic band structure within the presence of spin-orbit interaction

Author(s): Priyanka ., Rinku Sharma, Delhi Technological Univ. (India)

WEDNESDAY 26 APRIL

WEDNESDAY PLENARY SESSION

26 April 2023 • 08:50 - 10:30 | Nadir

12570-700 • 08:55 - 09:40 | Nadir

Nonlinear integrated quantum optics with AlGaAs *(Plenary Presentation)*

Author(s): Sara Ducci, Lab. Matériaux et Phénomènes Quantiques (France)

12575-701 • 09:45 - 10:30 | Nadir

Photonic crystal fibres: three decades of novel science *(Plenary Presentation)*

Author(s): Philip St. John Russell, Max-Planck-Institut für die Physik des Lichts (Germany)

Coffee Break 10:30 - 10:50

OPENING REMARKS

26 April 2023 • 10:50 - 11:00 | Quadrant

Ivan Prochazka, Czech Technical Univ. in Prague (Czech Republic)

Roman Sobolewski, Univ. of Rochester (United States)

SESSION 1: QUANTUM OPTICS

26 April 2023 • 11:00 - 12:20 | Quadrant

Session Chair: Roman Sobolewski, Univ. of Rochester (United States)

12570-1 • 11:00 - 11:30 | Quadrant

Chip-scale simulations using quantum frequency comb *(Invited Paper)*

Author(s): Qiang Lin, Univ. of Rochester (United States)

12570-2 • 11:30 - 12:00 | Quadrant

Design and fabrication of basic silicon quantum photonic integrated circuits *(Invited Paper)*

Author(s): Marek Osinski, Sami A. Nazib, Troy A. Hutchins-Delgado, Erika M. Sommer, Hosuk Lee, Loic H. Djamen Tchapda, Ruth A. Gyan-Darkwa, Erum Jamil, Thomas J. Rotter, Ganesh Balakrishnan, The Univ. of New Mexico (United States); John Nogan, Tzu-Ming Lu, Sandia National Labs. (United States); Ivan Komissarov, Roman Sobolewski, Univ. of Rochester (United States)

12570-3 • 12:00 - 12:20 | Quadrant

Quantum optics with time-frequency degrees of freedom of single photons

Author(s): Nicolas Fabre, Univ. Complutense de Madrid (Spain), Télécom ParisTech (France)

Lunch/Exhibition Break 12:40 - 14:00

SESSION 2: SOLID STATE PHOTON COUNTING AND ITS APPLICATIONS I

26 April 2023 • 14:00 - 15:10 | Quadrant

Session Chair: Ivan Procházka, Czech Technical Univ. in Prague (Czech Republic)

12570-5 • 14:00 - 14:30

National infrastructure for dissemination of precise time and ultrastable optical frequency also aiming to connect quantum Sources: CITAF *(Invited Paper)*

Author(s): Josef Vojtech, Vladimir Smotlacha, Radek Velc, CESNET z.s.p.o. (Czech Republic)

12570-6 • 14:30 - 14:50 | Quadrant

Optimisation of control circuit of single photon detector for space projects

Author(s): Matej Stavinoha, Ivan Procházka, Josef Blazej, Roberta Bimbová, Czech Technical Univ. in Prague (Czech Republic)

12570-7 • 14:50 - 15:10 | Quadrant

Preparing the deployment of QKD over a classical network infrastructure in Prague

Author(s): Tomáš Novák, Carlos Guerra Yanez, Elisabeth Andriantsarazo, Petr Pospisil, Josef Vojtech, CESNET z.s.p.o. (Czech Republic)

Coffee Break 15:10 - 15:40

SESSION 3: SOLID STATE PHOTON COUNTING AND ITS APPLICATIONS II

26 April 2023 • 15:40 - 17:10 | Quadrant

Session Chair: Josef Blazej, Czech Technical Univ. in Prague (Czech Republic)

12570-8 • 15:40 - 16:10 | Quadrant

Spectrometer based on SPAD linear array with subnanosecond timing resolution and single photon sensitivity for quantum-assisted optical interferometers *(Invited Paper)*

Author(s): Andrei Nomerotski, Brookhaven National Lab. (United States)

12570-9 • 16:10 - 16:30 | Quadrant

Satellite range finding by photon counting against optical time ruler

Author(s): Jan Kodet, Ulrich Schreiber, Technische Univ. München (Germany); Johann Eckl, Bundesamt für Kartographie und Geodäsie (Germany)

12570-10 • 16:30 - 16:50 | Quadrant

Multimode fiber influence on single-photon avalanche diode timing jitter

Author(s): Alexandra Lee, Wideblue Ltd. (United Kingdom); Ross Donaldson, Heriot-Watt Univ. (United Kingdom); Craig Whitehill, Wideblue Ltd. (United Kingdom); Alfonso Tello Castillo, Heriot-Watt Univ. (United Kingdom)

12570-11 • 16:50 - 17:10 | Quadrant

Optimization of microlens arrays for photon detectors

Author(s): Frédéric Zanella, Christian Schneider, Luka Ciric, Guillaume Basset, Ctr. Suisse d'Electronique et de Microtechnique SA (Switzerland)

THURDAY 27 APRIL

SESSION 4: SOLID STATE PHOTON COUNTING AND ITS APPLICATIONS III

27 April 2023 • 09:30 - 12:10 | Quadrant

Session Chair: Roman Sobolewski, Univ. of Rochester (United States)

12570-12 • 09:30 - 10:00 | Quadrant

Commercial innovations in superconducting nanowire single-photon detectors for quantum and not-so-quantum optics *(Invited Paper)*

Author(s): Aaron Miller, Quantum Opus, LLC (United States)

12570-13 • 10:00 - 10:30 | Quadrant

Investigation of NbRe for superconducting microstrip single photon detectors *(Invited Paper)*

Author(s): Loredana Parlato, Univ. degli Studi di Napoli Federico II (Italy); Carla Cirillo, Superconducting and Other Innovative Materials and Devices Institute, Consiglio Nazionale delle Ricerche (Italy); Daniela Salvoni, Photon Technology (Zhejiang) Co., Ltd. (China); Ciro Bruscino, Pasquale Ercolano, Univ. degli Studi di Napoli Federico II (Italy); Federico Chianese, Univ. degli Studi di Napoli Federico II (Italy), Chalmers Univ. of Technology (Sweden); Roberta Satariano, Antonio Cassinese, Univ. degli Studi di Napoli Federico II (Italy); Carmine Attanasio, Univ. degli Studi di Salerno (Italy); Giovanni Piero Pepe, Univ. degli Studi di Napoli Federico II (Italy); Mikkel Ejrnaes, Superconducting and Other Innovative Materials and Devices Institute, Consiglio Nazionale delle Ricerche (Italy)

Coffee Break 10:30 - 11:00

12570-14 • 11:00 - 11:30 | Quadrant

Infrared photon counting with superconducting detectors *(Invited Paper)*

Author(s): Robert H. Hadfield, Univ. of Glasgow (United Kingdom)

12570-15 • 11:30 - 11:50 | Quadrant

Investigating the impact of fast count rates on timing jitter in SNSPDs

Author(s): Tim Rambo, Jeremy Doredla, Hudson Jones, Leo Oshiro, Stephanie Boyd, Aaron Miller, Quantum Opus, LLC (United States)

12570-16 • 11:50 - 12:10 | Quadrant

Design of integrated SSPD-SFQ two-photon coincidence correlator

Author(s): Roman Sobolewski, Ivan Komissarov, Univ. of Rochester (United States); Amir Salim, Oleg A. Mukhanov, SeeQC, Inc. (United States); Aaron J. Miller, Quantum Opus, LLC (United States)

Lunch Break 12:10 - 13:30

SESSION 5: X-RAY AND OTHER PHOTON DETECTION CONCEPTS

27 April 2023 • 13:30 - 15:00 | Quadrant

Session Chair: Aleksey E. Bolotnikov, Brookhaven National Lab. (United States)

12570-18 • 13:30 - 14:00 | Quadrant

Picosecond (Cd,Mg)Te detectors for both optical and x-ray photons *(Invited Paper)*

Author(s): Roman Sobolewski, Jing Cheng, Ivan Komissarov, Debamitra Chakraborty, Univ. of Rochester (United States); Susan Kutcher, J. Wen, Henry Chen, Sudhir Trivedi, Brimrose Technology Corp. (United States)

12570-19 • 14:00 - 14:20 | Quadrant

3D position-sensitive CdZnTe detectors for photon-counting CdZnTe arrays

Author(s): Aleksey E. Bolotnikov, Gabriella Carini, Alfred Dellapenna, Jack Fried, Grzegorz Deptuch, Justine Haupt, Sven Herrmann, Piotr Maj, Giovanni Pinaroli, Brookhaven National Lab. (United States)

12570-20 • 14:20 - 14:40 | Quadrant

Hybrid photonic–plasmonic microcavity for enhancing light–matter interaction

Author(s): Belkis Gökbulut, Bogaziçi Üniv. (Turkey)

12570-21 • 14:40 - 15:00 | Quadrant

Phase stabilization for TF-QKD: practicalities and trade-offs

Author(s): Alice Meda, Istituto Nazionale di Ricerca Metrologica (Italy); Carlo Liorni, Massimiliano Dispenza, Leonardo S.p.A. (Italy); Gianluca Bertaina, Cecilia Clivati, Simone Donadello, Ivo Pietro Degiovanni, Salvatore Virzì, Davide Calonico, Marco Gramegna, Marco Genovese, Istituto Nazionale di Ricerca Metrologica (Italy)

Coffee Break 15:00 - 15:30

SESSION 6: OTHER PHOTON DETECTION CONCEPTS

27 April 2023 • 15:30 - 16:50 | Quadrant

Session Chair: Ivan Procházka, Czech Technical Univ. in Prague (Czech Republic)

12570-22 • 15:30 - 15:50 | Quadrant

Free-electron-heralded single-photon generation in high-Q microresonators

Author(s): Germaine Arend, Georg-August-Univ. Göttingen (Germany), Max-Planck-Institut für Multidisziplinäre Naturwissenschaften (Germany); Guanhao Huang, Ctr. for Quantum Science and Engineering, Ecole Polytechnique Fédérale de Lausanne (Switzerland); Armin Feist, Max-Planck-Institut für Multidisziplinäre Naturwissenschaften (Germany), Georg-August-Univ. Göttingen (Germany); Yujia Yang, Ctr. for Quantum Science and Engineering, Ecole Polytechnique Fédérale de Lausanne (Switzerland); Jan-Wilke Henke, Max-Planck-Institut für Multidisziplinäre Naturwissenschaften (Germany), Georg-August-Univ. Göttingen (Germany); Arslan Sajid Raja, Ctr. for Quantum Science and Engineering, Ecole Polytechnique Fédérale de Lausanne (Switzerland); F. Jasmin Kappert, Max-Planck-Institut für Multidisziplinäre Naturwissenschaften (Germany), Georg-August-Univ. Göttingen (Germany); Rui N. Wang, Ecole Polytechnique Fédérale de Lausanne (Switzerland); Hugo Lourenço-Martins, Max-Planck-Institut für Multidisziplinäre Naturwissenschaften (Germany), Georg-August-Univ. Göttingen (Germany); Zheru Qiu, Junqiu Liu, Ctr. for Quantum Science and Engineering, Ecole Polytechnique Fédérale de Lausanne (Switzerland); Ofer Kfir, Max-Planck-Institut für Multidisziplinäre Naturwissenschaften (Germany), Georg-August-Univ. Göttingen (Germany); Tobias J. Kippenberg, Ctr. for Quantum Science and Engineering, Ecole Polytechnique Fédérale de Lausanne (Switzerland); Claus Ropers, Max-Planck-Institut für Multidisziplinäre Naturwissenschaften (Germany), Georg-August-Univ. Göttingen (Germany)

12570-4 • 15:50 - 16:10 | Quadrant

Free electron beams as a source of quantum light

Author(s): Valerio Di Giulio, Saeid Asgarnezhad, ICFO - Institut de Ciències Fotòniques (Spain); Javier García de Abajo, ICFO - Institut de Ciències Fotòniques (Spain), ICREA - Institució Catalana de Recerca i Estudis Avançats (Spain)

12570-23 • 16:10 - 16:30 | Quadrant

The contribution of the edge number on the optical properties in ZnO pyramidal quantum dots

Author(s): Grigor Mantashyan, Russian-Armenian Univ. (Armenia)

12570-24 • 16:30 - 16:50 | Quadrant

Fast thermoelectric photodetector for UV radiation

Author(s): Astghik Kuzanyan, Vahan Nikoghosyan, Armen Kuzanyan, Sergey Harutyunyan, Institute for Physical Research, NAS RA (Armenia)

CONFERENCE 12571

Real-time Processing of Image, Depth and Video Information 2023

24 - 25 April 2023 | Aquarius

Conference Chair: **Matthias F. Carlsohn,** Computer Vision & Bildkommunikation (Germany)

Programme Committee: **Elouardi Abdelhafid,** Paris-Saclay Univ. (France); Miguel Bordallo Lopez, Univ. of Oulu (Finland); **Guillermo Botella**, Univ. Complutense de Madrid (Spain); **Patrick Draheim**, Deutsches Forschungszentrum für Künstliche Intelligenz GmbH (Germany); Touradj Ebrahimi, Ecole Polytechnique Fédérale de Lausanne (Switzerland); **Chiou-Shann Fuh**, National Taiwan Univ. (Taiwan); **Dominique Ginhac**, Univ. de Bourgogne (France); **Gwanggil Jeon,** Incheon National Univ. (Republic of Korea); **Sergio R. Goma,** Qualcomm Inc. (United States); **M. Hassaballah,** South Valley Univ. (Egypt); **Frank Kirchner,** Deutsches Forschungszentrum für Künstliche Intelligenz GmbH (Germany); **Gian Domenico Licciardo,** Univ. degli Studi di Salerno (Italy); **Antonio Sanz Montemayor,** Univ. Rey Juan Carlos (Spain); **Amos Omondi,** SUNY Korea (Republic of Korea); **Luis Salgado,** Univ. Politécnica de Madrid (Spain); **Sergio Saponara,** Univ. di Pisa (Italy); **Thomas Sikora,** Technische Univ. Berlin (Germany); **SangHyun Seo**, Chung-Ang Univ. (Republic of Korea); **Leonel Sousa,** Instituto Superior Técnico (Portugal); **Viktor J. Schneider,** Leibniz Univ. Hannover (Germany); **Stephan C. Stilkerich,** Infineon Technologies AG (Germany); **Zhili Zhou,** Guangzhou Univ. (China)

BEST PAPER AWARD

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The Real-time Processing of Image, Depth and Video Information conference will offer a Best Paper Award. Eligibility is extended to all speakers who are present to deliver their research work at the Optics + Optoelectronics Conference on Real-time Processing of Image, Depth and Video Information. Papers will be judged based on clarity of presentation, scientific merit, and potential innovative impact. The Best Paper Award will include a cash reward and an award certificate.

MONDAY 24 APRIL

SESSION 1: REAL-TIME IMAGING

24 April 2023 • 08:30 - 10:20 | Aquarius

Session Chair: Thomas Sikora, Technische Univ. Berlin (Germany)

12571-1 • 08:30 - 09:00 | Aquarius

Evolution of real-time processing of visual information over four decades: a retrospective as outlook to the future of real-time imaging *(Invited Paper)*

Author(s): Matthias F. Carlsohn, Computer Vision & Bildkommunikation (Germany)

12571-2 • 09:00 - 09:20 | Aquarius

Real-time embedded large-scale place recognition for autonomous ground vehicles using a spatial descriptor

Author(s): Mohammed Chghaf, Sergio Rodriguez, Abdelhafid El Ouardi, Samir Bouaziz, Univ. Paris-Saclay (France)

12571-3 • 09:20 - 09:40 | Aquarius

RECASA: Real-Time Computer-Assisted Sperm Analysis

Author(s): Daniel Hernández-Ferrándiz, Ian Oliva-Wilkinson, Juan J. Pantrigo, Raúl Cabido, Univ. Rey Juan Carlos (Spain)

12571-4 • 09:40 - 10:00 | Aquarius

Real-time video super-resolution reconstruction using wavelet transforms and sparse representation

Author(s): Yeredith G. Mora-Martinez, Volodymyr I. Ponomaryov, Beatriz P. Garcia-Salgado, Rogelio Reyes-Reyes, Clara Cruz-Ramos, Instituto Politécnico Nacional (Mexico)

12571-5 • 10:00 - 10:20 | Aquarius

Parallel semifragile color image watermarking authentication scheme using EXIF metadata

Author(s): Rogelio A. Ortega-Rebollo, Volodymyr I. Ponomaryov, Rogelio Reyes-Reyes, Clara Cruz-Ramos, Beatriz P. Garcia-Salgado, Instituto Politécnico Nacional (Mexico)

Coffee Break 10:20 - 10:50

SESSION 2: LIGHT FIELD IMAGING

24 April 2023 • 10:50 - 12:10 | Aquarius

Session Chair: Gian Domenico Licciardo, Univ. degli Studi di Salerno (Italy)

12571-6 • 10:50 - 11:10 | Aquarius

Development of light-field motion tracking technology for use in laboratory studies of planet formation

Author(s): Ellen C. Daly, The Open Univ. (United Kingdom); Neil J. Murray, Dynamic Imaging Analytics Ltd. (United Kingdom); Helen J. Fraser, The Open Univ. (United Kingdom); Anthony M. Evagora, Dynamic Imaging Analytics Ltd. (United Kingdom)

12571-7 • 11:10 - 11:30 | Aquarius

Towards learning-based denoising of light fields

Author(s): Tomás Soares De Carvalho Feith, Michela Testolina, Touradj Ebrahimi, Ecole Polytechnique Fédérale de Lausanne (Switzerland)

12571-8 • 11:30 - 11:50 | Aquarius

Real-Time 3D Tracking of a Microparticle Using Chromatic Aberration

Author(s): Sepehr Elahi, Ecole Polytechnique Fédérale de Lausanne (Switzerland); Aysu Ay, Parviz Elahi, Bogaziçi Üniv. (Turkey)

12571-9 • 11:50 - 12:10 | Aquarius

Real-time onboard visual parking space detection: a performance study

Author(s): Susana Pineda De Luelmo, Juan J. Pantrigo, Antonio S. Montemayor, Univ. Rey Juan Carlos (Spain)

Lunch Break 12:10 - 13:40

SESSION 3: MACHINE LEARNING AND AI

24 April 2023 • 13:40 - 15:30 | Aquarius

Session Chair: Patrick Draheim, Deutsches Forschungszentrum für Künstliche Intelligenz GmbH (Germany)

12571-10 • 13:40 - 14:10 | Aquarius

Introduction to the current state of quantum computing *(Invited Paper)*

Author(s): Gunnar Schönhoff, Frank Kirchner, Patrick Draheim, Deutsches Forschungszentrum für Künstliche Intelligenz GmbH (Germany)

12571-11 • 14:10 - 14:30 | Aquarius

An automated AI and video measurement techniques for monitoring social distancing, mask detection, and facial temperature screening for COVID-19

Author(s): Abdussalam Elhanashi, Sergio Saponara, Univ. di Pisa (Italy); Qinghe Zheng, Shandong Management Univ. (China)

12571-12 • 14:30 - 14:50 | Aquarius

Computational efficient deep learning based Super Resolution approach

Author(s): Asfa Jamil, Alessandro Artusi, CYENS - Ctr. of Excellence (Cyprus)

12571-13 • 14:50 - 15:10 | Aquarius

In-sensor Neural Network for Real-time KWS by Image Processing

Author(s): Paola Vitolo, Pio Esposito, Univ. degli Studi di Salerno (Italy); Danilo Pau, STMicroelectronics SRL (Italy); Rosalba Liguori, Luigi Di Benedetto, Gian Domenico Licciardo, Univ. degli Studi di Salerno (Italy)

12571-14 • 15:10 - 15:30 | Aquarius

Low-power CNN for Real-time Driver Posture Monitoring by Image Processing

Author(s): Gian Domenico Licciardo, Paola Vitolo, Luigi Di Benedetto, Rosalba Liguori, Andrea Donisi, Nicola Cappetti, Alessandro Naddeo, Univ. degli Studi di Salerno (Italy)

Coffee Break 15:50 - 16:15

MONDAY PLENARY SESSION

24 April 2023 • 16:15 - 18:00 | Nadir

12577-500 • 16:25 - 17:10 | Nadir

Exploring plasma physics with multi-petawatt laser pulses (Plenary Presentation)

Author(s): Louise Willingale, Univ. of Michigan (United States)

12579-501 • 17:15 - 18:00 | Nadir

Laser plasma accelerators (Plenary Presentation)

Author(s): Victor A. Malka, Weizmann Institute of Science (Israel)

TUESDAY 25 APRIL

TUESDAY PLENARY SESSION

25 April 2023 • 08:50 - 10:30 | Nadir

12577-600 • 08:55 - 09:40 | Nadir

Fusion ignition at the National Ignition Facility *(Plenary Presentation)*

Author(s): Thomas M. Spinka, Lawrence Livermore National Lab. (United States)

12571-601 • 09:45 - 10:30 | Nadir

AI and deep learning for microscopy *(Plenary Presentation)*

Author(s): Giovanni Volpe, Göteborgs Univ. (Sweden)

Coffee Break 10:30 - 10:50

SESSION 4: SENSING AND CODING

25 April 2023 • 10:50 - 12:30 | Aquarius

Session Chair: Volodymyr I. Ponomaryov, Instituto Politécnico Nacional (Mexico)

12571-16 • 10:50 - 11:20 | Aquarius

Towards a fully monolithic and fully computational SWIR silicon camera *(Invited Paper)*

Author(s): Sergio R. Goma, Qualcomm Inc. (United States)

12571-17 • 11:20 - 11:40 | Aquarius

Sparse video representation using steered mixture-of-experts with global motion compensation

Author(s): Rolf Jongebloed, Erik Bochinski, Thomas Sikora, Technische Univ. Berlin (Germany)

12571-18 • 11:40 - 12:00 | Aquarius

Steered Mixture-of-Experts Autoencoder Design for Real-Time Image Modelling and Denoising

Author(s): Elvira Fleig, Erik Bochinski, Thomas Sikora, Technische Univ. Berlin (Germany)

12571-24 • 12:00 - 12:30 | Aquarius

Sensor-guided robotics: progress and industry needs *(Keynote Presentation)*

Author(s): Koorosh Khodabandehloo, Univ. of Southern Queensland (Australia)

Lunch/Exhibition Break 12:30 - 13:45

POSTER SLAM: REAL-TIME PROCESSING OF IMAGE, DEPTH AND VIDEO INFORMATION

25 April 2023 • 13:45 - 14:00 | Aquarius

Join the poster presenters of the Real-time Processing of Image, Depth and Video Information conference for their three-minute oral slams.

THE IMAGING SOURCE EUROPE BEST PAPER AWARD PRESENTATION

25 April 2023 • 14:00 - 14:30 | Aquarius

Best Paper Award presented by Matthias Carlsohn, Computer Vision & Bildkommunikation (Germany)

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POSTERS-TUESDAY

25 April 2023 • 17:45 - 19:15 | Meridian Hall

Conference attendees are invited to attend the Optics + Optoelectronics Symposium Poster Session on Tuesday afternoon. Enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster session.

Poster authors, visit Poster Presentation Guidelines for set-up instructions.

12571-20

Real-time rotational obstacle detection-based intelligent safety management for construction machines

Author(s): Minwoo Woo, Jong-Pil Yun, Hong-In Won, Korea Institute of Industrial Technology (Republic of Korea); SeungHyun Jeong, Korea Univ. of Technology and Education (Republic of Korea); Byeong Hak Kim, Korea Institute of Industrial Technology (Republic of Korea)

12571-21

FedReal: Real-time medical image segmentation using a federated deep learning model

Author(s): Akansha Singh, Sonal Kukreja, Bennett Univ. (India); Krishna Kant Singh, Amity Univ. (India)

12571-23

Real-time automatic green coffee beans inspection using RGB-IR multispectral imaging

Author(s): Shih-Yu Chen, Xue-Wei Zou, National Yunlin Univ. of Science and Technology (Taiwan)

CONFERENCE 12572

Optical Sensors 2023

24 - 26 April 2023 | Taurus

Conference Chairs: **Francesco Baldini,** Istituto di Fisica Applicata Nello Carrara (Italy); **Jiri Homola,** Institute of Photonics and Electronics of the ASCR, v.v.i. (Czech Republic);**Robert A. Lieberman,** Lumoptix, LLC (United States)

Programmee Committee: **Loïc J. Blum,** Univ. Claude Bernard Lyon 1 (France); **Eduard Brynda,** Institute of Macromolecular Chemistry of the ASCR, v.v.i. (Czech Republic); **Stefania Campopiano,** Univ. degli Studi di Napoli Parthenope (Italy); **Artur Dybko,** Warsaw Univ. of Technology (Poland); **Günter G. Gauglitz**, Eberhard Karls Univ. Tübingen (Germany); **Pedro Jorge,** INESC Porto (Portugal); **Aleksandra Lobnik,** Univ. of Maribor (Slovenia); **Ramaier Narayanaswamy,** The Univ. of Manchester (United Kingdom); **Terro Soukka,** Univ. of Turku (Finland); **Reinhardt Willsch,** Institut für Photonische Technologien e.V. (Germany)

MONDAY 24 APRIL

SESSION 1: PLASMONICS FOR BIOSENSING

24 April 2023 • 13:40 - 15:30 | Taurus

Session Chair: Jirí Homola, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic)

12572-1 • 13:40 - 14:10 | Taurus

Plasmonics for biosensing *(Keynote Presentation)*

Author(s): Michael T. Canva, Univ. de Sherbrooke (Canada)

12572-3 • 14:10 - 14:30 | Taurus

Plasmonic nanostructures based on novel metamolecular units for biological samples investigation

Author(s): Massimo Rippa, Valentina Marchesano, Ambra Vestri, Domenico Sagnelli, Istituto di Scienze Applicate e Sistemi Intelligenti “Eduardo Caianiello” (Italy); Giovanna Fusco, Istituto Zooprofilattico Sperimentale del Mezzogiorno (Italy); Joseph Zyss, Lab. Lumière, Matière et Interfaces (France), Institut d’Alembert (France), Ecole Normale Supérieure Paris-Saclay, CNRS (France); Jun Zhou, Ningbo Univ. (China); Lucia Petti, Istituto di Scienze Applicate e Sistemi Intelligenti “Eduardo Caianiello” (Italy)

12572-4 • 14:30 - 14:50 | Taurus

Tuning bimetallic Au@Ag nanorods localized surface plasmon resonance on side-polished optical fiber sensing configurations at near-infrared wavelengths

Author(s): Paulo S. S. dos Santos, João P. Mendes, Univ. do Porto (Portugal); José M. de Almeida, INESC TEC — Institute for Systems and Computer Engineering, Technology and Science (Portugal); Isabel Pastoriza-Santos, CINBIO (Spain); Luis C. Coelho, INESC TEC — Institute for Systems and Computer Engineering (Portugal)

12572-5 • 14:50 - 15:10 | Taurus

Surface plasmon coupled fluorescence biosensor with enzyme-free catalytic hairpin assembly amplification

Author(s): Naoto Asai, Danube Private Univ. (Austria); Gizem Aktug, Gebze Technical Univ. (Turkey); Andrés de los Santos Pereira, Tomáš Riedel, Institute of Macromolecular Chemistry of the CAS, v.v.i. (Czech Republic); Jakub Dostálek, AIT Austrian Institute of Technology GmbH (Austria), Institute of Physics of the CAS, v.v.i. (Czech Republic), Lab. for Life Sciences and Technology (Austria)

12572-7 • 15:10 - 15:30 | Taurus

Nucleolin protein-mediated specific detection of circulating cancer cells by U-bent optical fiber sensor

Author(s): Rajshree Gupta, Debjani Paul, Soumyo Mukherji, Indian Institute of Technology Bombay (India)

Coffee Break 15:50 - 16:15

MONDAY PLENARY SESSION

24 April 2023 • 16:15 - 18:00 | Nadir

12577-500 • 16:25 - 17:10 | Nadir

Exploring plasma physics with multi-petawatt laser pulses (Plenary Presentation)

Author(s): Louise Willingale, Univ. of Michigan (United States)

12579-501 • 17:15 - 18:00 | Nadir

Laser plasma accelerators (Plenary Presentation)

Author(s): Victor A. Malka, Weizmann Institute of Science (Israel)

TUESDAY 25 APRIL

TUESDAY PLENARY SESSION

25 April 2023 • 08:50 - 10:30 | Nadir

12577-600 • 08:55 - 09:40 | Nadir

Fusion ignition at the National Ignition Facility *(Plenary Presentation)*

Author(s): Thomas M. Spinka, Lawrence Livermore National Lab. (United States)

12571-601 • 09:45 - 10:30 | Nadir

AI and deep learning for microscopy *(Plenary Presentation)*

Author(s): Giovanni Volpe, Göteborgs Univ. (Sweden)

Coffee Break 10:30 - 11:00

SESSION 2: SENSORS FOR BIOMEDICINE

25 April 2023 • 11:00 - 12:00 | Taurus

Session Chair: Dana Cialla-May, Leibniz-Institut für Photonische Technologien e.V. (Germany)

12572-8 • 11:00 - 11:20 | Taurus

Improvement of image characteristics of intraoral and panoramic radiographs by utilizing OCT as a control method

Author(s): Ralph-Alexandru Erdelyi, Univ. Politehnica Timisoara (Romania); Virgil-Florin Duma, Univ. “Aurel Vlaicu” din Arad (Romania), Univ. Politehnica Timisoara (Romania)

12572-9 • 11:20 - 11:40 | Taurus

Automated atrial flutter detection using photoplethysmography

Author(s): Neha ., CSIR - Central Scientific Instruments Organisation (India); Neeti Dogra, Postgraduate Institute of Medical Education & Research, Chandigarh (India); H.K. Sardana, CSIR - Central Scientific Instruments Organisation (India); Rajesh Kanawade, Council of Scientific & Industrial Research (India); Neelam Dahiya, Postgraduate Institute of Medical Education & Research, Chandigarh (India); Sanjeev Kumar, CSIR - Central Scientific Instruments Organisation (India)

12572-11 • 11:40 - 12:00 | Taurus

Simultaneous measurement of pressure, bile and pH in the gastroesophageal apparatus with optical fibres

Author(s): Francesco Baldini, Francesco Chiavaioli, Giovanni Bartolozzi, Istituto di Fisica Applicata "Nello Carrara" (Italy); Kerstin Schroeder, Tobias Habisreuther, Leibniz-Institut für Photonische Technologien e.V. (Germany); Martin Hahn, Martin Satzke, OSCOMED GmbH (Germany); Steffen Goerlich, Johannes Gäbler, JETI Technische Instrumente GmbH (Germany); Antonio Taddei, Univ. degli Studi di Firenze (Italy); Piero Cecchi, Cecchi s.r.l. (Italy); Dario Bovio, Biocubica S.r.l. (Italy)

Lunch/Exhibition Break 12:00 - 13:20

SESSION 3: OPTICAL SENSORS

25 April 2023 • 13:20 - 15:00 | Taurus

Session Chair: Francesco Baldini, Istituto di Fisica Applicata "Nello Carrara" (Italy)

12572-12 • 13:20 - 13:40 | Taurus

Stokes polarimeter using vector diffractive optical elements

Author(s): Jesus del Hoyo, Angela Soria-Garcia, Luis Miguel Sanchez-Brea, Veronica Pastor-Villarrubia, Veronica Gonzalez-Fernandez, Univ. Complutense de Madrid (Spain); Mahmoud H. Elshorbagy, Minia Univ. (Egypt); Javier Alda, Univ. Complutense de Madrid (Spain)

12572-13 • 13:40 - 14:00 | Taurus

Correlated frequency combs measure nanoradian phase shift

Author(s): Matthias Lenzner, Lenzner Research, LLC (United States); Xiaobing Zhu, Jean-Claude Diels, The Univ. of New Mexico (United States)

12572-14 • 14:00 - 14:20 | Taurus

Fabrication of metallic nanopore arrays via plasmonic photochemistry

Author(s): Germàn Lanzavecchia, Denis Garoli, Istituto Italiano di Tecnologia (Italy); Joel Kuttruff, Univ. Konstanz (Germany); Alba Viejo Rodríguez, Univ. du Luxembourg (Luxembourg); Andrea Doricchi, Istituto Italiano di Tecnologia (Italy); Nicolò Maccaferri, Umeå Univ. (Sweden); Roman Krahne, Istituto Italiano di Tecnologia (Italy)

12572-15 • 14:20 - 14:40 | Taurus

Infrared characterization of Spike protein of MERS-CoV, SARS-CoV, SARS-CoV-2 and its variants: first steps toward an optical biosensing device

Author(s): Tiziana Mancini, Annalisa D'Arco, Sapienza Univ. di Roma (Italy); Marta Di Fabrizio, Ecole Polytechnique Fédérale de Lausanne (Switzerland); Rosanna Mosetti, Salvatore Macis, Sapienza Univ. di Roma (Italy); Giovanna Tranfo, INAIL, Istituto nazionale Assicurazione Infortuni sul Lavoro (Italy); Giancarlo Della Ventura, Univ. degli Studi di Roma Tre (Italy); Augusto Marcelli, Istituto Nazionale di Fisica Nucleare (Italy); Massimo Petrarca, Stefano Lupi, Sapienza Univ. di Roma (Italy)

12572-16 • 14:40 - 15:00 | Taurus

Ultra-high sensitive 2D photonic crystal for gas and chemical sensing applications

Author(s): Norhan A. Salama, National Institute of Laser Enhanced Sciences (Egypt), The American Univ. in Cairo (Egypt); Mohamed A. Swillam, The American Univ. in Cairo (Egypt); Mohamed Farhat O. Hameed, Zewail City of Science, Technology and Innovation (Egypt), Faculty of Engineering, University of Mansoura (Egypt); Shaimaa M. Alexeree, National Institute of Laser Enhanced Sciences (Egypt); Salah Sabry A. Obayya, Zewail City of Science and Technology (Egypt)

Coffee Break 15:00 - 15:30

SESSION 4: SPECTROSCOPIC SENSORS

25 April 2023 • 15:30 - 17:40 | Taurus

Session Chair: Francesco Baldini, Istituto di Fisica Applicata "Nello Carrara" (Italy)

12572-17 • 15:30 - 16:00 | Taurus

Surface Enhanced Raman Spectroscopic (SERS) detection of antibiotics and metabolites in complex biological matrices *(Keynote Presentation)*

Author(s): Dana Cialla-May, Chen Liu, Jürgen Popp, Leibniz-Institut für Photonische Technologien e.V. (Germany)

12572-18 • 16:00 - 16:20 | Taurus

SERS substrates fabricated on a wafer-scale

Author(s): Yashna Sharma, Delhi Technological Univ. (India); Abhijit Das, Nitin Gupta, Ajay Agrawal, Merbin John, Umang Chaturvedi, Anuj Dhawan, Indian Institute of Technology Delhi (India)

12572-19 • 16:20 - 16:40 | Taurus

In-process optical monitoring of contamination in an additively manufactured titanium alloy

Author(s): Nina Binaei, Jane Hodgkinson, Kevin Mullaney, Edmon Chehura, Stewart Williams, Ralph P. Tatam, Cranfield Univ. (United Kingdom)

12572-20 • 16:40 - 17:00 | Taurus

Raman spectroscopy applied to the online measurement of natural gas composition

Author(s): Fabio Melison, Lorenzo Cocola, CNR-Istituto di Fotonica e Nanotecnologie (Italy); Elena Meneghin, Daniele Rossi, Pietro Fiorentini SpA (Italy); Luca Poletto, CNR-Istituto di Fotonica e Nanotecnologie (Italy)

12572-21 • 17:00 - 17:20 | Taurus

Application of Plasmonic Quasi Crystal (PIQC) in Surface Enhanced Raman Spectroscopy (SERS)

Author(s): Richa Goel, Indian Institute of Technology Delhi (India); Rishabh Vij, Tata Institute of Fundamental Research (India); Sibashish Chakraborty, Indian Institute of Technology Delhi (India); Venu Gopal Achanta, Tata Institute of Fundamental Research (India), National Physical Lab. (India); Satish Kumar Dubey, Indian Institute of Technology Delhi (India)

12572-79 • 17:20 - 17:40 | Taurus

Optimal snapshot full-Stokes imaging polarimeter in the visible band based on division-of-aperture

Author(s): Sara Peña Gutiérrez, Maria Ballesta Garcia, Aleix Bobi, Santiago Royo, Univ. Politècnica de Catalunya (Spain)

POSTERS-TUESDAY

25 April 2023 • 17:45 - 19:15 | Meridian Hall

Conference attendees are invited to attend the Optics + Optoelectronics Symposium Poster Session on Tuesday afternoon. Enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster session.

Poster authors, visit Poster Presentation Guidelines for set-up instructions.

12572-37

Self-Written waveguides as an optical polymer sensor

Author(s): Derek J. Cassidy, John Sheridan, Univ. College Dublin (Ireland)

12572-38
Freeform sensor used in off-axis optical design
Author(s): Jiawei Liu, Emmanuel Hugot, Lab. d'Astrophysique de Marseille (France); Eduard Muslimov, Lab. d'Astrophysique de Marseille (France); Simona Lombardo, Manal Chebbo, Lab. d'Astrophysique de Marseille (France)

25 April 2023 • 17:45 - 19:15 | Meridian Hall
Show Abstract

12572-39
Novel design for LiNbO3 single crystal transparency sensor for photoacoustic image application
Author(s): Yushun Zeng, Gengxi Lu, The Univ. of Southern California (United States); Junjie Yao, Duke Univ. (United States); Qifa Zhou, The Univ. of Southern California (United States)

12572-40
Permeable diffractive optical elements for real-time sensing of running fluids
Author(s): Veronica Pastor-Villarrubia, Angela Soria-Garcia, Jesus del Hoyo, Luis Miguel Sanchez-Brea, Javier Alda, Univ. Complutense de Madrid (Spain)

12572-41
Functionalization of nanostructured surfaces for optical sensor platforms
Author(s): Vicente Silva Mattos, Jarbas Caiado de Castro Neto, Francisco Eduardo Gontijo Guimarães, Raphael Antonio Caface, Elsa M. Materón, Instituto de Física de São Carlos (Brazil)

12572-42
Temporal behavior and processing of the LiDAR signal in fog
Author(s): Maria Ballesta Garcia, Univ. Politècnica de Catalunya (Spain); Ana Rodríguez-Aramendía, Univ. Politècnica de Catalunya (Spain), Beamagine SL (Spain); Pablo García-Gómez, Beamagine SL (Spain); Noel Rodrigo, Univ. Politècnica de Catalunya (Spain); Santiago Royo, Univ. Politècnica de Catalunya (Spain), Beamagine SL (Spain)

12572-44
Optical sensor for NO2 gas detection using an external cavity diode laser
Author(s): Khaled Gasmi, Abdulaziz Al-Jalal, Watheq Al-Basheer, King Fahd Univ. of Petroleum & Minerals (Saudi Arabia)

12572-45
Mathematical modeling and experimental validation of the impact of the incident angle in optical precision metrology
Author(s): Gorka Zubia Garea, Josu Amorebieta, Joseba Zubia Zaballa, Gaizka Durana, Univ. del País Vasco (Spain)

12572-47
Development and application of quasi-planar InGaAsSb p-B-n devices for spectroscopic sensing
Author(s): Laura Hanks, Katarina Mamic, Lancaster Univ. (United Kingdom); Krzysztof Klos, Photin sp. zo.o (Poland); Joshua Fletcher, Lancaster Univ. (United Kingdom); Fernando Castano, ams-OSRAM AG (Austria); Andrew Marshall, Lancaster Univ. (United Kingdom)

12572-48
Integrated SU-8 ring resonator for rapid humidity sensing
Author(s): Lase Milgrave, Janis Alnis, Univ. of Latvia (Latvia); Arturs Bundulis, Institute of Solid State Physics, Univ. of Latvia (Latvia); Aigars Atvars, Univ. of Latvia (Latvia)

12572-49
Fluorescent Yeonnokjam silk as a smart textile chemo-sensor
Author(s): Sunghwan Kim, Rakesh Kumar Jha, Hanyang Univ. (Republic of Korea)

12572-50
High performance light in– analog out temperature sensor based on asymmetric Fabry-Perot cavity onto optical fibre tip
Author(s): Inaki Bikandi, Eneko Arrospide Zabala, Joseba Zubia Zaballa, Oskar Arrizabalaga Uriarte, Univ. del País Vasco (Spain)

12572-51
Optoelectronic oscillator controlled by photodiode-based optoelectronic chromatic dispersion
Author(s): Ayuushi Dutta, Ariel Univ. (Israel)

12572-52
Electrical characterization of plasmonic nanopores excited with light
Author(s): Andrea Doricchi, Germàn Lanzavecchia, Istituto Italiano di Tecnologia (Italy), Univ. degli Studi di Genova (Italy); Roman Krahne, Denis Garoli, Istituto Italiano di Tecnologia (Italy)

12572-53
Optical fiber-based probe for detection of magnetic field
Author(s): Norbert Tarjányi, Ivan Melo, Daniel Kácik, Univ. of Žilina (Slovakia)

12572-54
A miniaturized electrothermal-MEMS-based OCT probe
Author(s): Qian Chen, Beijing Institute of Technology (China), Chongqing Institute of Microelectronics and Microsystems (China); Hui Zhao, Beijing Institute of Technology (China); Tingxiang Qi, BIT Chongqing Institute of Microelectronics and Microsystems (China); Hua Wang, Beijing Institute of Technology (China); Huikai Xie, Beijing Institute of Technology (China), Chongqing Institute of Microelectronics and Microsystems (China)

12572-55
Reflectance biosensor platform using residual-layer-free nanoimprint lithography
Author(s): Junhyoung Ahn, Korea Institute of Machinery & Materials (Republic of Korea); Yunji Eom, Daegu Kyeongbuk Institute of Science & Technology (Republic of Korea); Hakjong Choi, Soongeun Kwon, Seonju Yeo, Sua Park, Kee-Bong Choi, JaeJong Lee, Korea Institute of Machinery & Materials (Republic of Korea)

12572-56
Study of the effects of multi-conditions of detection heavy metals using magneto-optics surface plasmon resonance
Author(s): Ali Alwahib, Univ. of Technology, Iraq (Iraq)

12572-58
Exceptional point-based sensing via nanostructured photonic waveguide
Author(s): Parul Sharma, Brijesh Kumar, Indian Institute of Technology Bombay (India); Anshuman Kumar, IIT Bombay (India)

12572-59
Development of biosensor integrating plasmonic and electrochemical methods
Author(s): Tong Liu, Ivo Tichý, Magdalena Capková, Erika Hemmerová, Jirí Homola, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic)

12572-60

Graphene microribbon array on silicon waveguide for sensing applications

Author(s): Iris Marty, Dario Andres Bahamon, Lúcia Akemi Miyazato Saito, Univ. Presbiteriana Mackenzie (Brazil)

12572-61

Silicon nitride thin film for optofluidic sensor application

Author(s): Ahmed Kreta, Amira Ahmed, Sara Mohamed, Mohamed A. Swillam, The American Univ. in Cairo (Egypt)

12572-62

Stabilizing DFB laser injection locked to an external polarization maintaining optical fiber ring cavity

Author(s): Ivan Panyaev, Pavel Itrin, Dmitry Korobko, Ulyanovsk State Univ. (Russian Federation); Ivan Chapalo, Patrice Mégret, Univ. de Mons (Belgium); Andrei A. Fotiadi, Univ. de Mons (Belgium), Univ. of Oulu (Finland)

12572-63

Brillouin interaction between single optical modes excited in multimode fibers

Author(s): Andrei A. Fotiadi, Univ. de Mons (Belgium), Univ. of Oulu (Finland); Edik Rafailov, Aston University (United Kingdom); Dmitry Korobko, Ulyanovsk State Univ. (Russian Federation); Ivan Chapalo, Patrice Mégret, Univ. de Mons (Belgium); Alexander Bykov, Univ. of Oulu (Finland); Igor Meglinski, Univ. of Oulu (Finland), Aston University (United Kingdom)

12572-64

EAC power distribution line cable monitoring using state-of-the-art distributed sensing instruments

Author(s): Andreas A. Ioannou, Maria Argyrou, Charalambos Kouzoupou, Kyriacos Kalli, Cyprus Univ. of Technology (Cyprus); Pierpaolo Marchesini, Michael Mondanos, Rumen Karaulanov, Silixa Ltd. (United Kingdom); Andreas Stavrou, Electricity Authority Cyprus (Cyprus); Antreas Dionysiou, Michalis Agathocleous, Resoloupe Ltd. (Cyprus); Efstathios Stavrakis, Nicolas Nicolaou, Algolysis Ltd. (Cyprus); Alexis Polycarpou, Michael Komodromos, FREDERICK RESEARCH CENTER LTD (Cyprus)

12572-67

Towards modulating near-field plasmonic coupling for enhanced optical spectroscopy

Author(s): Dario Cattozzo Mor, Institute of Physics of the CAS, v.v.i. (Czech Republic); Simone Auer, Yevhenii Morozov, AIT Austrian Institute of Technology GmbH (Austria); Thorben Jaik, Fiona Diehl, Ulrich Jonas, Univ. Siegen (Germany); Jakub Dostálek, Institute of Physics of the CAS, v.v.i. (Czech Republic)

12572-68

New solid-state optochemical pH sensors for the analysis of cell bioenergetics

Author(s): Liang Li, Alexander Zhdanov, Dmitri B. Papkovsky, Univ. College Cork (Ireland)

12572-70

Design and development of an innovative and simple optical sensor for the detection of acetic acid

Author(s): Wafaa Miloua, Víctor Navarro-Fuster, Marta Morales-Vidal, Manuel Francisco Ortuño Sanchez, Maria Inmaculada Pascual Villalobos, Univ. de Alicante (Spain)

12572-71

Optical fiber biosensor with enhanced fluorescence collection

Author(s): Victoria Esteso, Pietro Lombardi, Istituto Nazionale di Ottica (Italy), LENS - Lab. Europeo di Spettroscopie Non-Lineari (Italy); Francesco Chiavaioli, Istituto di Fisica Applicata "Nello Carrara" (Italy); Prosenjit Majumder, Maja Colautti, Istituto Nazionale di Ottica (Italy), LENS - Lab. Europeo di Spettroscopie Non-Lineari (Italy); Steffen Howitz, GeSiM Gesellschaft fuer Silizium-Mikrosysteme mbH (Germany); Paolo Cecchi, Cecchi s.r.l. (Italy); Francesco Baldini, Istituto di Fisica Applicata "Nello Carrara" (Italy); Costanza Toninelli, Istituto Nazionale di Ottica (Italy), LENS - Lab. Europeo di Spettroscopie Non-Lineari (Italy); Ambra Giannetti, Istituto di Fisica Applicata "Nello Carrara" (Italy)

12572-73

O2 sensing of mammalian cells

Author(s): Chiara Zanetti, Eimear Larkin, Anita R. Maguire, Dmitri B. Papkovsky, Univ. College Cork (Ireland)

12572-74

Ultrasensitive plasmonic biosensor for single molecule detection of cancer biomarkers via rolling circle amplification

Author(s): Katharina Schmidt, Simone Hageneder, Stefan Fossati, AIT Austrian Institute of Technology GmbH (Austria); Andrés de los Santos Pereira, Tomáš Riedel, Institute of Macromolecular Chemistry of the CAS, v.v.i. (Czech Republic); Jakub Dostálek, AIT Austrian Institute of Technology GmbH (Austria), Institute of Physics of the CAS, v.v.i. (Czech Republic), Danube Private Univ. (DPU) (Austria)

12572-75

Au-mos2 modified optical fiber sensor for ferritin detection

Author(s): Priyanka Thawany, Ashima Khanna, Umesh Tiwari, Akash Deep, CSIR - Central Scientific Instruments Organisation (India)

12572-76

New design and improvements of an MR-compatible respiratory fiber-optic sensor

Author(s): Michal Kostelansky, Jan Nedoma, Daniel Krizan, VŠB-Technical Univ. of Ostrava (Czech Republic)

12572-77

Fiber-optic sensor based on Bragg grating and 3D printing technique for monitoring the heart rate of the human body

Author(s): Daniel Krizan, Michal Kostelansky, Mazin Abed Mohammed, Radek Martinek, Jan Nedoma, VŠB-Technical Univ. of Ostrava (Czech Republic)

12572-78

Optofluidic sensor for measuring water salinity

Author(s): Ahmed Kreta, May Univ. in Cairo (Egypt), The American Univ. in Cairo (Egypt); Amira Shafaay, Mohamed A. Swillam, The American Univ. in Cairo (Egypt)

12572-80

Multimodal plasmonic nanostructures with modes in UV and VIS for high-performance biosensing

Author(s): Zdenek Garcic, Foziyeh Sohrabi, Jirí Slabý, Jirí Homola, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic)

12572-81

Diffractive structures supporting long-range surface plasmons for plasmonic biosensing and imaging

Author(s): Jan Bukácek, Jirí Homola, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic)

12572-82
A method of fitting BOTDA data for the estimation of the brillouin frequency shift
Author(s): Michael Komodromos, Alexis Polycarpou, Frederick Univ. (Cyprus); Andreas Ioannou, Maria Argyrou, Kyriacos Kalli, Cyprus Univ. of Technology (Cyprus)

12572-84
Dynamic laser speckle imaging for estimation of microbial colony growth in a noisy environment
Author(s): Alexey Lihachev, Univ. of Latvia (Latvia); Ilya Balmages, Riga Technical University (Latvia), LTD Laboratorija Auctoritas (Latvia); Janis Liepins, Ilze Lihacova, Univ. of Latvia (Latvia); Dmitrijs Bliznuks, Riga Technical University (Latvia)

WEDNESDAY 26 APRIL

WEDNESDAY PLENARY SESSION

26 April 2023 • 08:50 - 10:30 | Nadir

12570-700 • 08:55 - 09:40 | Nadir
Nonlinear integrated quantum optics with AlGaAs *(Plenary Presentation)*
Author(s): Sara Ducci, Lab. Matériaux et Phénomènes Quantiques (France)

12575-701 • 09:45 - 10:30 | Nadir
Photonic crystal fibres: three decades of novel science *(Plenary Presentation)*
Author(s): Philip St. John Russell, Max-Planck-Institut für die Physik des Lichts (Germany)

Coffee Break 10:30 - 11:00

SESSION 5: OPTICAL BIOSENSORS

26 April 2023 • 11:00 - 12:30 | Taurus
Session Chair: Jirí Homola, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic)

12572-22 • 11:00 - 11:30 | Taurus
Optical biosensing and superresolution enhanced with DNA origami *(Keynote Presentation)*
Author(s): Philip Tinnefeld, Ludwig-Maximilians-Univ. München (Germany)

12572-23 • 11:30 - 11:50 | Taurus
Optochemical sensor-based systems for the analysis of cell metabolism and bioenergetics: an overview
Author(s): Dmitri B. Papkovsky, Univ. College Cork (Ireland)

12572-25 • 11:50 - 12:10 | Taurus
Liquid crystal-based polarization immunosensor for Escherichia coli detection
Author(s): Simone Soares, Univ. de Aveiro (Portugal); Rita Sobral, Applied Molecular Biosciences Unit - UCIBIO (Portugal), Univ. Nova de Lisboa (Portugal); Carlos F. Marques, Univ. de Aveiro (Portugal); Pedro Almeida, Univ. Nova de Lisboa (Portugal), Instituto Superior de Engenharia de Lisboa (Portugal)

12572-85 • 12:10 - 12:30 | Taurus
Fe3O4@Au core satellite magnetic nanoparticles to enhance colorimetric immunosensor response
Author(s): Maria De Luca, Daniele Marra, Adriano Acunzo, Vincenzo Iannotti, Bartolomeo Della Ventura, Raffaele Velotta, Univ. degli Studi di Napoli Federico II (Italy)

Lunch/Exhibition Break 12:30 - 13:50

SESSION 6: APPLICATIONS OF OPTICAL SENSORS

26 April 2023 • 13:50 - 15:30 | Taurus
Session Chair: Philip Tinnefeld, Ludwig-Maximilians-Univ. München (Germany)

12572-27 • 13:50 - 14:10 | Taurus
High stability optical mount of infrared chalcogenide glass for aerospace applications
Author(s): Guglielmo Landi, Antonio Colosimo, Paolo Mosciarello, Matteo Tofanari, Leonardo S.p.A. (Italy)

12572-28 • 14:10 - 14:30 | Taurus
Application of machine learning on optical fibre distributed sensing for power line applications
Author(s): Kyriacos Kalli, Andreas A. Ioannou, Georgios Panaretou, Charalambos Kouzoupou, Maria Argyrou, Sotirios Chatzis, Cyprus Univ. of Technology (Cyprus); Michalis Agathocleous, Antreas Dionysiou, Resoloupe Ltd. (Cyprus); Efstathios Stavrakis, Nicolas Nicolaou, Algolysis Ltd. (Cyprus)

12572-29 • 14:30 - 14:50 | Taurus
Concept for a passive athermalization of additively manufactured and monolithic mounting structures
Author(s): Patrick Pfuhl, Markus Degünther, Technische Hochschule Mittelhessen (Germany)

12572-30 • 14:50 - 15:10 | Taurus
Direct measurement of the maximum detection range of an automotive lidar with a table-top setup for series production
Author(s): Pascal E. Blessing, Robert Bosch GmbH (Germany), Friedrich-Schiller-Univ. Jena (Germany); Vignesh Mahalingam, Jens Hofmann, Robert Bosch GmbH (Germany)

12572-32 • 15:10 - 15:30 | Taurus
SiN strip waveguide design for sensing applications
Author(s): Alaa Sultan, Raghi S. El Shamy, Mohamed A. Swillam, The American Univ. in Cairo (Egypt)

Coffee Break 15:30 - 16:00

SESSION 7: OPTICAL FIBRE SENSORS

26 April 2023 • 16:00 - 17:20 | Taurus
Session Chairs: Jirí Homola, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic), Francesco Baldini, Istituto di Fisica Applicata "Nello Carrara" (Italy)

12572-33 • 16:00 - 16:20 | Taurus
Impact of Au morphology on optical fiber-based sensor
Author(s): Debanita Das, Indian Institute of Technology Bombay (India), Monash Univ. (Australia), Australia Joint Research Academy (Australia); Anuj Kumar Singh, Anshuman Kumar, Indian Institute of Technology Bombay (India); Alison Funston, Monash Univ. (Australia)

12572-34 • 16:20 - 16:40 | Taurus
High performance photonics-based biosensing platform for COVID detection
Author(s): Alain Castaño, Univ. del País Vasco (Spain); Jose Luis Zugaza, Achucarro Basque Ctr. for Neuroscience (Spain); Joseba Zubia Zaballa, Oskar Arrizabalaga, Univ. del País Vasco (Spain)

12572-35 • 16:40 - 17:00 | Taurus

Bending fiber sensor based on capillary hollow-core fiber

Author(s): Luis A. Herrera Piad, Univ. Tecnológica de Aguascalientes (Mexico); Iván Hernández-Romano, Univ. de Guanajuato (Mexico); Daniel A. May-Arrioja, Vladimir P. Minkovich, Centro de Investigaciones en Óptica, A.C. (Mexico); Miguel Torres-Cisneros, Univ. de Guanajuato (Mexico); Felipe de J. Velázquez-González, Oscar A. Durán-Pérez, Univ. Tecnológica de Aguascalientes (Mexico)

12572-36 • 17:00 - 17:20 | Taurus

Bragg grating manufacturing in planar silica substrates

Author(s): Mateo Tunon de Lara, Univ. de Mons (Belgium), Univ. Libre de Bruxelles (Belgium); Karima Chah, Univ. de Mons (Belgium); Loic Amez-Droz, Liège Univ. (Belgium), Univ. Libre de Bruxelles (Belgium); Pierre Lambert, Christophe Collette, Univ. Libre de Bruxelles (Belgium); Christophe Caucheteur, Univ. de Mons (Belgium)

CONFERENCE 12573

Specialty Optical Fibres

24 - 25 April 2023 | Virgo

Conference Chair: **Kyriacos Kalli,** Cyprus Univ. of Technology (Cyprus); **Alexis Mendez,** MCH Engineering LLC (United States); **Pavel Peterka,** Institute of Photonics and Electronics of the ASCR, v.v.i. (Czech Republic)

Programme Committee: **John Ballato,** Clemson Univ. (United States); **Ole Bang,** DTU Fotonik (Denmark); **Neil G. R. Broderick,** The Univ. of Auckland (New Zealand); **Ryszard Buczynski,** Univ. of Warsaw (Poland); **Benjamin J. Eggleton,** The Univ. of Sydney (Australia); **Sebastien Fevrier,** XLIM Institut de Recherche (France); **Jonathan C. Knight,** Univ. of Bath (United Kingdom); **Michael Komodromos,** Frederick Univ. (Cyprus); **Hanne Ludvigsen,** Aalto Univ. School of Science and Technology (Finland); **Christos Markos,** Technical Univ. of Denmark (Denmark); **Saeed Rehman,** Fibercore Ltd. (United Kingdom); **Valerio Romano,** Berner Fachhochschule Technik und Informatik (Switzerland); **Jasbinder S. Sanghera,** U.S. Naval Research Lab. (United States); **Waclaw Urbanczyk,** Wroclaw Univ. of Technology (Poland); **David J. Webb,** Aston Univ. (United Kingdom); **Michalis N. Zervas,** Optoelectronics Research Ctr. (United Kingdom); **Alexei M. Zheltikov,** Lomonosov Moscow State Univ. (Russian Federation)

MONDAY 24 APRIL

SESSION 1: POLYMER OPTICAL FIBERS AND FIBER BRAGG GRATINGS

24 April 2023 • 09:00 - 10:30 | Virgo

Session Chair: Kyriacos Kalli, Cyprus Univ. of Technology (Cyprus)

12573-1 • 09:00 - 09:30 | Virgo

Polymer fibers for sensing: from physical to biochemical parameters *(Invited Paper)*

Author(s): Carlos F. Marques, Univ. de Aveiro (Portugal)

12573-2 • 09:30 - 09:50 | Virgo

Femtosecond laser written ZBLAN tilted fibre Bragg grating for mode-locked mid-infrared laser applications

Author(s): Antreas Theodosiou, Lumoscribe Ltd. (Cyprus); Ori Henderson-Sapir, The Univ. of Adelaide (Australia); Kyriacos Kalli, Cyprus Univ. of Technology (Cyprus)

12573-3 • 09:50 - 10:10 | Virgo

Humidity responsivity of CYTOP-XYLEX fibre Bragg grating sensors

Author(s): Andreas Ioannou, Andreas Pospori, Kyriacos Kalli, Cyprus Univ. of Technology (Cyprus)

12573-4 • 10:10 - 10:30 | Virgo

Femtosecond inscription of a spectral array of four fiber Bragg gratings at the same spot, using a single uniform phase-mask

Author(s): Aviran Halstuch, Amiel A. Ishaaya, Ben-Gurion Univ. of the Negev (Israel)

Coffee Break 10:30 - 11:00

SESSION 2: OPTICAL FIBER SENSORS AND DEVICES

24 April 2023 • 11:00 - 12:20 | Virgo

Session Chair: Marcus Schmidt

12573-5 • 11:00 - 11:30 | Virgo

Distributed acoustic sensing over available fiber networks. What can available fiber infrastructure tell us about our planet? *(Invited Paper)*

Author(s): Miguel González Herráez, Univ. de Alcalá (Spain); Camilo Escobar-Vera

12573-7 • 11:30 - 11:50 | Virgo

Non-Hermitian light control in periodically modulated multimode fibers

Author(s): Mohammad Nayeem Akhter, Salim Benadouda Ivars, Muriel Botey, Ramon Herrero, Kestutis Staliunas, Univ. Politècnica de Catalunya (Spain)

12573-8 • 11:50 - 12:20 | Virgo

Single-mode nanoparticles-doped optical fibers: opportunities for high-performance biosensing. *(Invited Paper)*

Author(s): Daniele Tosi, Nazarbayev Univ. (Kazakhstan); Wilfried Blanc, Univ. Côte d'Azur (France); Madina Shaimerdenova, Aliya Bekmurzayeva, Zhannat Ashikbayeva, Aida Rakhimbekova, Carlo Molardi, Nazarbayev Univ. (Kazakhstan)

Lunch Break 12:20 - 13:40

SESSION 3: SOFT GLASS FIBERS AND OPTICAL FIBER TECHNOLOGY

24 April 2023 • 13:40 - 15:40 | Virgo

Session Chair: Pavel Honzátko, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic)

12573-9 • 13:40 - 14:10 | Virgo

Chalcogenide photonic crystal fibers: fabrication and applications *(Invited Paper)*

Author(s): Johann Troles, Univ. de Rennes 1 (France)

12573-10 • 14:10 - 14:30 | Virgo

Dy3+-doped phosphate glass optical fibers for 577 nm wavelength fiber lasers

Author(s): Diego Pugliese, Politecnico di Torino (Italy); Martha Segura, Univ. Rovira i Virgili (Spain); Nadia Giovanna Boetti, LINKS Foundation (Italy); Joris Lousteau, Politecnico di Milano (Italy); Guido Perrone, Davide Janner, Politecnico di Torino (Italy); Sami Slimi, Univ. Rovira i Virgili (Spain); Pavel A. Loiko, Univ. de Caen Normandie (France); Mailyn Ceballos, Xavier Mateos, Univ. Rovira i Virgili (Spain)

12573-11 • 14:30 - 14:50 | Virgo

Numerical optimization of tunable Dy-doped ZBLAN fiber lasers for yellow emission

Author(s): Michelangelo Federico, Federica Poli, Univ. degli Studi di Parma (Italy)

12573-12 • 14:50 - 15:10 | Virgo

A new approach to D-shape fiber fabrication for SPR sensors

Author(s): Rafal A. Kasztelanic, Univ. of Warsaw (Poland), Lukasiewicz Research Network - Institute of Microelectronics and Photonics (Poland)

12573-13 • 15:10 - 15:40 | Virgo

Specialty fiber fabrication using carbon monoxide laser heating *(Invited Paper)*

Author(s): Michael Fokine, Clarissa M. Harvey, KTH Royal Institute of Technology (Sweden)

Coffee Break 15:40 - 16:15

MONDAY PLENARY SESSION

24 April 2023 • 16:15 - 18:00 | Nadir

12577-500 • 16:25 - 17:10 | Nadir

Exploring plasma physics with multi-petawatt laser pulses (Plenary Presentation)

Author(s): Louise Willingale, Univ. of Michigan (United States)

12579-501 • 17:15 - 18:00 | Nadir

Laser plasma accelerators (Plenary Presentation)

Author(s): Victor A. Malka, Weizmann Institute of Science (Israel)

TUESDAY 25 APRIL

TUESDAY PLENARY SESSION

25 April 2023 • 08:50 - 10:30 | Nadir

12577-600 • 08:55 - 09:40 | Nadir

Fusion ignition at the National Ignition Facility *(Plenary Presentation)*

Author(s): Thomas M. Spinka, Lawrence Livermore National Lab. (United States)

12571-601 • 09:45 - 10:30 | Nadir

AI and deep learning for microscopy *(Plenary Presentation)*

Author(s): Giovanni Volpe, Göteborgs Univ. (Sweden)

Coffee Break 10:30 - 10:50

SESSION 4: SPECIALTY FIBERS FOR FIBER LASER DEVICES

25 April 2023 • 10:50 - 12:10 | Virgo

Session Chair: Nadia Giovanna Boetti, LINKS Foundation (Italy)

12573-14 • 10:50 - 11:10 | Virgo

Fiber components based on large-mode chirally-coupled-core specialty fibers for all-fiber laser systems

Author(s): Eike Brockmüller, Felix Wellmann, Laser Zentrum Hannover e.V. (Germany), Cluster of Excellence QuantumFrontiers (Germany); Ossi Kimmelma, nLIGHT, Inc., Lohja (Finland); Tyson L. Lowder, nLIGHT, Inc. (United States); Steffen Novotny, nLIGHT, Inc., Lohja (Finland); Jörg Neumann, Laser Zentrum Hannover e.V. (Germany); Dietmar Kracht, Laser Zentrum Hannover e.V. (Germany), Cluster of Excellence QuantumFrontiers (Germany)

12573-15 • 11:10 - 11:30 | Virgo

Recurrent temporal dynamics of femtosecond pulses in tellurite graded-index multimode fiber

Author(s): Grzegorz Stepniewski, Univ. of Warsaw (Poland), Lukasiewicz Research Network - Institute of Microelectronics and Photonics (Poland); Tanvi Karpate, Univ. of Warsaw (Poland); Katarzyna Krupa, Institute of Physical Chemistry (Poland); Dariusz Pysz, Lukasiewicz Research Network - Institute of Microelectronics and Photonics (Poland); Rafal A. Kasztelanic, Univ. of Warsaw (Poland), Lukasiewicz Research Network - Institute of Microelectronics and Photonics (Poland); Yuriy Stepanenko, Institute of Physical Chemistry (Poland); Ryszard Buczynski, Univ. of Warsaw (Poland), Lukasiewicz Research Network - Institute of Microelectronics and Photonics (Poland); Mariusz Klimczak, Univ. of Warsaw (Poland)

12573-16 • 11:30 - 11:50 | Virgo

Tm3+ doped silica nanostructured large core fiber pumped at 793nm for high power laser applications

Author(s): Marcin Franczyk, Dariusz Pysz, Ryszard Stepien, Lukasiewicz Research Network (Poland); Jan Aubrecht, Ondrej Schreiber, Michal Kamradek, Ivan Kašík, Pavel Peterka, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic); Ryszard Buczynski, Lukasiewicz Research Network (Poland), Univ. of Warsaw (Poland)

12573-17 • 11:50 - 12:10 | Virgo

Temperature-dependence of cross-relaxation coefficient of the thulium-doped silica fibers

Author(s): Bára Jirícková, Ondrej Schreiber, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Petr Varák, Martin Grábner, Jan Aubrecht, Pavel Peterka, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic)

Lunch/Exhibition Break 12:10 - 13:20

SESSION 5: NOVEL OPTICAL FIBER DESIGNS

25 April 2023 • 13:20 - 15:10 | Virgo

Session Chair: Pavel Peterka, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic)

12573-18 • 13:20 - 13:50 | Virgo

Ring core fiber supporting orbital angular momentum for modal multiplexing *(Invited Paper)*

Author(s): Leslie A. Rusch, Sophie Larochelle, Univ. Laval (Canada)

12573-19 • 13:50 - 14:10 | Virgo

Nanostructured free-form fibers with square mode and flat intensity distribution

Author(s): Ryszard Buczynski, Hue T. Nguyen, Lukasiewicz Research Network - Institute of Microelectronics and Photonics (Poland), Univ. of Warsaw (Poland); Dariusz Pysz, Lukasiewicz Research Network - Institute of Microelectronics and Photonics (Poland); Hugo Thienpont, Vrije Univ. Brussel (Belgium); Rafal A. Kasztelanic, Lukasiewicz Research Network - Institute of Microelectronics and Photonics (Poland), Univ. of Warsaw (Poland)

12573-20 • 14:10 - 14:30 | Virgo

Birefringence enhancement in ZEBRA fiber with artificially anisotropic core

Author(s): Alicja Anuszkiewicz, Institute of Electronic Materials Technology (Poland); Adam Filipkowski, Lukasiewicz Research Network - Institute of Microelectronics and Photonics (Poland); Monika Bouet, Univ. de Lille (France), Lab. de Physique des Lasers, Atomes et Molécules, CNRS (France); Grzegorz Stepniewski, Rafal A. Kasztelanic, Univ. of Warsaw (Poland); Dariusz Pysz, Lukasiewicz Research Network - Institute of Microelectronics and Photonics (Poland); Andy Cassez, Arnaud Mussot, Geraud Bouwmans, Univ. de Lille (France); Ryszard Buczynski, Lukasiewicz Research Network - Institute of Microelectronics and Photonics (Poland)

12573-21 • 14:30 - 14:50 | Virgo

Thulium-doped fiber amplifier optimized for wavelengths beyond 1800 nm

Author(s): Jan Pokorný, Jan Aubrecht, Bára Jirícková, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic); Matej Komanec, Czech Technical Univ. in Prague (Czech Republic); Pavel Peterka, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic)

12573-22 • 14:50 - 15:10 | Virgo

Statistical learning method for modal analysis of optical fibers

Author(s): Leander Kläber, Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS (Germany); Alexander Kabardiadi-Virkovski, Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS (Germany), Westsächsische Hochschule Zwickau (Germany), orschungs- und Transferzentrum e.V. an der Westsächsischen Hochschule Zwickau (Germany); Antje Schuschies, Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS (Germany); Peter Hartmann, Fraunhofer-Institut für Werkstoff- und Strahltechnik IWS (Germany), Westsächsische Hochschule Zwickau (Germany), Forschungs- und Transferzentrum e.V. an der Westsächsischen Hochschule Zwickau (Germany)

Coffee Break 15:10 - 15:40

SESSION 6: OPTICAL FIBERS FOR BIOMEDICAL APPLICATIONS

25 April 2023 • 15:40 - 17:40 | Virgo

Session Chair: Alexis Mendez, MCH Engineering LLC (United States)

12573-23 • 15:40 - 16:10 | Virgo

Planar nanophotonics meets optical fibers: a novel platform for flexible light focussing *(Invited Paper)*

Author(s): Markus A. Schmidt, Leibniz-Institut für Photonische Technologien e.V. (Germany)

12573-24 • 16:10 - 16:30 | Virgo

Advanced multicore fibers for 3D micro-endoscopy

Author(s): Ronja Stephan, Leibniz Univ. Hannover (Germany); Elias Scharf, TU Dresden (Germany); Kinga Zolnacz, Wroclaw Univ. of Science and Technology (Poland); Katharina Hausmann, Matthias Ließmann, Hannah Reihle, Lea Kötters, Leibniz Univ. Hannover (Germany); Jürgen W. Czarske, TU Dresden (Germany); Detlev Ristau, Leibniz Univ. Hannover (Germany); Robert Kuschmierz, TU Dresden (Germany); Michael Steinke, Leibniz Univ. Hannover (Germany)

12573-25 • 16:30 - 16:50 | Virgo

Soft infrared optoelectronic fibers for modulation and recording of neural activity

Author(s): Marcello Meneghetti, Kunyang Sui, Technical Univ. of Denmark (Denmark), Univ. of Copenhagen (Denmark); Jaspreet Kaur, Jakob F. Sørensen, Rune W. Berg, Univ. of Copenhagen (Denmark); Christos Markos, Technical Univ. of Denmark (Denmark), Norblis ApS (Denmark)

12573-26 • 16:50 - 17:10 | Virgo

Ultralow numerical aperture counter-propagating intracavity optical tweezers

Author(s): Aysu Ay, Parviz Elahi, Bogaziçi Üniv. (Turkey)

12573-27 • 17:10 - 17:40 | Virgo

Novel technologies to micro and nanostructure highly nonplanar optical fibers: from the micro to the sub-50 nm regime *(Invited Paper)*

Author(s): Antonio Balena, Marco Bianco, Filippo Pisano, Di Zheng, Barbara Spagnolo, Istituto Italiano di Tecnologia (Italy); Massimo De Vittorio, Istituto Italiano di Tecnologia (Italy), Univ. del Salento (Italy); Ferruccio Pisanello, Istituto Italiano di Tecnologia (Italy)

TUESDAY APRIL 25

POSTERS-TUESDAY

25 April 2023 • 17:45 - 19:15 | Meridian Hall

Conference attendees are invited to attend the Optics + Optoelectronics Symposium Poster Session on Tuesday afternoon. Enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster session.

Poster authors, visit Poster Presentation Guidelines for set-up instructions.

12573-28

Design and fabrication of special photonic crystal fibers for sensing applications

Author(s): Mauricio S. Salazar Sicacha, Johan Sebastian Buriticá Bolaños, Centro de Investigaciones en Óptica (Mexico); Vladimir P. Minkovich, Centro de Investigaciones en Óptica, A.C. (Mexico); Sergio Calixto, Centro de Investigaciones en Óptica (Mexico)

12573-29

Signal processing treatments for static and dynamic Brillouin distributed sensing

Author(s): Antreas Theodosiou, Lumoscribe Ltd. (Cyprus); Charalambos Kouzoupou, Andreas Ioannou, Cyprus Univ. of Technology (Cyprus); Michael Komodromos, Frederick Univ. (Cyprus); Kyriacos Kalli, Cyprus Univ. of Technology (Cyprus)

12573-30

Post-radiation effects of core pumped monolithic holmium-doped silica fibre lasers

Author(s): Antreas Theodosiou, Lumoscribe Ltd. (Cyprus); Loukas Koutsokeras, Andreas Ioannou, Cyprus Univ. of Technology (Cyprus); Andrei Stancalie, Institutul National pentru Fizica Laserilor, Plasmei si Radiatiei (Romania); Daniel C. Negut, Institutul National de Cercetare-Dezvoltare pentru Fizica si Inginerie Nucleara Horia Hulubei (Romania); Jan Aubrecht, Pavel Peterka, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic); Georgios Constantinides, Kyriacos Kalli, Cyprus Univ. of Technology (Cyprus)

12573-31

Semi-analytical computation method for propagation loss of hollow-core antiresonant fiber

Author(s): Martin Grábner, Institute of Photonics and Electronics of the CAS vvi (Czech Republic)

12573-32

Spectrally effective mitigation of polarization mode dispersion in optical fibers

Author(s): Jozef Dubovan, Jan Litvik, Univ. of Žilina (Slovakia)

12573-33

Nanocrystalline ceramic coatings for the capillary fiber lasers

Author(s): Ondrej Podrazky, Jan Mrazek, Petr Varák, Jana Proboštová, Ivo Barton, Ivan Kašík, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic)

12573-35

Adjusting the transmission bands of the negative curvature hollow-core fibers

Author(s): Ali A. Jasim, Andrei Borodkin, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic); Martin Grábner, Institute of Photonics and Electronics of the CAS (Czech Republic); Ondrej Podrazky, Pavel Honzátko, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic)

12573-36

Soliton Raman shift wavelength tuning through the pump pulse polarization control

Author(s): Dmitry A. Korobko, Ivan Panyaev, Pavel A. Itrin, Ulyanovsk State Univ. (Russian Federation); Patrice Megret, Ivan Chapalo, Andrei Fotiadi, Univ. de Mons (Belgium)

12573-37

Luminescence lifetime of Er-doped silica optical fibers - the role of composition and fabrication processing

Author(s): Petr Varák, Ivan Kašík, Pavel Peterka, Jan Aubrecht, Jan Mrazek, Michal Kamradek, Ondrej Podrazky, Ivo Barton, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic); Marcin Franczyk, Lukasiewicz Research Network (Poland); Ryszard Buczynski, Univ. of Warsaw (Poland), Lukasiewicz Research Network (Poland); Pavel Honzátko, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic)

12573-38

Optimization of erbium and ytterbium concentration in nanostructured core fiber for dual-wavelength fiber lasers

Author(s): Ivo Barton, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic); Marcin Franczyk, Lukasiewicz Research Network - Institute of Microelectronics and Photonics (Poland); Pavel Peterka, Jan Aubrecht, Petr Varák, Michal Kamradek, Ondrej Podrazky, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic); Rafal A. Kasztelanic, Ryszard Buczynski, Lukasiewicz Research Network - Institute of Microelectronics and Photonics (Poland); Ivan Kašík, Institute of Photonics and Electronics of the CAS, v.v.i. (Czech Republic)

12573-39

Bioresorbable phosphate glass microstructured optical fibers with hole and core for biomedicine

Author(s): Seyed Hossein Mussavi Rizi, Politecnico di Torino (Italy); Nadia Giovanna Boetti, LINKS Foundation (Italy); Diego Pugliese, Politecnico di Torino (Italy); Jawad Talekkara Pandayil, LINKS Foundation (Italy), Politecnico di Torino (Italy); Davide Janner, Politecnico di Torino (Italy)

12573-40

Time-resolved kinetics of pair-induced quenching in holmium-doped optical fibers

Author(s): André W. Edvardsen, Lars G. Holmen, Norwegian Defence Research Establishment (Norway)

12573-41

Imprinting and profiling of silver-halide polycrystalline fiber end faces to create moth-eye anti-reflective microstructures to reduce Fresnel reflection losses

Author(s): Sonata Adomaviciute-Grabusove, Institute of Chemical Physics, Vilnius Univ. (Lithuania), art photonics GmbH (Germany); Jonas Hinkel, art photonics GmbH (Germany), Technische Hochschule Wildau (Germany); Iskander Usenov, Alexander S. Novikov, art photonics GmbH (Germany), Technische Univ. Berlin (Germany); Tatiana Sakharova, Elena Feliksberger, art photonics GmbH (Germany); Ute Geißler, Torsten Döhler, Technische Hochschule Wildau (Germany)

12573-43

Elimination of temperature cross-sensitivity for polymer FBG-based humidity sensor by gamma radiation treatment

Author(s): Ivan Chapalo, Univ. de Mons (Belgium); Andrei Gussarov, SCK CEN (Belgium); Karima Chah, Univ. de Mons (Belgium); Andreas Ioannou, Andreas Pospori, Cyprus Univ. of Technology (Cyprus); Yinggang Nan, Univ. de Mons (Belgium); Kyriacos Kalli, Cyprus Univ. of Technology (Cyprus); Patrice Mégret, Univ. de Mons (Belgium)

Conference 12574

Holography: Advances and Modern Trends VIII

24 - 25 April 2023 | Zodiac

Conference Chairs: **Antonio Fimia,** Univ. Miguel Hernández de Elche (Spain); **Miroslav Hrabovský,** Palacký Univ. Olomouc (Czech Republic)

Programme Committee: **Augusto Beléndez Vázquez,** Univ. de Alicante (Spain); **Andrea Bianco,** INAF - Osservatorio Astronomico di Brera (Italy); **Hans I. Bjelkhagen,** HANSHOLO (United Kingdom); **Friedrich-Karl Bruder,** Covestro AG (Germany); **Sergio Calixto-Carrera,** Centro de Investigaciones en Óptica, A.C. (Mexico); **Christiane Carre,** Ecole Nationale Supérieure des Sciences Appliquées et de Technologie (France); **Radim Chmelík,** Brno Univ. of Technology (Czech Republic); **Giuseppe Coppola,** Istituto per la Microelettronica e Microsistemi (Italy); **Claas Falldorf,** Bremer Institut für angewandte Strahltechnik GmbH (Germany); **Martin Fally,** Univ. Wien (Austria); **Tigran Galstian,** Ctr. d'Optique, Photonique et Laser, Univ. Laval (Canada); **Unnikrishnan Gopinathan,** Instruments Research & Development Establishment (India); **Yoshio Hayasaki,** Utsunomiya Univ. Ctr. for Optical Research & Education (Japan); **John J. Healy,** Univ. College Dublin (Ireland); **Bryan M. Hennelly,** National Univ. of Ireland, Maynooth (Ireland); **Ken Yuh Hsu,** National Chiao Tung Univ. (Taiwan); **Damien P. Kelly,** Oryx Consulting (Germany); **Milos Kopecky,** Institute of Physics of the ASCR, v.v.i. (Czech Republic); **Raymond K. Kostuk,** The Univ. of Arizona (United States); **Libor Kotacka,** Optaglio s.r.o. (Czech Republic); **Malgorzata Kujawińska,** Warsaw Univ. of Technology (Poland); **Jacques Lalevée,** Univ. de Haute Alsace (France); **Osamu Matoba,** Kobe Univ. (Japan); **Robert R. McLeod,** Univ. of Colorado Boulder (United States); **Miroslav Miler,** Academy of Sciences of the Czech Republic (Czech Republic); **Christoph Neipp,** Univ. de Alicante (Spain); **Takanori Nomura,** Wakayama Univ. (Japan); **Sergey B. Odinoko,** Bauman Moscow State Technical Univ. (Russian Federation); **Inmaculada Pascual,** Univ. de Alicante (Spain); **Giancarlo Pedrini,** Institut für Technische Optik (Germany); **Kalaichelvi Saravanamuttu,** McMaster Univ. (Canada); **Guohai Situ,** Shanghai Institute of Optics and Fine Mechanics (China); **Yasuhiro Takaki,** Tokyo Univ. of Agriculture and Technology (Japan); **Yasuo Tomita,** The Univ. of Electro-Communications (Japan); **Vladimir Y. Venediktov,** Saint Petersburg Electrotechnical Univ. "LETI" (Russian Federation); **Przemyslaw W. Wachulak,** Military Univ. of Technology (Poland); **Min Wan,** Univ. College Dublin (Ireland); **Dayong Wang,** Beijing Univ. of Technology (China); **Rafael Yuste,** Columbia Univ. (United States); **Stanislovas J. Zacharovas,** Geola Digital uab (Lithuania); **Haizheng Zhong,** Beijing Institute of Technology (China); **Igor Zhurminsky,** Ctr. Suisse d'Electronique et de Microtechnique SA (Switzerland)

MONDAY 24 APRIL

This year's conference is dedicated to the memory of **John (Seán) Sheridan,** University College Dublin (Ireland)

2011-2022 Chair of the Conference on Holography: Advances and Modern Trends

SESSION 1: ADVANCED HOLOGRAPHY: SPECIAL SESSION HONORING JOHN (SEÁN) SHERIDAN

24 April 2023 • 13:00 - 15:40 | Zodiac

Session Chairs: Antonio Fimia Gil, Univ. Miguel Hernández (Spain), Miroslav Hrabovský, Palacký Univ. Olomouc (Czech Republic)

This Session is dedicated to the career and memory of Dr. John (Seán) Sheridan. A leading academic, Séan, was professor and vice-principal for Research and Innovation at the College of Engineering and Architecture and School of Electrical and Electronic Engineering at University College Dublin. Séan's legacy extends far beyond his body of scientific discovery, but resides in the hearts and minds of all those lucky enough to have known him in any capacity.

12574-100 • 13:00 - 13:30 | Zodiac

Welcome and Introduction: Tribute to John Sheridan

12574-1 • 13:30 - 14:00 | Zodiac

Multilayer volume holographic gratings from BayFol HX: light and neutron optical characteristics *(Invited Paper)*

Author(s): Martin Fally, Saba Shams Lahijani, Univ. Wien (Austria); Tobias Jenke, Institut Laue-Langevin (France); Jürgen Klepp, Univ. Wien (Austria)

12574-2 • 14:00 - 14:20 | Zodiac

Enhanced design of pure phase greyscale diffractive optical elements by phase-retrieval-assisted multiplexing of complex functions

Author(s): Shivasubramanian Gopinath, Andrei-Ioan Bleahu, Tauno Kahro, Aravind Simon John Francis Rajeswary, Univ. of Tartu (Estonia); Ravi Kumar, SRM University-AP (India); Kaupo Kukli, Aile Tamm, Univ. of Tartu (Estonia); Joseph Rosen, Ben-Gurion University of the Negev (Israel), Univ. of Tartu (Estonia); Vijayakumar Anand, Univ. of Tartu (Estonia), Swinburne University of Technology (Australia)

12574-3 • 14:20 - 14:40 | Zodiac

Modelling HOE performance with an extended source: experimental investigation using misaligned point sources

Author(s): Jorge Lasarte-Sanz, Kevin Murphy, Izabela Naydenova, FOCAS Research Institute, TU Dublin (Ireland); Jesús Atencia, Maria Victoria Collados, Univ. de Zaragoza (Spain); Suzanne Martin, FOCAS Research Institute, TU Dublin (Ireland)

12574-4 • 14:40 - 15:00 | Zodiac

Development of holographic optical elements for use in wound monitoring

Author(s): Pamela Stoeva, Tatsiana Mikulchyk, Brian Rogers, Mohamed Oubaha, Suzanne Martin, Dervil Cody, Technological Univ. Dublin (Ireland); Antonella Ferrara, Giuseppe Coppola, Istituto di Scienze Applicate e Sistemi Intelligenti "Eduardo Caianiello" (Italy); Izabela Naydenova, Technological Univ. Dublin (Ireland)

12574-5 • 15:00 - 15:20 | Zodiac

Spinning optical drills by dynamic high-order Bessel beam mixing

Author(s): Kestutis Staliunas, Univ. Politècnica de Catalunya (Spain); Gabrielius Kontenis, Darius Gailevicius, Vilnius Univ. (Lithuania); Noe Jimenez, Univ. Politècnica de València (Spain)

12574-6 • 15:20 - 15:40 | Zodiac

Analysing beam coherence through self-written waveguides

Author(s): Derek J. Cassidy, John Sheridan, Univ. College Dublin (Ireland)

Coffee Break 15:40 - 16:15

MONDAY PLENARY SESSION

24 April 2023 • 16:15 - 18:00 | Nadir

12577-500 • 16:25 - 17:10 | Nadir

Exploring plasma physics with multi-petawatt laser pulses (Plenary Presentation)

Author(s): Louise Willingale, Univ. of Michigan (United States)

12579-501 • 17:15 - 18:00 | Nadir

Laser plasma accelerators (Plenary Presentation)

Author(s): Victor A. Malka, Weizmann Institute of Science (Israel)

TUESDAY 25 APRIL

TUESDAY PLENARY SESSION

25 April 2023 • 08:50 - 10:30 | Nadir

12577-600 • 08:55 - 09:40 | Nadir

Fusion ignition at the National Ignition Facility *(Plenary Presentation)*

Author(s): Thomas M. Spinka, Lawrence Livermore National Lab. (United States)

12571-601 • 09:45 - 10:30 | Nadir

AI and deep learning for microscopy *(Plenary Presentation)*

Author(s): Giovanni Volpe, Göteborgs Univ. (Sweden)

Coffee Break 10:30 - 11:00

SESSION 2: METAMATERIALS AND DIGITAL HOLOGRAPHY

25 April 2023 • 11:00 - 12:10 | Zodiac

Session Chairs: Maria Inmaculada Pascual Villalobos, Univ. de Alicante (Spain), Andrea Bianco, INAF - Osservatorio Astronomico di Brera (Italy)

12574-7 • 11:00 - 11:30 | Zodiac

Laser ultrasonics for measurement of the thickness of metal plates using a photorefractive liquid crystal *(Invited Paper)*

Author(s): Takeo Sasaki, Toshinobu Takashi, Gouta Ikeda, Yumiko Naka, Khoa Van Le, Tokyo Univ. of Science (Japan)

12574-8 • 11:30 - 11:50 | Zodiac

Hologram wavefront shaping by a nonlinear electro-optic spatial light modulator

Author(s): Guillaume Croes, imec (Belgium), KU Leuven (Belgium); Robert Gehlhaar, imec (Belgium); Jan Genoe, imec (Belgium), KU Leuven (Belgium)

12574-41 • 11:50 - 12:10 | Zodiac

Fresnel incoherent correlation holography with Lucy-Richardson-Rosen algorithm and modified Gerchberg-Saxton algorithm

Author(s): Andrei-Ioan Bleahu, Shivasubramanian Gopinath, Univ. of Tartu (Estonia); Francis Gracy Arockiaraj, Univ. of Tartu (Estonia), Ben-Gurion University (Israel); Aravind Simon John Francis Rajeswary, Univ. of Tartu (Estonia); Saulius Juodkazis, Swinburne Univ. of Technology (Australia); Vijayakumar Anand, Univ. of Tartu (Estonia)

Lunch/Exhibition Break 12:10 - 13:30

SESSION 3: HOLOGRAPHIC MATERIALS I

25 April 2023 • 13:30 - 15:00 | Zodiac

Session Chairs: Izabela Naydenova, Technological Univ. Dublin (Ireland), Martin Fally, Univ. Wien (Austria)

12574-10 • 13:30 - 14:00 | Zodiac

Review of refractive index modulation achievable in photosensitive polymer materials in view of their application with diffractive optical elements for LEDs *(Invited Paper)*

Author(s): Michael Murray, Ctr. for Industrial & Engineering Optics, FOCAS Research Institute, TU Dublin (Ireland); Izabela Naydenova, Suzanne Martin, Ctr. for Industrial & Engineering Optics (Ireland)

12574-11 • 14:00 - 14:20 | Zodiac

Development of high efficiency and wide acceptance angle holographic solar concentrators for breakthrough photovoltaic applications

Author(s): Marta Morales-Vidal, Tomás Lloret López, Belén Nieto-Rodríguez, José Carlos García-Vázquez, Kheloud Berramdane, Eva M. Calzado, Inmaculada Pascual, Univ. de Alicante (Spain)

12574-13 • 14:20 - 14:40 | Zodiac

Fabrication and characterisation of large area, uniform surface relief patterns in photopolymer material

Author(s): Owen Kearney, Izabela Naydenova, FOCAS Research Institute, TU Dublin (Ireland)

12574-14 • 14:40 - 15:00 | Zodiac

Design and fabrication of volume holographic optical couplers for a range of non-normal incidence angles

Author(s): Dipanjan Chakraborty, Rosen Georgiev, Sinead Aspell, Vincent Toal, Izabela Naydenova, Dervil Cody, Suzanne Martin, FOCAS Research Institute, TU Dublin (Ireland)

Coffee Break 15:00 - 15:30

SESSION 4: HOLOGRAPHIC MATERIALS II

25 April 2023 • 15:30 - 17:40 | Zodiac

Session Chairs: Izabela Naydenova, Technological Univ. Dublin (Ireland), Martin Fally, Univ. Wien (Austria)

12574-15 • 15:30 - 16:00 | Zodiac

Generating diffraction efficiency profiles in Bayfol® HX vHOE's *(Invited Paper)*

Author(s): Friedrich-Karl Bruder, Johannes K. Frank, Sven Hansen, Mira Holzheimer, Alexander Lorenz, Christel Manecke, Covestro AG (Germany); Jack Mills, Covestro LLC (United States); Lena Nault, Igor Pochorovski, Thomas Roelle, Covestro AG (Germany)

12574-16 • 16:00 - 16:20 | Zodiac

Diffraction efficiency in holograms stored in photopolymers doped with metallic nanoparticles

Author(s): José Carlos García-Vázquez, Manuel G. Ramírez, Tomás Lloret López, Belén Nieto-Rodriguez, Joan Sirvent-Verdú, Augusto Beléndez, Inmaculada Pascual, Univ. de Alicante (Spain)

12574-17 • 16:20 - 16:40 | Zodiac

Improvements in VPHGs for astronomy based on photopolymers

Author(s): Andrea Bianco, Michele Frangiamore, Alessio Zanutta, Luca Oggioni, Giorgio Pariani, INAF - Osservatorio Astronomico di Brera (Italy)

12574-18 • 16:40 - 17:00 | Zodiac

High-performance liquid chromatography and UV-visible to optimize the storage of volume holograms in hydrogels

Author(s): Kheloud Berramdane, Manuel G. Ramírez, Univ. de Alicante (Spain); Maria Isabel Lucio, Maria Jose Bañuls, Angel Maquieira, Universitat Politècnica de València (Spain); Daniel Cárdenas, Belén Nieto-Rodríguez, Marta Morales-Vidal, Manuel Ortuño, Inmaculada Pascual, Univ. de Alicante (Spain)

12574-19 • 17:00 - 17:20 | Zodiac

Manufacturing system for low-frequency gratings with different geometric profiles

Author(s): Antonio Fimia Gil, Roque Madrigal, Univ. Miguel Hernández (Spain)

12574-20 • 17:20 - 17:40 | Zodiac

Maskless polymer photomorphing for reprogrammable holograms

Author(s): Francesco Reda, Univ. degli Studi di Napoli Federico II (Italy)

POSTERS-TUESDAY

25 April 2023 • 17:45 - 19:15 | Meridian Hall

Conference attendees are invited to attend the Optics + Optoelectronics Symposium Poster Session on Tuesday afternoon. Enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster session.

Poster authors, visit Poster Presentation Guidelines for set-up instructions.

12574-37

Chalcogenide thin films as a material for holographic applications

Author(s): Vadims Kolbjonoks, Daugavpils Univ. (Latvia)

12574-38

Developing novel holographic optomechanical sensing platform for application in volatile organic compounds detection

Author(s): Faolan Radford McGovern, Ctr. for Industrial & Engineering Optics, Technological Univ. Dublin (Ireland); Catherine Grogan, George Amarandei, Technological Univ. Dublin (Ireland); Svetlana Mintova, Laboratoire Catalyse & Spectrochimie, ENSICAEN, Normandie Université -Caen (France); Izabela Naydenova, Ctr. for Industrial & Engineering Optics, Technological Univ. Dublin (Ireland)

12574-39

Study of the conservation of different holograms sandwiched between glasses

Author(s): Joan Sirvent-Verdú, Sergi Gallego Rico, José Carlos García-Vázquez, Daniel Puerto, Cristian Neipp, Jaume Colomina-Martínez, Juan Carlos Bravo, Augusto Beléndez, Inmaculada Pascual, Univ. de Alicante (Spain)

WEDNESDAY 26 APRIL

WEDNESDAY PLENARY SESSION

26 April 2023 • 08:50 - 10:30 | Nadir

12570-700 • 08:55 - 09:40 | Nadir

Nonlinear integrated quantum optics with AlGaAs *(Plenary Presentation)*

Author(s): Sara Ducci, Lab. Matériaux et Phénomènes Quantiques (France)

12575-701 • 09:45 - 10:30 | Nadir

Photonic crystal fibres: three decades of novel science *(Plenary Presentation)*

Author(s): Philip St. John Russell, Max-Planck-Institut für die Physik des Lichts (Germany)

Coffee Break 10:30 - 10:50

SESSION 5: DIGITAL HOLOGRAPHY I

26 April 2023 • 10:50 - 12:40 | Zodiac

Session Chairs: Andrea Bianco, INAF - Osservatorio Astronomico di Brera (Italy), Miroslav Hrabovský, Palacký Univ. Olomouc (Czech Republic)

12574-21 • 10:50 - 11:20 | Zodiac

Holographic laser excited volumetric graphics *(Invited Paper)*

Author(s): Yoshio Hayasaki, Kota Kumagai, Tatsuki Mori, Utsunomiya Univ. Ctr. for Optical Research & Education (Japan)

12574-22 • 11:20 - 11:40 | Zodiac

Holographic solution to a fundamental problem in diffractive optics: resolution beyond diffraction and lithography limits

Author(s): Praveen Periyasamy Angamuthu, Tauno Kahro, Andrei Bleahu, Univ. of Tartu (Estonia); Andra Naresh Kumar Reddy, Univ. of Latvia (Latvia); Shivasubramanian Gopinath, Univ. of Tartu (Estonia); Francis Gracy Arockiaraj, Univ. of Tartu (Estonia), The American College (India); Daniel Smith, Soon Hock Ng, Tomas Katkus, Swinburne Univ. of Technology (Australia); Aravind Simon John Francis Rajeswary, Siim Pikker, Kaupo Kukli, Aile Tamm, Univ. of Tartu (Estonia); Saulius Juodkazis, Swinburne Univ. of Technology (Australia), Tokyo Institute of Technology (Japan); Joseph Rosen, Ben-Gurion Univ. of the Negev (Israel); Vijayakumar Anand, Shivasubramanian Gopinath, Agnes Pristy, Univ. of Tartu (Estonia)

12574-23 • 11:40 - 12:00 | Zodiac

Deep variational Hilbert quantitative phase imaging

Author(s): Maria Cywinska, Krzysztof Patorski, Maciej Trusiak, Warsaw Univ. of Technology (Poland)

12574-24 • 12:00 - 12:20 | Zodiac

Realizing large-area diffractive lens using multiple subaperture diffractive lenses and computational reconstruction

Author(s): Shivasubramanian Gopinath, Univ. of Tartu (Estonia); Agnes Pristy Ignatius Xavier, Univ. of Tartu (Estonia), Ben Gurion University (Israel); Tauno Kahro, Andrei Bleahu, Univ. of Tartu (Estonia); Francis Gracy Arockiaraj, Univ. of Tartu (Estonia), Ben Gurion University (Israel); Daniel Smith, Soon Hock Ng, Swinburne University of Technology (Australia); Saulius Juodkazis, Swinburne University of Technology (Australia), Tokyo Institute of Technology (Japan); Kaupo Kukli, Aile Tamm, Univ. of Tartu (Estonia); Vijayakumar Anand, Univ. of Tartu (Estonia), Swinburne University of Technology (Australia)

12574-25 • 12:20 - 12:40 | Zodiac

Optimal quantization in computer-generated holography for different matrix dimensions

Author(s): Anuj Gupta, Raj Kumar, Bhargab Das, CSIR - Central Scientific Instruments Organisation (India)

Lunch/Exhibition Break 12:40 - 13:50

SESSION 6: DIGITAL HOLOGRAPHY II

26 April 2023 • 13:50 - 16:20 | Zodiac

Session Chairs: Andrea Bianco, INAF - Osservatorio Astronomico di Brera (Italy), Miroslav Hrabovský, Palacký Univ. Olomouc (Czech Republic)

12574-26 • 13:50 - 14:10 | Zodiac

Quantitative comparison of the light sources in grating-based common-path quantitative phase microscopy

Author(s): Piotr Zdankowski, Maciej Trusiak, Warsaw Univ. of Technology (Poland)

12574-27 • 14:10 - 14:30 | Zodiac

Design and fabrication of multiple LED illuminated computer-generated holograms generating 3D effects for automotive applications

Author(s): Thomas Barbotin, IMT Atlantique Bretagne-Pays de la Loire (France); Thomas Lopez, Stellantis (France); Kevin Heggarty, IMT Atlantique Bretagne-Pays de la Loire (France)

12574-28 • 14:30 - 14:50 | Zodiac

Measuring the transmission matrix of a multimode fiber: on-axis vs off-axis holography

Author(s): Aleksandra Ivanina, Benjamin Lochocki, Advanced Research Ctr. for Nanolithography (Netherlands); Lyubov V. Amitonova, Advanced Research Ctr. for Nanolithography (Netherlands), Vrije Univ. Amsterdam (Netherlands)

12574-29 • 14:50 - 15:10 | Zodiac

Tools to evaluate the quality of optical vortex generated by the SLM

Author(s): Mateusz Szatkowski, Wroclaw Univ. of Science and Technology (Poland); Brandon Norton, The Univ. of North Carolina at Charlotte (United States); Jan Masajada, Wroclaw Univ. of Science and Technology (Poland); Rosario Porras-Aguilar, The Univ. of North Carolina at Charlotte (United States)

Coffee Break 15:10 - 15:40

12574-30 • 15:40 - 16:00 | Zodiac

Experimental examination of lensless digital holographic microscopy imaging capabilities based on custom-designed spatial resolution targets

Author(s): Emilia Wdowiak, Maciej Trusiak, Warsaw Univ. of Technology (Poland)

12574-31 • 16:00 - 16:20 | Zodiac

Compressive digital holography and Gibbs ringing

Author(s): Yue Wang, John J. Healy, Univ. College Dublin (Ireland)

SESSION 7: 3D HOLOGRAPHY

26 April 2023 • 16:20 - 18:00 | Zodiac

Session Chairs: Antonio Fimia Gil, Univ. Miguel Hernández (Spain), Maria Inmaculada Pascual Villalobos, Univ. de Alicante (Spain)

12574-32 • 16:20 - 16:40 | Zodiac

Performance evaluation of different optical schemes for realization of holographic printers

Author(s): Monika Rani, Narmada Joshi, Pardeep Bhanot, Bhargab Das, Raj Kumar, CSIR - Central Scientific Instruments Organisation (India)

12574-33 • 16:40 - 17:00 | Zodiac

Grating-based common-path quantitative phase microscopy in low photon budget regime

Author(s): Maciej Trusiak, Piotr Zdankowski, Mikolaj Rogalski, Krzysztof Patorski, Warsaw Univ. of Technology (Poland)

12574-34 • 17:00 - 17:20 | Zodiac

CCD and H-S wavefront sensor to analyse holographic lens resolution

Author(s): Tomás Lloret López, Víctor Navarro-Fuster, Marta Morales-Vidal, Manuel G. Ramírez, Andrés Márquez, Augusto Beléndez, Inmaculada Pascual, Univ. de Alicante (Spain)

12574-35 • 17:20 - 17:40 | Zodiac

Measuring the lipid content in angiosperm pollen using in-line digital holographic microscopy

Author(s): Siddharth Rawat, Anna Wang, The Univ. of New South Wales (Australia); Juan T. Bejar, Univ. Politècnica de Catalunya (Spain)

12574-36 • 17:40 - 18:00 | Zodiac

Double exposure ESPI for non-contact photoacoustic tomography

Author(s): Hui Wang, Mamadou Diop, Jeffrey J. L. Carson, Western Univ. (Canada)

Conference 12575

Integrated Optics: Design, Devices, Systems, and Applications VII

24 - 26 April 2023 | Nadir

Conference Chairs: **Pavel Cheben,** National Research Council Canada (Canada); **Jiří Čtyroký,** Institute of Photonics and Electronics of the CAS (Czech Republic), **Iñigo Molina-Fernández,** Univ. de Málaga (Spain)

Programme Committee: **Roel G. Baets,** Univ. Gent (Belgium); **Trevor Mark Benson,** The Univ. of Nottingham (United Kingdom); **Hung-Chun Chang,** National Taiwan Univ. (Taiwan); **Christopher R. Doerr,** Acacia Communications Inc. (United States); **Romuald Houdré,** Ecole Polytechnique Fédérale de Lausanne (Switzerland); **Raman Kashyap,** Ecole Polytechnique de Montréal (Canada); **Christophe Kazmierski,** III-V Lab. (France); **Philippe Lalanne,** Institut d'Optique Graduate School (France); **Xaveer J. M. Leijtens,** Technische Univ. Eindhoven (Netherlands); **Goran Z. Mashanovich,** Univ. of Southampton (United Kingdom); **Andrea I. Melloni,** Politecnico di Milano (Italy); **Jarmila Müllerová,** Univ. of Žilina (Slovakia); **Martin Schell,** Fraunhofer-Institut für Nachrichtentechnik Heinrich-Hertz-Institut (Germany); **Laurent Vivien,** Institut d'Électronique Fondamentale (France); **Lech Wosinski,** KTH Royal Institute of Technology (Sweden)

MONDAY 24 APRIL

SESSION 1: PASSIVE AND ACTIVE WAVEGUIDE DEVICES

24 April 2023 • 09:15 - 11:30 | Nadir

Session Chair: Jiri Ctyroky, Institute of Photonics and Electronics of the CAS (Czech Republic)

12575-1 • 09:15 - 09:45 | Nadir

Glass integrated photonics: passive, active and hybrid devices *(Invited Paper)*

Author(s): Jean-Emmanuel Broquin, Univ. Grenoble Alpes (France)

12575-2 • 09:45 - 10:15 | Nadir

Recent progress in femtosecond pulsed ultralong fiber ring laser sources *(Invited Paper)*

Author(s): Juan D. Ania-Castañón, Inés Cáceres Pablo, Instituto de Óptica "Daza de Valdés" (Spain); Francesca Gallazzi, Tampere Univ. (Finland); Pedro Corredera, Instituto de Óptica "Daza de Valdés" (Spain)

Coffee Break 10:15 - 10:50

12575-3 • 10:50 - 11:10 | Nadir

Biomedical imaging and diagnostic methods with silicon nitride visible wavelength PICs

Author(s): Alireza Tabatabaei Mashayekh, RWTH Aachen Univ. (Germany)

12575-5 • 11:10 - 11:30 | Nadir

Gapless optical ring resonator with reduced bending losses based on a step-like structuring

Author(s): Andrzej Gawlik, Edyta Sroda, Wroclaw Univ. of Science and Technology (Poland); Katarzyna Komorowska, Wroclaw Univ. of Science and Technology (Poland), Lukasiewicz Research Network - Institute of Microelectronics and Photonics (Poland); Tadeusz Martynkien, Jacek M. Olszewski, Wroclaw Univ. of Science and Technology (Poland)

SESSION 2: INTERGRATED PHOTONIC SENSORS

24 April 2023 • 11:30 - 12:40 | Nadir

Session Chair: Juan Gonzalo Wangüemert-Pérez, Univ. de Málaga (Spain)

12575-6 • 11:30 - 12:00 | Nadir

On-chip trace gas sensing down to ppb levels with mid-IR spectroscopy *(Invited Paper)*

Author(s): Jana Jágerská, Marek Vlk, Henock D. Yallew, Jehona Salaj, Sebastián Alberti, UiT The Arctic Univ. of Norway (Norway); Jens Høvik, Astrid Aksnes, Norwegian Univ. of Science and Technology (Norway)

12575-7 • 12:00 - 12:20 | Nadir

Mid-infrared waveguides for broadband single-moded guidance

Author(s): Callum J. Stirling, April Logan, Wei Cao, Jamie D. Reynolds, Zhibo Qu, Thomas D. Bradley, Lorenzo Mastronardi, Frederic Y. Gardes, Milos Nedeljkovic, Goran Z. Mashanovich, Optoelectronics Research Ctr. (United Kingdom)

12575-8 • 12:20 - 12:40 | Nadir

Highly doped silicon plasmonic infrared nanoantennas for energy harvesting applications

Author(s): Abdelrahman Ghanim, Hadeer Saad, The American Univ. in Cairo (Egypt); Ashraf H. Yahia, Ain Shams Univ. (Egypt); Mohamed A. Swillam, The American Univ. in Cairo (Egypt)

Lunch Break 12:40 - 14:10

SESSION 3: ADVANCED PHOTONIC STATES AND THEIR APPLICATIONS

24 April 2023 • 14:10 - 15:40 | Nadir

Session Chair: Gualtiero Nunzi Conti, Istituto di Fisica Applicata "Nello Carrara" (Italy)

12575-9 • 14:10 - 14:50 | Nadir

Complex quantum states and their applications in integrated optics *(Keynote Presentation)*

Author(s): Roberto Morandotti, Institut National de la Recherche Scientifique (Canada)

12575-10 • 14:50 - 15:20 | Nadir

Polarization singularities and optical chirality in metasurfaces *(Invited Paper)*

Author(s): Lucio C. Andreani, Univ. degli Studi di Pavia (Italy)

12575-11 • 15:20 - 15:40 | Nadir

Engineering photoluminescence using low-cost platform in two-dimensional transition-metal dichalcogenides

Author(s): Anuj Kumar Singh, Brijesh Kumar, Kishor Kumar Mandal, Lekshmi Eswaramoorthy, Anshuman Kumar, Indian Institute of Technology Bombay (India)

Coffee Break 15:40 - 16:15

MONDAY PLENARY SESSION

24 April 2023 • 16:15 - 18:00 | Nadir

12577-500 • 16:25 - 17:10 | Nadir

Exploring plasma physics with multi-petawatt laser pulses (Plenary Presentation)

Author(s): Louise Willingale, Univ. of Michigan (United States)

12579-501 • 17:15 - 18:00 | Nadir

Laser plasma accelerators (Plenary Presentation)

Author(s): Victor A. Malka, Weizmann Institute of Science (Israel)

TUESDAY 25 APRIL

TUESDAY PLENARY SESSION

25 April 2023 • 08:50 - 10:30 | Nadir

12577-600 • 08:55 - 09:40 | Nadir

Fusion ignition at the National Ignition Facility *(Plenary Presentation)*

Author(s): Thomas M. Spinka, Lawrence Livermore National Lab. (United States)

12571-601 • 09:45 - 10:30 | Nadir

AI and deep learning for microscopy *(Plenary Presentation)*

Author(s): Giovanni Volpe, Göteborgs Univ. (Sweden)

Coffee Break 10:30 - 11:10

SESSION 4: INTEGRABLE LIGHT SOURCES

25 April 2023 • 11:10 - 11:50 | Nadir

Session Chair: Jana Jágerská, UiT The Arctic Univ. of Norway (Norway)

12575-12 • 11:10 - 11:30 | Nadir

The ultra-bright and low-etendue light source for bioinstrumentation and scientific applications

Author(s): Jan Kubat, Stepan Novotny, Martin Pokorny, Vojtech Miller, Martin Mazura, CRYTUR spol s.r.o. (Czech Republic)

12575-13 • 11:30 - 11:50 | Nadir

Er3+ doped tellurite glass for whispering gallery mode microsphere laser production

Author(s): Snigdha Thekke Thalakkal, Davor Ristic, Daniil Zhivotkov, Ruder Boškovic Institute (Croatia); Gualtiero Nunzi Conti, Stefano Pelli, Istituto di Fisica Applicata “Nello Carrara” (Italy); Mile Ivanda, Ruder Boškovic Institute (Croatia)

Lunch/Exhibition Break 11:50 - 13:20

SESSION 5: DIFFRACTIVE AND SUBWAVELENGTH-BASED DEVICES

25 April 2023 • 13:20 - 16:30 | Nadir

Session Chair: Pavel Cheben, National Research Council Canada (Canada)

12575-14 • 13:20 - 13:50 | Nadir

Subwavelength control of light and sound in silicon *(Invited Paper)*

Author(s): Jianhao Zhang, Paula Nuño Ruano, Thi Thuy Duong Dinh, David González-Andrade, David Medina Quiroz, Ctr. de Nanosciences et de Nanotechnologies (France); Daniel Benedikovic, Univ. of Žilina (Slovakia); Pavel Cheben, National Research Council Canada (Canada); David Bouville, Daniel Lanzillotti Kimura, Delphine Marris-Morini, Eric Cassan, Laurent Vivien, Carlos Alonso-Ramos, Ctr. de Nanosciences et de Nanotechnologies (France)

12575-15 • 13:50 - 14:20 | Nadir

Recent progress in subwavelength grating metamaterial engineered silicon photonic devices *(Invited Paper)*

Author(s): Juan Gonzalo Wangüemert-Pérez, Carlos Pérez-Armenta, Pablo Ginel-Moreno, José Manuel Luque-González, Abdelfettah Hadij-El Houati, Univ. de Málaga (Spain); Alejandro Sánchez-Postigo, Physikalisches Institut, Westfälische Wilhelms-Univ. Münster (Germany); José de Oliva Rubio, Alejandro Ortega-Moñux, Robert Halir, Univ. de Málaga (Spain); Jens H. Schmid, Pavel Cheben, National Research Council Canada (Canada); Íñigo Molina-Fernández, Univ. de Málaga (Spain)

12575-16 • 14:20 - 14:50 | Nadir

Silicon-based surface gratings for efficient fiber-chip and free-space beam coupling *(Invited Paper)*

Author(s): Daniel Benedikovic, Univ. of Žilina (Slovakia); William Fraser, Carleton Univ. (Canada); Radovan Korcek, Univ. of Žilina (Slovakia); Xiaochen Xin, Yousef Karimi Yonjali, Carleton Univ. (Canada); Carlos Alonso-Ramos, Laurent Vivien, Ctr. de Nanosciences et de Nanotechnologies (France); Pavel Cheben, Jens H. Schmid, Maziyar Milanizadeh, National Research Council Canada (Canada); Tom J. Smy, Carleton Univ. (Canada); Ahmad K. Atieh, Optiwave Systems Inc. (Canada); Winnie N. Ye, Carleton Univ. (Canada)

Cofee Break 14:50 - 15:20

12575-17 • 15:20 - 15:50 | Nadir

Hybrid integration of monolithic microresonators *(Invited Paper)*

Author(s): Gualtiero Nunzi Conti, Daniele Farnesi, Stefano Pelli, Silvia Soria, Simone Berneschi, Francesco Baldini, Istituto di Fisica Applicata “Nello Carrara” (Italy); Pavel Cheben, National Research Council Canada (Canada); Carlos Alonso-Ramos, Ctr. de Nanosciences et de Nanotechnologies (France)

12575-183 • 15:50 - 16:10 | Nadir

Robust single-etch surface grating couplers for silicon nitride waveguide platform

Author(s): Radovan Korcek, Univ. of Žilina (Slovakia); Pavel Cheben, National Research Council Canada (Canada); Carlos Alonso-Ramos, Ctr. de Nanosciences et de Nanotechnologies, Univ. Paris-Saclay, CNRS (France); Laurent Vivien, Ctr. de Nanosciences et de Nanotechnologies (France); Daniel Benedikovic, Univ of Žilina (Slovakia)

12575-38 • 16:10 - 16:30 | Nadir

NIL master manufacturing for optical gratings

Author(s): Karl Gündel, Matthias Nestler, scia Systems GmbH (Germany)

Conference 12575

POSTERS-TUESDAY

25 April 2023 • 17:45 - 19:15 | Meridian Hall

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Poster authors, visit Poster Presentation Guidelines for set-up instructions.

12575-28
Emulation and testbed prototyping of laser beam propagation features through atmospheric turbulence for optical satellite feeder links
Author(s): Haider Al-Juboori, Institute of Technology Carlow (Ireland)

12575-29
Active optic glass for broadband amplification by erbium-bismuth activators
Author(s): Vítezslav Jeřábek, David Mareš, Jiří Šmejcký, Czech Technical Univ. in Prague (Czech Republic); Jakub Cajzl, Pavla Nekvindová, Univ. of Chemistry and Technology Prague (Czech Republic); San-Liang Lee, Nation. Taiwan Univ. of Sci. and Tech., Taiwan (Taiwan)

12575-30
Design of highly sensitive plasmonic nanoantenna mid-IR gas sensor
Author(s): Abdelrahman Ghanim, Ahmed ElSayed, The American Univ. in Cairo (Egypt); Ashraf H. Yahia, Ain Shams Univ. (Egypt); Mohamed A. Swillam, The American Univ. in Cairo (Egypt)

12575-31
Multi-functional optical design for IRST system using high-definition detector
Author(s): Van Dat Nguyen, Huy Quang Ngo, Du Dang, Dat Vu, Viettel High-Tech Industrial Corp. (Vietnam)

12575-32
Spectral reflectance analysis of plant leaves during accelerated senescence in the VIS, NIR, MIR range
Author(s): Sebastian Schuh, Bernhard Czerny, Forschung Burgenland GmbH (Austria)

12575-33
Applying a Riesz-projection-based contour integral eigenvalue solver to compute resonance modes of a VCSEL
Author(s): Lilli Kuen, Zuse Institute Berlin (Germany), JCMwave GmbH (Germany); Fridtjof Betz, Felix Binkowski, Zuse Institute Berlin (Germany); Philipp-Immanuel Schneider, Martin Hammerschmidt, JCMwave GmbH (Germany); Niels Heermeier, Sven Rodt, Stephan Reitzenstein, Technische Univ. Berlin (Germany); Sven Burger, JCMwave GmbH (Germany), Zuse Institute Berlin (Germany)

12575-34
Broadband plasmonic switching based on asymmetric metallic nanostructures on a VO2 coated metallic film
Author(s): Kirti Dalal, Yashna Sharma, Delhi Technological Univ. (India)

12575-36
Valley selective routing of interlayer excitons in two-dimensional semiconductor heterostructures via microresonators
Author(s): Kishor Kumar Mandal, Anuj Kumar Singh, Brijesh Kumar, Anshuman Kumar, Indian Institute of Technology Bombay (India)

12575-37
Machine learning analysis of waveguides bending
Author(s): Viviane Oliveira das Mercês, Luana da França Vieira, Anderson Dourado Sisnando, Vitaly F. Rodriguez-Esquerre, Escola Politécnica da Univ. Federal da Bahia (Brazil)

12575-39
Mid-infrared localized surface plasmon resonances in silicon-dioxide nanoantennas for ozone detection
Author(s): Abdelrahman Ghanim, Mohamed A. Swillam, The American Univ. in Cairo (Egypt)

WEDNESDAY 26 APRIL

WEDNESDAY PLENARY SESSION

26 April 2023 • 08:50 - 10:30 | Nadir

12570-700 • 08:55 - 09:40 | Nadir
Nonlinear integrated quantum optics with AlGaAs *(Plenary Presentation)*
Author(s): Sara Ducci, Lab. Matériaux et Phénomènes Quantiques (France)

12575-701 • 09:45 - 10:30 | Nadir
Photonic crystal fibres: three decades of novel science *(Plenary Presentation)*
Author(s): Philip St. John Russell, Max-Planck-Institut für die Physik des Lichts (Germany)

Coffee Break 10:30 - 11:10

SESSION 6: OPTICAL WAVEGUIDE THEORY, MODELING AND SIMULATIONS

26 April 2023 • 11:10 - 12:20 | Nadir

Session Chair: Carlos Alonso-Ramos, Ctr. de Nanosciences et de Nanotechnologies (France)

12575-19 • 11:10 - 11:40 | Nadir
All dielectric Mie-resonant waveguides and nanophotonic structures *(Invited Paper)*
Author(s): Yunus Denizhan Sirmaci, Angela Barreda Gomez, Thomas Pertsch, Friedrich-Schiller-Univ. Jena (Germany); Jens H. Schmid, Pavel Cheben, National Research Council Canada (Canada); Isabelle Staude, Friedrich-Schiller-Univ. Jena (Germany)

12575-20 • 11:40 - 12:00 | Nadir
Design optimization of silicon nitride based microring resonator systems in a CMOS mass production environment
Author(s): Jakob Hinum-Wagner, Technische Univ. Graz (Austria), ams-OSRAM AG (Austria); Anton Buchberger, ams-OSRAM AG (Austria); Christoph Schmidt, Technische Univ. Graz (Austria); Christian Schörner, ams-OSRAM AG (Germany); Desiree Rist, ams-OSRAM AG (Austria); Samuel Marko Hoermann, Technische Univ. Graz (Austria), ams-OSRAM AG (Austria); Gandolf Feigl, Iga Malicka, Technische Univ. Graz (Austria); Stephan Janka, ams-OSRAM AG (Germany); Jochen Kraft, ams-OSRAM AG (Austria); Alexander Bergmann, Technische Univ. Graz (Austria)

12575-27 • 12:00 - 12:20 | Nadir
A silicon nitride MMI O-band power combiner based on slot waveguide structures
Author(s): Dror Malka, Holon Institute of Technology (Israel)

Lunch/Exhibition Break 12:20 - 13:40

SESSION 7: INTEGRATED PHOTONICS FOR COMMUNICATIONS

26 April 2023 • 13:40 - 16:30 | Nadir

Session Chair: Jean-Emmanuel Broquin, Univ. Grenoble Alpes (France)

12575-21 • 13:40 - 14:20 | Nadir

Self-adaptive photonic integrated processors for free space communication *(Keynote Presentation)*

Author(s): Andrea Melloni, Francesco Zanetto, Francesco Morichetti, Politecnico di Milano (Italy)

12575-22 • 14:20 - 14:40 | Nadir

Thermal insulation of silicon ring modulators in densely packed photonic integrated circuits

Author(s): Souvaraj De, Technische Univ. Braunschweig (Germany), Physikalisch-Technische Bundesanstal (Germany); Ranjan Das, Karanveer Singh, Younus Mandalawi, Technische Univ. Braunschweig (Germany); Thomas Kleine-Ostmann, Physikalisch-Technische Bundesanstalt (Germany); Thomas Schneider, Technische Univ. Braunschweig (Germany)

12575-23 • 14:40 - 15:00 | Nadir

Tunable four-channel wavelength division (De) multiplexer based on cascaded long-period waveguide gratings

Author(s): Nabarun Saha, Giusepppe Brunetti, Mario Nicola Armenise, Caterina Ciminelli, Politecnico di Bari (Italy)

Coffee Break 15:00 - 15:30

12575-25 • 15:30 - 15:50 | Nadi

Plasmonic logic circuits based on integrated electro-optic plasmonic switches based on phase-change materials

Author(s): Rajib Ghosh, Shashank Gupta, Vaibhav Chaturvedi, Mohd Asif, Anuj Dhawan, Indian Institute of Technology Delhi (India)

12575-26 • 15:50 - 16:10 | Nadir

Designing an integrated microresonator suitable for Kerr frequency comb soliton formation

Author(s): Kristians Draguns, Univ. of Latvia (Latvia)

12575-24 • 16:10 - 16:30 | Nadir

Angled MMI optical switch

Author(s): Dana S. E. Akil, Mohamed A. Swillam, Muhammad A. Othman, The American Univ. in Cairo (Egypt)

Conference 12576

EUV and X-ray Optics: Synergy between Laboratory and Space VIII

26 - 27 April 2023 | Stella

Conference Chairs: **René Hudec,** Astronomical Institute of the ASCR, v.v.i. (Czech Republic); **Ladislav Pina,** Czech Technical Univ. in Prague (Czech Republic)

Programme Committee: **Webster Cash,** Univ. of Colorado at Boulder (United States); **Henryk Fiedorowicz** Military Univ. of Technology (Poland); **René Hudec,** Czech Technical Univ. in Prague (Czech Republic); **Ali M. Khounsary,** X-ray Optics, Inc. (United States); **Randall L. McEntaffer,** The Univ. of Iowa (United States); **Stephen L. O'Dell,** NASA Marshall Space Flight Ctr. (United States); **Giovanni Pareschi,** INAF - Osservatorio Astronomico di Brera (Italy); **Ladislav Pina,** Czech Technical Univ. in Prague (Czech Republic); Y**uriy Ya Platonov,** Rigaku Innovative Technologies, Inc. (United States); **Paul B. Reid,** Harvard-Smithsonian Ctr. for Astrophysics (United States); **Bedřich Rus,** ELI Beamlines (Czech Republic); **Anatoly Snigirev,** ESRF—The European Synchrotron (France); **Melville P. Ulmer,** Northwestern Univ. (United States); **David L. Windt,** Reflective X-Ray Optics LLC (United States); **William W. Zhang,** NASA Goddard Space Flight Ctr. (United States)

TUESDAY 25 APRIL

POSTERS-TUESDAY

25 April 2023 • 17:45 - 19:15 | Meridian Hall

Conference attendees are invited to attend the Optics + Optoelectronics Symposium Poster Session on Tuesday afternoon. Enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster session.

Poster authors, visit Poster Presentation Guidelines for set-up instructions.

12576-23
CubeSat tandem flight for asteroid surveillance
Author(s): Vít Pomahac, René Hudec, Czech Technical Univ. in Prague (Czech Republic)

WEDNESDAY 26 APRIL

WEDNESDAY PLENARY SESSION

26 April 2023 • 08:50 - 10:30 | Nadir

12570-700 • 08:55 - 09:40 | Nadir
Nonlinear integrated quantum optics with AlGaAs *(Plenary Presentation)*
Author(s): Sara Ducci, Lab. Matériaux et Phénomènes Quantiques (France)

12575-701 • 09:45 - 10:30 | Nadir
Photonic crystal fibres: three decades of novel science *(Plenary Presentation)*
Author(s): Philip St. John Russell, Max-Planck-Institut für die Physik des Lichts (Germany)

Coffee Break 10:30 - 11:00

SESSION 1: ASTRONOMICAL X-RAY OPTICS I

26 April 2023 • 11:00 - 12:10 | Stella
Session Chair: Thorsten Döhring, Technische Hochschule Aschaffenburg (Germany)

12576-21 • 11:00 - 11:30 | Stella
X-ray lobster eye optics and telescopes *(Keynote Presentation)*
Author(s): Charlotte Feldman, Univ. of Leicester (United Kingdom)

12576-1 • 11:30 - 11:50 | Stella
Grazing incidence X-ray optics in the Czech Republic: past, present, future
Author(s): René Hudec, Czech Technical Univ. in Prague (Czech Republic), Astronomical Institute of the CAS, v.v.i. (Czech Republic)

12576-2 • 11:50 - 12:10 | Stella
Assembly of an ultralight weight X-ray telescope using MEMS technologies
Author(s): Hiromi Morishita, Yuichiro Ezoe, Kumi Ishikawa, Masaki Numazawa, Daiki Ishi, Aoto Fukushima, Ayata Inagaki, Yoko Ueda, Luna Sekiguchi, Yukine Tsuji, Takatoshi Murakawa, Kazuma Yamaguchi, Rei Ishikawa, Daiki Morimoto, Yudai Yamada, Tokyo Metropolitan Univ. (Japan); Kazuhisa Mitsuda, National Astronomical Observatory of Japan (Japan); Kohei Morishita, Kyushu Univ. (Japan); Kazuo Nakajima, Yoshiaki Kanamori, Tohoku Univ. (Japan)

Lunch/Exhibition Break 12:10 - 13:40

SESSION 2: ASTRONOMICAL X-RAY OPTICS II

26 April 2023 • 13:40 - 15:20 | Stella
Session Chair: Charlotte Feldman, Univ. of Leicester (United Kingdom)

12576-3 • 13:40 - 14:00 | Stella
Imaging performance above 150 keV of the wide field monitor on board the ASTENA concept mission
Author(s): Lisa Ferro, Univ. degli Studi di Ferrara (Italy); Enrico Virgilli, INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); Filippo Frontera, Leo Cavazzini, Miguel Moita, Piero Rosati, Cristiano Guidorzi, Univ. degli Studi di Ferrara (Italy); Claudio Labanti, Riccardo Campana, Lorenzo Amati, Ezio Caroli, Natalia Auricchio, INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

12576-4 • 14:00 - 14:20 | Stella
Development of silicon foil X-ray optics using hot plastic deformation process
Author(s): Masaki Numazawa, Tokyo Metropolitan Univ. (Japan); Manabu Ishida, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); Yuichiro Ezoe, Mai Takeo, Asca Miyamoto, Kumi Ishikawa, Tokyo Metropolitan Univ. (Japan); Kohei Morishita, Kyushu Univ. (Japan); Kazuo Nakajima, Tohoku Univ. (Japan)

12576-5 • 14:20 - 14:40 | Stella

Novel lobster eye and Kirkpatrick Baez modules based on multifoil technology: design, assembly and tests

Author(s): René Hudec, Czech Technical Univ. in Prague (Czech Republic); Veronika Marsikova, Adolf Inneman, Rigaku Innovative Technologies Europe (Czech Republic); Ladislav Pina, Martin Urban, Czech Technical Univ. in Prague (Czech Republic); Vladimir Daniel, Czech Aerospace Research Ctr. (Czech Republic); Daniela Doubravova, ADVACAM s.r.o. (Czech Republic); Ondrej Petr, Rigaku Innovative Technologies Europe (Czech Republic); Matyas Skvor, Czech Technical Univ. in Prague (Czech Republic); Peter Oberta, Rigaku Innovative Technologies Europe (Czech Republic); Vadim Burwitz, Max-Planck-Institut für extraterrestrische Physik (Germany)

12576-24 • 14:40 - 15:00 | Stella

CubeSat microsatellite demonstrator with X-ray optical payload

Author(s): Vladimír Dániel, Czech Aerospace Research Ctr. (Czech Republic); Ladislav Pína, Czech Technical Univ. in Prague (Czech Republic); Veronika Maršíková, Adolf J. Inneman, Rigaku Innovative Technologies Europe (Czech Republic)

12576-6 • 15:00 - 15:20 | Stella

Testing of lobster-eye type telescopes with X-rays and visible light

Author(s): Thorsten Döhring, Technische Hochschule Aschaffenburg (Germany); Veronika Stieglitz, Max-Planck-Institut für extraterrestrische Physik (Germany), Czech Technical Univ. in Prague (Czech Republic); Peter Friedrich, Vadim Burwitz, Max-Planck-Institut für extraterrestrische Physik (Germany); Martin Jelinek, Astronomical Institute of the CAS, v.v.i. (Czech Republic); René Hudec, Czech Technical Univ. in Prague (Czech Republic), Astronomical Institute of the CAS, v.v.i. (Czech Republic)

Coffee Break 15:20 - 15:50

SESSION 3: MULTILAYER X-RAY OPTICS

26 April 2023 • 15:50 - 16:50 | Stella

Session Chair: Ali M. Khounsary, Illinois Institute of Technology (United States)

12576-7 • 15:50 - 16:10 | Stella

Differential deposition applied to x-ray mirror substrates

Author(s): Patrice Bras, Christian Morawe, Sylvain Laboure, François Perrin, Amparo Vivo, ESRF - The European Synchrotron (France)

12576-8 • 16:10 - 16:30 | Stella

Development of multilayer gratings for Solar-C EUV spectro-imager

Author(s): Amr Mahmoud, Sébastien de Rossi, Evgueni Meltchakov, Eirini Papagiannouli, Institut d'Optique Graduate School (France); Blandine Capitanio, Institut d'Optique Graduate School (France), Synchrotron SOLEIL (France); Muriel Thomasset, Synchrotron SOLEIL (France); Anne Philippon, Institut d'Astrophysique Spatiale, Univ. Paris-Saclay, CNRS (France); Frédéric Auchère, Institut d'Astrophysique Spatiale, Univ. Paris-Saclay, CNRS (France); Franck Delmotte, Institut d'Optique Graduate School (France)

12576-25 • 16:30 - 16:50 | Stella

LOPSIMUL: quick numerical simulator of multi-foil reflective optical system

Author(s): Vladimir Tichy, Czech Technical Univ. in Prague (Czech Republic)

SESSION 4: X-RAY OPTICS: A HISTORICAL REVIEW

26 April 2023 • 16:50 - 17:30 | Stella

Session Chair: Ali M. Khounsary, Illinois Institute of Technology (United States)

12576-10 • 16:50 - 17:10 | Stella

A guided tour of the Deutsches Röntgen-Museum: displaying X-ray history

Author(s): Kai Schreiber, Anna Kätker, Uwe Busch, Deutsches Röntgen-Museum (Germany); Eva Stanik, Thorsten Döhring, Technische Hochschule Aschaffenburg (Germany)

12576-11 • 17:10 - 17:30 | Stella

The Röntgen Medal: honouring X-ray excellence

Author(s): Eva Stanik, Thorsten Döhring, Technische Hochschule Aschaffenburg (Germany); Kai Schreiber, Anna Kätker, Uwe Busch, Deutsches Röntgen-Museum (Germany)

THURSDAY 27 APRIL

SESSION 5: LABORATORY X-RAY/EUV OPTICS

27 April 2023 • 08:50 - 10:40 | Stella

Session Chair: Christoph Braig, Institut für Angewandte Photonik e.V. (Germany)

12576-22 • 08:50 - 09:20 | Stella

Developments in X-ray synchrotron beamlines and optics *(Keynote Presentation)*

Author(s): Ali M. Khounsary, Illinois Institute of Technology (United States)

12576-12 • 09:20 - 09:40 | Stella

Temporal and spectral investigation of EUV and SXR induced plasmas

Author(s): Andrzej S. Bartnik, Wojciech Skrzeczanowski, Mateusz Majszyk, Przemyslaw Wachulak, Henryk Fiedorowicz, Tomasz Fok, Lukasz Wegrzynski, Wojskowa Akademia Techniczna im. Jaroslawa Dabrowskiego (Poland)

12576-13 • 09:40 - 10:00 | Stella

Multi-beam X-ray ptychography using coded probes for rapid nondestructive high-resolution imaging of extended samples

Author(s): Mikhail Lyubomirskiy, Deutsches Elektronen-Synchrotron (Germany); Felix Wittwer, National Energy Research Scientific Computing Ctr., Lawrence Berkeley National Lab. (United States); Maik Kahnt, Max IV Lab. (Sweden); Frieder Koch, GSI Helmholtzzentrum für Schwerionenforschung GmbH (Germany); Adam Kubec, XRnanotech (Switzerland); Ken Vidar Falch, Jan Garrevoet, Martin Seyrich, Deutsches Elektronen-Synchrotron (Germany); Christian David, Paul Scherrer Institut (Switzerland); Christian G. Schroer, Deutsches Elektronen-Synchrotron (Germany)

12576-14 • 10:00 - 10:20 | Stella

Soft X-ray spectroscopy in the lab with an ellipsoidal mirror and a wavefront corrected reflection zone plate

Author(s): Christoph Braig, Institut für Angewandte Photonik e.V. (Germany); Jürgen Probst, NOB Nano Optics Berlin GmbH (Germany); Christian Seifert, Institut für Angewandte Photonik e.V. (Germany); Heike Löchel, Thomas Krist, NOB Nano Optics Berlin GmbH (Germany)

12576-20 • 10:20 - 10:40 | Stella

Microfocus laboratory soft X-ray source for vacuum optical test facilities

Author(s): Ladislav Pína, Czech Technical Univ. in Prague (Czech Republic)

Coffee Break 10:40 - 11:10

Conference 12576

SESSION 6: INTEGRATED DEVICES

27 April 2023 • 11:10 - 11:30 | Stella

Session Chair: Andrzej S. Bartnik, Wojskowa Akademia Techniczna im. Jaroslawa Dabrowskiego (Poland)

12576-15 • 11:10 - 11:30 | Stella

The stitching interferometry system of ALBA

Author(s): Albert Van Eeckhout Alsinet, Igors Sics, Llibert Ribó, Carles Colldelram, Josep Nicolas, ALBA Synchrotron (Spain)

SESSION 7: REFRACTIVE AND DIFFRACTIVE X-RAY OPTICS

27 April 2023 • 11:30 - 12:50 | Stella

Session Chair: Andrzej S. Bartnik, Wojskowa Akademia Techniczna im. Jaroslawa Dabrowskiego (Poland)

12576-16 • 11:30 - 11:50 | Stella

New bonding and alignment techniques for building LAUE lenses for astrophysics

Author(s): Enrico Virgilli, INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); Lisa Ferro, Filippo Frontera, Piero Rosati, Miguel Moita, Univ. degli Studi di Ferrara (Italy); Stefano Squerzanti, Istituto Nazionale di Fisica Nucleare (Italy); Claudio Ferrari, Istituto dei Materiali per l'Elettronica ed il Magnetismo (Italy); Michele Caselle, Karlsruher Institut für Technologie (Germany); Fabio Fuschino, INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); Cristiano Guidorzi, Univ. degli Studi di Ferrara (Italy); Andrea Mazzolari, Istituto Nazionale di Fisica Nucleare (Italy); Ezio Caroli, John B. Stephen, Natalia Auricchio, INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); Marco Romagnoni, Vincenzo Guidi, Univ. degli Studi di Ferrara (Italy); Laura Bandiera, Istituto Nazionale di Fisica Nucleare (Italy)

12576-17 • 11:50 - 12:10 | Stella

An achromatic X-ray lens

Author(s): Adam Kubec, Florian Döring, XRnanotech (Switzerland); Christian David, Paul Scherrer Institut (Switzerland)

12576-18 • 12:10 - 12:30 | Stella

Anodic bonding to manufacture LAUE lenses for high-energy astrophysics

Author(s): Andrea Mazzolari, Filippo Frontera, Univ. degli Studi di Ferrara (Italy); Marco Romagnoni, Istituto Nazionale di Fisica Nucleare (Italy); Vincenzo Guidi, Univ. degli Studi di Ferrara (Italy); Laura Bandiera, Melissa Tamisari, Istituto Nazionale di Fisica Nucleare (Italy); Enrico Virgilli, INAF (Italy); Lisa Ferro, Istituto Nazionale di Fisica Nucleare (Italy); Miguel Moita, Piero Rosati, Cristiano Guidorzi, Univ. degli Studi di Ferrara (Italy); Ezio Caroli, INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy); Natalia Auricchio, INAF (Italy); John B. Stephen, INAF - Osservatorio di Astrofisica e Scienza dello Spazio (Italy)

12576-19 • 12:30 - 12:50 | Stella

Achromatic X-ray lenses based on low-Z hydride compounds

Author(s): Christoph Braig, Institut für Angewandte Photonik e.V. (Germany)

Conference 12577

High-power, High-energy Lasers and Ultrafast Optical Technologies

24 - 26 April 2023 | Zenit

Conference Chairs: **Pavel Bakule,** ELI Beamlines, Institute of Physics of the CAS, v.v.i. (Czech Republic); **Constantin L. Haefner,** Fraunhofer-Institut für Lasertechnik ILT (Germany); **Joachim Hein,**Friedrich-Schiller-Univ. Jena (Germany; **Thomas J. Butcher,** STFC Rutherford Appleton Lab. (United Kingdom)

Programme Committee: **Jake Bromage,** Univ. of Rochester (United States); **Hiromitsu Kiriyama,** National Institutes for Quantum and Radiological Science and Technology (Japan); A**ndreas R. Maier,** Deutsches Elektronen-Synchrotron (Germany); **Zsuzsanna Major,** GSI Helmholtzzentrum für Schwerionenforschung GmbH (Germany); **Marcus Seidel,** Deutsches Elektronen-Synchrotron (Germany)

MONDAY 24 APRIL

SESSION 1: OCPCA-BASED SHORT-PULSE LASER SYSTEMS

24 April 2023 • 09:40 - 12:40 | Zenit

Session Chair: Pavel Bakule, ELI Beamlines (Czech Republic)

12577-1 • 09:40 - 10:10 | Zenit

Optical parametric synthesis of relativistic intensity sub-4.5 fs waveforms *(Invited Paper)*

Author(s): Laszlo Veisz, Peter Fischer, Aitor De Andres, Alexander Muschet, Fritz Schnur, Umeå Univ. (Sweden); Kárpát Ferencz, Wigner Research Ctr. for Physics (Hungary), Optilab Kft. (Hungary); Roushdey Salh, Umeå Univ. (Sweden)

12577-2 • 10:10 - 10:30 | Zenit

Evolutionary optimization and long-term stabilization of a multi-stage OPCPA system

Author(s): Timo Eichner, Univ. Hamburg (Germany); Thomas Hülsenbusch, Guido Palmer, Andreas R. Maier, Deutsches Elektronen-Synchrotron (Germany)

Coffee Break 10:30 - 11:00

12577-3 • 11:00 - 11:20 | Zenit

Recent status of the SYLOS2 laser system of ELI-ALPS

Author(s): János Csontos, Szabolcs Tóth, László Tamás Tóth, Tamás Somoskoi, Prabhash Prasannan Geetha, Dániel Abt, Barna Kajla, Rodrigo Lopez-Martens, Ádám Börzsönyi, ELI-HU Nonprofit Ltd. (Hungary)

12577-4 • 11:20 - 11:40 | Zenit

L1 Allegra laser at ELI Beamlines facility as a driver for electron acceleration at 1 kHz repetition rate

Author(s): Roman Antipenkov, Jakub Novák, Emily C. Erdman, Robert Boge, Wojciech J. Szuba, Boguslaw Tykalewicz, Petr Mazurek, Carlo Lazzarini, Gabriele Grittani, Pavel Bakule, Bedrich Rus, ELI Beamlines (Czech Republic)

12577-5 • 11:40 - 12:00 | Zenit

Femtosecond synchronization of OPCPA based F-SYNC and L1-Allegra lasers

Author(s): Jakub Novák, Emily C. Erdman, Roman Antipenkov, Boguslaw Tykalewicz, Petr Mazurek, Jack A. Naylon, Martin Horácek, Pavel Bakule, Bedrich Rus, ELI Beamlines (Czech Republic)

12577-38 • 12:00 - 12:20 | Zenit

Polarization-based idler elimination: enhancing the efficiency of optical parametric amplification

Author(s): Gaudenis Jansonas, Rimantas Budriunas, Vilnius Univ. (Lithuania), Light Conversion Ltd. (Lithuania); Gintaras Valiulis, Arunas Varanavicius, Vilnius Univ. (Lithuania)

12577-39 • 12:20 - 12:40 | Zenit

Novel dual-wavelength front-end with active fiber loop for high intensity laser systems

Author(s): Justas Varpucianskis, Rokas Danilevičius, Tadas Bartulevičius, Aivaras Kazakevičius, EKSPLA (Lithuania)

Lunch Break 12:40 - 14:10

SESSION 2: PULSE GENERATION AND CHARACTERISATION

24 April 2023 • 14:100 - 14:50 | Zenit

Session Chair: Hiromitsu Kiriyama, National Institutes for Quantum and Radiological Science and Technology (Japan)

12577-6 • 14:10 to 14:30 | Zenit

Real-time single-shot CEP measurement at 100 kHz repetition rate

Author(s): Malin Khalil, Gabor Kavai, ELI-ALPS Research Institute, ELI-HU Nonprofit Ltd. (Hungary); Mate Kurucz, Institut de Physique et de Chimie des Matériaux de Strasbourg, CNRS (France); Balint Kiss, ELI-ALPS Research Institute, ELI-HU Nonprofit Ltd. (Hungary); Eric Cormier, Lab. Photonique, Numérique et Nanosciences, Institut d'Optique Graduate School, Univ. de Bordeaux, CNRS (France), Institut Univ. de France (France), ELI-ALPS Research Institute, ELI-HU Nonprofit Ltd. (Hungary)

12577-8 • 14:30 to 14:50 | Zenit

MLD-grating-based pulse compressors for high average power Ti:Sa lasers

Author(s): Christian M. Werle, Deutsches Elektronen-Synchrotron (Germany); Cora Braun, Deutsches Elektronen-Synchrotron (Germany), Univ. Hamburg (Germany); Guido Palmer, Andreas R. Maier, Deutsches Elektronen-Synchrotron (Germany)

Coffee Break 14:50 - 16:15

MONDAY PLENARY SESSION

24 April 2023 • 16:15 - 18:00 | Nadir

12577-500 • 16:25 - 17:10 | Nadir

Exploring plasma physics with multi-petawatt laser pulses (Plenary Presentation)

Author(s): Louise Willingale, Univ. of Michigan (United States)

12579-501 • 17:15 - 18:00 | Nadir

Laser plasma accelerators (Plenary Presentation)

Author(s): Victor A. Malka, Weizmann Institute of Science (Israel)

Conference 12577

TUESDAY 25 APRIL

TUESDAY PLENARY SESSION

25 April 2023 • 08:50 - 10:30 | Nadir

12577-600 • 08:55 - 09:40 | Nadir

Fusion ignition at the National Ignition Facility *(Plenary Presentation)*

Author(s): Thomas M. Spinka, Lawrence Livermore National Lab. (United States)

12571-601 • 09:45 - 10:30 | Nadir

AI and deep learning for microscopy *(Plenary Presentation)*

Author(s): Giovanni Volpe, Göteborgs Univ. (Sweden)

Coffee Break 10:30 - 11:00

SESSION 3: HIGH-ENERGY NANOSECOND LASER SYSTEMS

25 April 2023 • 11:00 - 12:00 | Zenit

Session Chair: Joachim Hein, Friedrich-Schiller-Univ. Jena (Germany)

12577-9 • 11:00 - 11:20 | Zenit

Commissioning of the L4n laser beamline: a high-repetition-rate nanosecond-pulse laser system for high-energy density physics experiments

Author(s): Pavel Trojek, Štepan Vyhlídka, Jan Bartonícek, Jan Hubácek, Daniel Kramer, Petr Szotkowski, Florian Condamine, Noémie Jourdain, Tomáš Laštovicka, Raj L. Singh, Gaetan Fauvel, Gavin Friedman, Antoine Gintrand, Ludovít Haiser, Mojmír Havlík, Juan Carlos M. Hernandez, Václav Orna, ELI ERIC (Czech Republic); Paul Pandikan, ELI ERIC (Czech Republic), Sorbonne Univ. (France); Oldrich Renner, ELI ERIC (Czech Republic), Institute of Physics of the CAS, v.v.i. (Czech Republic); Peter Rubovic, Anastasia Sklia, ELI ERIC (Czech Republic); Todd Ditmire, Erhard Gaul, National Energetics (United States); Stefan Weber, Bedrich Rus, ELI ERIC (Czech Republic)

12577-10 • 11:20 - 11:40 | Zenit

Extreme photonics applications centre: high energy DPSSL pump for a 10 Hz PW-level laser

Author(s): Agnieszka Wojtusiak, Science and Technology Facilities Council (United Kingdom), Heriot-Watt Univ. (United Kingdom); Jonathan Phillips, Jodie Smith, Paul Mason, Mariastefania De Vido, Thomas Butcher, Cristina Hernandez Gomez, Chris Edwards, John Collier, Science and Technology Facilities Council (United Kingdom)

12577-11 • 11:40 - 12:00 | Zenit

Development of 500 mJ, 1 kHz, thin-disk multipass amplifier

Author(s): Robert Boge, Wojciech J. Szuba, Jakub Novák, Emily C. Erdman, Tyler J. Green, Roman Antipenkov, Pavel Bakule, Bedrich Rus, ELI Beamlines (Czech Republic)

Lunch/Exhibition Break 12:00 - 13:30

SESSION 4: NEW TECHNOLOGIES FOR PW SYSTEMS

25 April 2023 • 13:30 - 15:00 | Zenit

Session Chair: Pavel Bakule, ELI Beamlines (Czech Republic)

12577-12 • 13:30 - 14:00 | Zenit

High-efficiency hybridized parametric amplification *(Invited Paper)*

Author(s): Jeffrey Moses, Cornell Univ. (United States)

12577-13 • 14:00 - 14:20 | Zenit

Investigation of E-field distribution and film material influence on laser-induced contamination

Author(s): Tomas Tolenis, ELI ERIC (Czech Republic); Lukas Ramalis, Ctr. for Physical Sciences and Technology (Lithuania); Mojmír Havlík, Jan Hrebicek, Bedrich Rus, Daniel Kramer, ELI ERIC (Czech Republic)

12577-15 • 14:20 - 14:40 | Zenit

Adiabatic frequency converter as a custom octave-spanning dispersive element

Author(s): Dylan Heberle, Cornell Univ. (United States), Griffiss Institute (United States); Noah Flemens, Cornell Univ. (United States), Stanford Univ. (United States); Connor Davis, Jeffrey Moses, Cornell Univ. (United States)

12577-16 • 14:40 - 15:00 | Zenit

Telescopic zoom system for electron acceleration with lasers: general design and tests

Author(s): Bruno J. Le Garrec, Lasyex s.r.o. (Czech Republic)

Coffee Break 15:00 - 15:30

SESSION 5: SHORT-PULSE POST-COMPRESSION

25 April 2023 • 15:30 - 17:50 | Zenit

Session Chair: Marcus Seidel, Deutsches Elektronen-Synchrotron (Germany)

12577-17 • 15:30 - 15:50 | Zenit

Multi-TW peak power laser pulses with sub-5 fs duration from a single thin-plate compressor

Author(s): Szabolcs Tóth, Imre Seres, ELI-ALPS Research Institute (Hungary); Levente Lehotai, National Laser-Initiated Transmutation Lab. (Hungary); János Csontos, Viktor Pajer, Arnold Farkas, Árpád Mohácsi, Ádám Börzsönyi, ELI-ALPS Research Institute (Hungary); Károly Osvay, National Laser-Initiated Transmutation Lab., Univ. of Szeged (Hungary); Roland Sándor Nagymihály, ELI-ALPS Research Institute, ELI-HU Nonprofit Ltd. (Hungary)

12577-18 • 15:50 - 16:10 | Zenit

High-energy, high-average power multipass cell spectral broadening of a thin disk regenerative amplifier

Author(s): Gaia Barbiero, Yanik Pfaff, Michael Rampp, Haochuan Wang, Sandro Klingebiel, Catherine Y. Teisset, Robert Jung, Abel H. Woldegeorgis, TRUMPF Scientific Lasers GmbH + Co. KG (Germany); Jonathan Brons, TRUMPF Laser GmbH (Germany); Andreas R. Maier, Deutsches Elektronen-Synchrotron (Germany); Clara J. Saraceno, Ruhr-Univ. Bochum (Germany); Thomas Metzger, TRUMPF Scientific Lasers GmbH + Co. KG (Germany)

12577-19 • 16:10 - 16:30 | Zenit

Comprehensive 3+1D numerical simulation tool for thin-plate post-compression of high-energy ultrashort pulses

Author(s): Levente Lehotai, Szabolcs Tóth, Imre Seres, János Csontos, Viktor Pajer, Ádám Börzsönyi, ELI-ALPS Research Institute (Hungary); Károly Osvay, National Laser-Initiated Transmutation Lab., Univ. of Szeged (Hungary); Roland S. Nagymihály, ELI-ALPS Research Institute (Hungary)

12577-20 • 16:30 - 16:50 | Zenit

Use of the Thin Film Compression (TFC) technique to generate laser-wakefield-based few femtoseconds X-ray probe for ultrafast time-resolved measurements of plasmas

Author(s): Jean-Claude Kieffer, Sylvain Fourmaux, Institut National de la Recherche Scientifique (Canada)

12577-21 • 16:50 - 17:10 | Zenit

Highly efficient nonlinear spectral broadening of mJ pulses at 2μm wavelength in a gas multipass cell and compression sub-30 fs

Author(s): Lucas Eisenbach, Fraunhofer-Institut für Lasertechnik ILT (Germany), RWTH Aachen Univ. (Germany); Peter Rußbüldt, Fraunhofer-Institut für Lasertechnik ILT (Germany); Jan Schulte, Fraunhofer-Institut für Lasertechnik ILT (Germany), RWTH Aachen Univ. (Germany); Rudolf Meyer, Fraunhofer-Institut für Lasertechnik ILT (Germany); Tobias Heuermann, Institut für Angewandte Physik, Friedrich-Schiller-Univ. Jena (Germany), Helmholtz Institute Jena (Germany), GSI Helmholtzzentrum für Schwerionenforschung GmbH (Germany); Ziyao Wang, Mathias Lenski, Institut für Angewandte Physik, Friedrich-Schiller-Univ. Jena (Germany); Philipp Gierschke, Institut für Angewandte Physik, Friedrich-Schiller-Univ. Jena (Germany), Fraunhofer-Institut für Angewandte Optik und Feinmechanik IOF (Germany); Jens Limpert, Institut für Angewandte Physik, Friedrich-Schiller-Univ. Jena (Germany), Fraunhofer-Institut für Angewandte Optik und Feinmechanik IOF (Germany), Helmholtz Institute Jena (Germany); Constantin Häfner, Fraunhofer-Institut für Lasertechnik ILT (Germany), RWTH Aachen Univ. (Germany)

12577-22 • 17:10 - 17:30 | Zenit

Sub-TW laser pulses via post-compression of 9 mJ, 1.2 picosecond laser pulses to 13 fs

Author(s): Nikita Khodakovskiy, Deutsches Elektronen-Synchrotron (Germany); Supriya Rajhans, Deutsches Elektronen-Synchrotron (Germany), Friedrich-Schiller-Univ. Jena (Germany); Esmerando Escoto, Deutsches Elektronen-Synchrotron (Germany); Praveen K. Velpula, UGC-DAE Consortium for Scientific Research (India); Bonaventura Farace, Rob J. Shalloo, Kristjan Poder, Jens Osterhoff, Wim P. Leemans, Ingmar Hartl, Deutsches Elektronen-Synchrotron (Germany); Christoph M. Heyl, Deutsches Elektronen-Synchrotron (Germany), Helmholtz Institute Jena (Germany), GSI Helmholtzzentrum für Schwerionenforschung GmbH (Germany)

12577-23 • 17:30 - 17:50 | Zenit

Post-compression of a 100-TW Ti:sapphire laser

Author(s): Ji in Kim, Institute for Basic Science (Republic of Korea); Jin Woo Yoon, Advanced Photonics Research Institute (Republic of Korea), Institute for Basic Science (Republic of Korea); Jeong Moon Yang, Institute for Basic Science (Republic of Korea); Jae Hee Sung, Seong Ku Lee, Advanced Photonics Research Institute (Republic of Korea), Institute for Basic Science (Republic of Korea); Chang Hee Nam, Institute for Basic Science (Republic of Korea), Gwangju Institute of Science and Technology (Republic of Korea)

POSTERS-TUESDAY

25 April 2023 • 17:45 - 19:15 | Meridian Hall

Conference attendees are invited to attend the Optics + Optoelectronics Symposium Poster Session on Tuesday afternoon. Enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster session.

Poster authors, visit Poster Presentation Guidelines for set-up instructions.

12577-14

TempoRL: laser pulse temporal shape optimization with Deep Reinforcement Learning

Author(s): Francesco Capuano, Politecnico di Torino (Italy); Davorin Peceli, Bedrich Rus, ELI Beamlines (Czech Republic)

12577-30

Stretcher design for matching an out-of-plane MLD grating compressor

Author(s): Cora Braun, Christian M. Werle, Guido Palmer, Andreas R. Maier, Deutsches Elektronen-Synchrotron (Germany)

12577-31

Study of the reproducibility of Brillouin scattering measurements on bulk materials using a power laser

Author(s): Patrice Salzenstein, FEMTO-ST, CNRS (France)

12577-32

Comparison of compact lasers Nd:YAG/V:YAG and Nd:YAP/V:YAG generating in the 1.3 μm spectral region

Author(s): Kryštof Kadlec, Jan Šulc, Helena Jelínková, Czech Technical Univ. in Prague (Czech Republic); Karel Nejezchleb, Lukáš Beran, Radim Kudělka, CRYTUR spol s.r.o. (Czech Republic)

12577-33

Laser-diode-pumped Cr:ZnSe continuous wave laser tunable in mid-IR range of 2.05-2.65 μm

Author(s): Adam Riha, Helena Jelinkova, Czech Technical Univ. in Prague (Czech Republic); Maxim E. Doroshenko, A. M. Prokhorov General Physics Institute (Russian Federation); Michal Nemec, Jan Šulc, Miroslav Cech, Czech Technical Univ. in Prague (Czech Republic); Valery V. Badikov, Kuban State Technological Univ. (Russian Federation)

12577-34

Acousto-optically Q-switched Er:YAP laser emitting at 2.8 μm

Author(s): Richard Švejkar, Dominika Popelová, Jan Šulc, Helena Jelinkova, Czech Technical Univ. in Prague (Czech Republic)

12577-35

Influence of crystal orientation on Ho:YAP microchip laser generation

Author(s): Jan Šulc, Michal Jelínek, Michal Nemec, Helena Jelínková, Czech Technical Univ. in Prague (Czech Republic); Karel Nejezchleb, Štepán Uxa, CRYTUR spol s.r.o. (Czech Republic)

12577-36

Effect of cryogenic temperature on spectroscopic and laser properties of Tm:SrF2 crystal

Author(s): Karel Veselský, Michal Jelínek, Václav Kubecek, Jan Šulc, Helena Jelínková, Czech Technical Univ. in Prague (Czech Republic); Yangxiao Wang, Zhonghan Zhang, Liangbi Su, Shanghai Institute of Ceramics (China)

12577-37

Real time pulse characterization for a terawatt laser facility

Author(s): Yousuf Hemani, EMPA (Switzerland); Marco Galimberti, STFC Rutherford Appleton Lab. (United Kingdom); Kilian Koch, Harsha Panuganti, Davide Bleiner, EMPA (Switzerland)

Conference 12577

WEDNESDAY 26 APRIL

WEDNESDAY PLENARY SESSION

26 April 2023 • 08:50 - 10:30 | Nadir

12570-700 • 08:55 - 09:40 | Nadir

Nonlinear integrated quantum optics with AlGaAs *(Plenary Presentation)*

Author(s): Sara Ducci, Lab. Matériaux et Phénomènes Quantiques (France)

12575-701 • 09:45 - 10:30 | Nadir

Photonic crystal fibres: three decades of novel science *(Plenary Presentation)*

Author(s): Philip St. John Russell, Max-Planck-Institut für die Physik des Lichts (Germany)

Coffee Break 10:30 - 10:50

SESSION 6: LARGE-SCALE PW LASERS

26 April 2023 • 10:50 - 13:00 | Virgo

Session Chair: Jake Bromage, Univ. of Rochester (United States)

ROOM CHANGE:
Wednesday Session will be held in Room Virgo

12577-24 • 10:50 - 11:10 | Virgo

Experimental demonstration of temporal contrast enhancement in the petawatt J-KAREN-P laser

Author(s): Hiromitsu Kiriyama, Yasuhiro Miyasaka, Akira Kon, Mamiko Nishiuchi, Yuji Fukuda, Akito Sagisaka, Hajime Sasao, Alexander S. Pirozhkov, Koichi Ogura, Kotaro Kondo, Nicholas Dover, Chang Liu, Nobuhiko Nakanii, Yuji Mashiba, Masaki Kando, National Institutes for Quantum Science and Technology (Japan); Stefan Bock, Tim Ziegler, Thomas Püschel, H. Schlenvoigt, K. Zeil, U. Schramm, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); I. W. Choi, Chang Hee Nam, Ctr. for Relativistic Laser Science, Institute for Basic Science (Republic of Korea)

12577-25 • 11:10 - 11:30 | Virgo

Development of L2-DUHA laser front-end for near-IR and mid-IR generation at ELI-Beamlines

Author(s): Lukáš Indra, Alexandr Špacek, Tyler J. Green, Jakub Novák, Boguslaw Tykalewicz, Martin Horácek, Alexander J. Naylon, Bedrich Rus, ELI Beamlines (Czech Republic)

12577-26 • 11:30 - 11:50 | Virgo

Progress in commissioning the L4-ATON laser system 10PW kilojoule capability

Author(s): Bedrich Rus, ELI Beamlines (Czech Republic)

12577-27 • 11:50 - 12:10 | Virgo

First demonstration of a 500TW/10Hz 20fs TiSa laser in ELI ALPS

Author(s): Franck Falcoz, Amplitude (France); Benoit Bussiere, Amplitude Laser Group (France)

12577-28 • 12:10 - 12:30 | Virgo

Operation experiences of the 10 Hz PW laser at ELI ALPS during the first ramping up phase

Author(s): Roland Sándor Nagymihály, ELI-ALPS Research Institute, ELI-HU Nonprofit Ltd. (Hungary); János Bohus, Viktor Pajer, Levente Lehotai, Abdollah Malakzadeh, ELI-ALPS Research Institute (Hungary); Benoit Bussiere, Franck Falcoz, Amplitude Laser Group (France); Mikhail P. Kalashnikov, Katalin G. Varjú, Gábor Szabó, ELI-ALPS Research Institute (Hungary); Catalin Neacsu, Pierre-Mary Paul, Gilles Riboulet, Amplitude Laser Group (France); Ádám Börzsönyi, ELI-ALPS Research Institute (Hungary)

12577-29 • 12:30 - 13:00 | Virgo

Status of SIOM OPCPA laser facility *(Invited Paper)*

Author(s): Yuxin Leng, Shanghai Institute of Optics and Fine Mechanics (China)

Conference 12584

Smart Materials for Opto-Electronic Applications

25 April 2023 | Aquarius

Conference Chairs: **Ivo Rendina,** Istituto di Scienze Applicate e Sistemi Intelligenti "Eduardo Caianiello" (Italy); **Lucia Petti,** Istituto di Scienze Applicate e Sistemi Intelligenti "Eduardo Caianiello" (Italy); **omenico Sagnelli,** Istituto di Scienze Applicate e Sistemi Intelligenti "Eduardo Caianiello" (Italy); **Giuseppe Nenna,** ENEA (Italy)

Programme Committee: **Gaetano Assanto,** Univ. degli Studi di Roma Tre (Italy); **Malgosia Kaczmarek,** Univ. of Southampton (United Kingdom); **Katarzyna Matczyszyn,** Wroclaw Univ. of Science and Technology (Poland); **Alberto Naldoni,** Univ. di Torino (Italy); **Hao Zeng,** Tampere Univ. (Finland); **Joseph Zyss,** École normale supérieure Paris-Saclay (France)

TUESDAY 25 APRIL

TUESDAY PLENARY SESSION

25 April 2023 • 08:50 - 10:30 | Nadir

12577-600 • 08:55 - 09:40 | Nadir

Fusion ignition at the National Ignition Facility *(Plenary Presentation)*

Author(s): Thomas M. Spinka, Lawrence Livermore National Lab. (United States)

12571-601 • 09:45 - 10:30 | Nadir

AI and deep learning for microscopy *(Plenary Presentation)*

Author(s): Giovanni Volpe, Göteborgs Univ. (Sweden)

SESSION 1: SMART MATERIALS I

25 April 2023 • 15:30 - 17:20 | Aquarius

Session Chair: Domenico Sagnelli, Istituto di Scienze Applicate e Sistemi Intelligenti "Eduardo Caianiello" (Italy)

12584-1 • 15:30 - 16:10 | Aquarius

Spin-orbit optical phenomena and their applications *(Keynote Presentation)*

Author(s): Lorenzo Marrucci, Univ. degli Studi di Napoli Federico II (Italy)

12584-2 • 16:10 - 16:40 | Aquarius

Mechanochromic luminescent derivatives based on xanthenone and thioxanthenone for the fabrication of OLED devices as emitter layer *(Invited Paper)*

Author(s): Sohrab Nasiri, Giedrius Janusas, Kaunas Univ. of Technology (Lithuania)

12584-3 • 16:40 - 17:00 | Aquarius

A light-driven light valve for metal additive manufacturing

Author(s): Selim Elhadj, Zoey Davidson, Yasaman Sargol, Seurat Technologies (United States)

12584-16 • 17:00 - 17:20 | Aquarius

Hot electrons injection effects on ultrafast exciton dynamics at van der Waals/metal interface

Author(s): Kilian Keller, Ricardo Rojas-Aedo, Univ. du Luxembourg (Luxembourg); Huiqin Zhang, Univ. of Pennsylvania (United States); Pirmin Schweizer, Univ. du Luxembourg (Luxembourg); Jonas Allerbeck, EMPA (Switzerland); Daniele Brida, Univ. du Luxembourg (Luxembourg); Deep Jariwala, Univ. of Pennsylvania (United States); Nicolò Maccaferri, Umeå Univ. (Sweden)

POSTERS-TUESDAY

25 April 2023 • 17:45 - 19:15 | Meridian Hall

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12584-34

Synthesis, structural, and optical study of a lead-devoid halide-based double perovskite (MA)2NaBiCl6 for optoelectronic applications

Author(s): Neelu Neelu, Nivedita Pandey, Subhananda Chakrabarti, Indian Institute of Technology Bombay (India)

12584-35

Effects of nanodiamonds layer in organic light emitting diode

Author(s): Guang Liang Ong, Han Yi Tan, Teng Sian Ong, Chen Hon Nee, Teck Yong Tou, Multimedia Univ. (Malaysia); Seong Shan Yap, Xiamen University Malaysia (Malaysia)

12584-36

A light-fueled cilium

Author(s): Zixuan Deng, Tampere Univ. (Finland)

12584-37

Optically controlled latching and launching LCE actuators

Author(s): Hongshuang Guo, Tampere Univ. (Finland)

12584-39

Electromagnetic modelling of near-field plasmonic switches based on fractal nanoantennas

Author(s): Yashna Sharma, Kirti Dalal, Delhi Technological Univ. (India); Anuj Dhawan, Indian Institute of Technology Delhi (India)

12584-40

Investigation of self-powered photoresponse performance of all inorganic lead-free halide perovskites (CsSnCl3) nanocrystals (NCs) decorated Er:ZnO nanowires/Si heterojunctions

Author(s): Ajay Kumar, Rajib saha, Indian Institute of Technology Bombay (India); Avijit Dalal, Aniruddha Mondal, National Institute of Technology, Durgapur (India); Subhananda Chakrabarti, Indian Institute of Technology Bombay (India)

12584-43

Structural and luminescent properties of dysprosium ions-doped tungstate phosphor for w-LEDs

Author(s): Anu ., Delhi Technological Univ. (India); Nisha Deopa, Chaudhary Ranbir Singh Univ. (India); A. S. Rao, Delhi Technological Univ. (India)

12584-44
Enhanced light trapping by investigating several plasmonic nanostructures in PM6Y6 organic solar cells
Author(s): Shymaa Sanad, The American Univ. in Cairo (Egypt), Ain Shams Univ. (Egypt); Abdelrahman Ghanim, The American Univ. in Cairo (Egypt); Nasr Gad, Mostafa Elaasser, Ashraf Yahia, Ain Shams Univ. (Egypt); Mohamed Swillam, The American Univ. in Cairo (Egypt)

12584-45
Photomobile films based on liquid crystal polymer-carbon black composites
Author(s): Fausta Loffredo, Anna De Girolamo Del Mauro, Fulvia Villani, Maria Federica Caso, Tommaso Fasolino, Riccardo Miscioscia, ENEA (Italy); Ambra Vestri, Domenico Sagnelli, Amalia D'Avino, Lucia Petti, Istituto di Scienze Applicate e Sistemi Intelligenti "Eduardo Caianiello" (Italy); Giuseppe Nenna, ENEA (Italy)

12584-46
Optical effects by opal/reverse opal structures, laser polymerizing and plasmonic Ag ultra-thin films
Author(s): Bogdan Alexandru Sava, Institutul National pentru Fizica Laserilor, Plasmei si Radiatiei (Romania); Ion C. Sandu, Bogdan Stefanita Calin, Lucica Boroica, Marius Catalin Dinca, Claudiu Teodor Teodor Fleaca, Marian Zamfirescu, Institutul National pentru Fizica Laserilor (Romania); Dumitru Ulieru, SITEX 45 S.R.L. (Romania)

WEDNESDAY 26 APRIL

WEDNESDAY PLENARY SESSION

26 April 2023 • 08:50 - 10:30 | Nadir

12570-700 • 08:55 - 09:40 | Nadir
Nonlinear integrated quantum optics with AlGaAs *(Plenary Presentation)*
Author(s): Sara Ducci, Lab. Matériaux et Phénomènes Quantiques (France)

12575-701 • 09:45 - 10:30 | Nadir
Photonic crystal fibres: three decades of novel science *(Plenary Presentation)*
Author(s): Philip St. John Russell, Max-Planck-Institut für die Physik des Lichts (Germany)

Coffee Break 10:30 - 10:50

SESSION 2: KEYNOTE SESSION

26 April 2023 • 10:50 - 12:45 | Aquarius
Session Chair: Ivo Rendina, Istituto di Scienze Applicate e Sistemi Intelligenti "Eduardo Caianiello" (Italy)

12584-5 • 10:50 - 11:30 | Aquarius
Efficiency roll-off in TADF OLEDs: don't just maximise the RISC *(Keynote Presentation)*
Author(s): Le Zhang, Stefan Diesing, Arvydas Ruseckas, Ifor D. W. Samuel, Univ. of St. Andrews (United Kingdom)

12584-6 • 11:30 - 12:10 | Aquarius
Mass-customised optical metasurfaces *(Keynote Presentation)*
Author(s): Anders Kristensen, Technical Univ. of Denmark (Denmark)

12584-7 • 12:10 - 12:45 | Aquarius
Photonic materials and technologies for the brain *(Keynote Presentation)*
Author(s): Ferruccio Pisanello, Istituto Italiano di Tecnologia (Italy)

Lunch/Exhibition Break 12:45 - 13:45

SESSION 3: SMART MATERIALS II

26 April 2023 • 13:45 - 15:45 | Aquarius
Session Chair: Lucia Petti, Istituto di Scienze Applicate e Sistemi Intelligenti "Eduardo Caianiello" (Italy)

12584-8 • 13:45 - 14:15 | Aquarius
Plasmonic nanomaterials for solar-to-chemical conversion technologies *(Invited Paper)*
Author(s): Alberto Naldoni, Univ. degli Studi di Torino (Italy)

12584-9 • 14:15 - 14:45 | Aquarius
Defect engineering in photoactive semiconductors *(Invited Paper)*
Author(s): Stepan Kment, Alberto Naldoni, Radek Zboril, Palacký Univ. Olomouc (Czech Republic)

12584-10 • 14:45 - 15:15 | Aquarius
Widely tunable long period gratings using 3D printed periodic grooved plates *(Invited Paper)*
Author(s): Sidrish Zahra, Pasquale Di Palma, Elena De Vita, Anubhav Srivastava, Flavio Esposito, Agostino Iadicicco, Stefania Campopiano, Univ. degli Studi di Napoli Parthenope (Italy)

12584-11 • 15:15 - 15:45 | Aquarius
Programmable unitary gates for photonic quantum information processing *(Invited Paper)*
Author(s): Rodrigo Thomas, Celeste Qvotrup, Leonardo Midolo, Niels Bohr Institute (Denmark)

Coffee Break 15:45 - 16:05

SESSION 4: SMART MATERIALS III

26 April 2023 • 16:05 - 17:45 | Aquarius
Session Chair: Domenico Sagnelli, Istituto di Scienze Applicate e Sistemi Intelligenti "Eduardo Caianiello" (Italy)

12584-12 • 16:05 - 16:35 | Aquarius
Self-organized quantum dots in marginally twisted bilayers of transition metal dichalcogenides *(Invited Paper)*
Author(s): Vladimir Falko, The Univ. of Manchester (United Kingdom)

12584-13 • 16:35 - 17:05 | Aquarius
Surface lattice resonances and bound states in nanoparticle arrays for opto-electronic applications *(Invited Paper)*
Author(s): Jaime Gómez Rivas, Technische Univ. Eindhoven (Netherlands)

12584-14 • 17:05 - 17:25 | Aquarius
Smart integration of organic optoelectronic and photonic components for a miniaturized fluorescence sensing device
Author(s): Emilia Benvenuti, Salvatore Moschetto, Marco Natali, Federico Prescimone, Istituto per lo Studio dei Materiali Nanostrutturati (Italy); Andrea Lanfranchi, Paola Lova, Univ. degli Studi di Genova (Italy); Marco Angelini, Optics for Life (Italy); Franco Marabelli, Univ. degli Studi di Pavia (Italy); Davide Comoretto, Univ. degli Studi di Genova (Italy); Margherita Bolognesi, Mario Prosa, Stefano Toffanin, Istituto per lo Studio dei Materiali Nanostrutturati (Italy)

12584-15 • 17:25 - 17:45 | Aquarius

New liquid crystal systems for photochemical energy storage

Author(s): Osama K. Abou-Zied, Sultan Qaboos Univ. (Oman)

THURSDAY 27 APRIL

SESSION 5: PULSE-COM I WORKSHOP

27 April 2023 • 08:05 - 10:20 | Aquarius

Session Chair: Lucia Petti, Istituto di Scienze Applicate e Sistemi Intelligenti "Eduardo Caianiello" (Italy)

12584-100 • 08:05 - 08:15 | Aquarius

Introduction to the PULSE-COM Workshop

Author(s): Lucia Petti, Ivo Rendina, Istituto di Scienze Applicate e Sistemi Intelligenti "Eduardo Caianiello" (Italy)

12584-17 • 08:15 - 08:40 | Aquarius

Heliconical cholesteric liquid crystals as advanced optoelectronic materials *(Invited Paper)*

Author(s): Francesco Simoni, Istituto di Scienze Applicate e Sistemi Intelligenti "Eduardo Caianiello" (Italy)

12584-18 • 08:40 - 09:05 | Aquarius

Optimization of PMP films' preparation and mechanical properties using ZnO nanoparticles as dopant *(Invited Paper)*

Author(s): Amalia D'Avino, Domenico Sagnelli, Ambra Vestri, Massimo Rippa, Valentina Marchesano, Consiglio Nazionale delle Ricerche (Italy); Veronica Ambrogi, Univ. degli Studi di Napoli Federico II (Italy); Anna De Girolamo Del Mauro, Fausta Loffredo, Fulvia Villani, ENEA (Italy); Giuseppe Nenna, Italian National Agency for New Technologies, Energy and Sustainable Economic Development (Italy); Lucia Petti, Consiglio Nazionale delle Ricerche (Italy)

12584-19 • 09:05 - 09:30 | Aquarius

ZnO nanowires based piezoelectric energy transducers: the role of size and semiconducting properties *(Invited Paper)*

Author(s): Thomas Jalabert, Manojit Pusty, Andrés Jenaro Lopez Garcia , Alessandro CRESTI, Mireille Mouis, Gustavo Ardila, Univ. Grenoble Alpes, CNRS, Grenoble INP, IMEP-LAHC (France)

12584-20 • 09:30 - 09:55 | Aquarius

New range of light driven actuation devices *(Invited Paper)*

Author(s): Jolan Gauthier, Mathieu Thomachot, Frank Claeyssen, CEDRAT TECHNOLOGIES SA (France)

12584-21 • 09:55 - 10:20 | Aquarius

ZnO nanorods as a piezoelectric energy harvester from light induced flexions *(Invited Paper)*

Author(s): Maciej Haras, CENTERA Labs., Institute of High-Pressure Physics (Poland), Warsaw Univ. of Technology, Ctr. for Advanced Materials and Technologies (Poland); Mateusz Wlazło, Wojciech Andrysiewicz, Ctr. for Research and Development of Technologies for Industry SA (Poland); Thomas Skotnicki, CENTERA Labs. (Poland), Warsaw Univ. of Technology (Poland)

Coffee Break 10:20 - 10:40

SESSION 6: PULSE-COM II WORKSHOP

27 April 2023 • 10:40 - 12:20 | Aquarius

Session Chair: Giuseppe Nenna, ENEA (Italy)

12584-22 • 10:40 - 11:05 | Aquarius

Photo-mobile polymers in energy harvesting applications under simulated solar light *(Invited Paper)*

Author(s): Wojciech Andrysiewicz, Ctr. for Research and Development of Technologies for Industry SA (Poland), AGH Univ. of Science and Technology (Poland); Dominik Wojcieszczak, Robert Socha, Ctr. for Research and Development of Technologies for Industry SA (Poland); Domenico Sagnelli, Amalia D'Avino, Lucia Petti, Consiglio Nazionale delle Ricerche, Istituto di Scienze Applicate e Sistemi Intelligenti "Eduardo Caianiello" (Italy)

12584-23 • 11:05 - 11:30 | Aquarius

Printed ZnO nanoparticle seed layers to grow ZnO nanowires on flexible substrates *(Invited Paper)*

Author(s): Fulvia Villani, Fausta Loffredo, Giuliano Sico, Maria Montanino, Anna De Girolamo Del Mauro, Maria Federica Caso, ENEA (Italy); Manojit Pusty, Thomas Jalabert, Univ. Grenoble Alpes (France); Giuseppe Nenna, ENEA (Italy); Gustavo Ardila, Univ. Grenoble Alpes (France)

12584-24 • 11:30 - 11:55 | Aquarius

Visible photomobile response of azobenzene-based polymer/carbon black films *(Invited Paper)*

Author(s): Anna De Girolamo Del Mauro, Fausta Loffredo, Fulvia Villani, Maria Federica Caso, Tommaso Fasolino, ENEA (Italy); Domenico Sagnelli, Ambra Vestri, Amalia D'Avino, Lucia Petti, Consiglio Nazionale delle Ricerche (Italy); Giuseppe Nenna, ENEA (Italy)

12584-25 • 11:55 - 12:20 | Aquarius

The comparative analysis of 2D photonic crystals applications based on specific modeling /simulation results *(Invited Paper)*

Author(s): Dumitru Ulieru, Oana-Maria Ulieru, SITEX 45 S.R.L. (Romania)

WORKSHOP ROUNDTABLE

27 April 2023 • 12:20 - 13:05 | Aquarius

Moderator: Giuseppe Nenna, ENEA (Italy)

Lunch Break 13:05 - 14:15

SESSION 7: SMART MATERIALS IV

27 April 2023 • 14:15 - 15:35 | Aquarius

Session Chair: Giuseppe Nenna, ENEA (Italy)

12584-26 • 14:15 - 14:45 | Aquarius

Gold nanorods for integration in hybrid devices for biomedical applications *(Invited Paper)*

Author(s): Fulvio Ratto, Sonia Centi, Claudia Borri, Filippo Micheletti, Lucia Cavigli, Roberto Pini, Istituto di Fisica Applicata "Nello Carrara" (Italy)

12584-27 • 14:45 - 15:15 | Aquarius

Feedbacks in light-active soft materials *(Invited Paper)*

Author(s): Jianfeng Yang, Tampere Univ. (Finland); Haotian Pi, Hang Zhang, Aalto Univ. (Finland); Hao Zeng, Tampere Univ. (Finland)

12584-28 • 15:15 - 15:35 | Aquarius

Light active plastic glides in the air

Author(s): Jianfeng Yang, Tampere Univ. (Finland)

Coffee Break 15:35 - 16:00

SESSION 8: SMART MATERIALS V

27 April 2023 • 16:00 - 17:40 | Aquarius

Session Chair: Domenico Sagnelli, Istituto di Scienze Applicate e Sistemi Intelligenti "Eduardo Caianiello" (Italy)

12584-29 • 16:00 - 16:30 | Aquarius

High-frequency light rectification by nanoscale plasmonic conical antenna in point-contact-insulator-metal architecture *(Invited Paper)*

Author(s): Denis Garoli, Rajesh Mupparapu, Joao Cunha, Andrea Jacassi, Maddalena Patrini, Andrea Giugni, Alessandro Alabastri, Remo Proietti Zaccaria, Istituto Italiano di Tecnologia (Italy)

12584-30 • 16:30 - 17:00 | Aquarius

Optoelectronic devices based on scalable 2D materials *(Invited Paper)*

Author(s): Gerd Bacher, Univ. Duisburg-Essen (Germany)

12584-31 • 17:00 - 17:20 | Aquarius

Wafer-scale fabrication of size-controlled GaN nanorod arrays for optoelectronic devices

Author(s): Hak-Jong Choi, Soongeun Kwon, Korea Institute of Machinery & Materials (Republic of Korea); Junhyoung Ahn, Korea Institute of Machinery & Materials (Republic of Korea), Critical Diseases Diagnostics Convergence Research Ctr., Korea Research Institute of Bioscience and Biotechnology (Republic of Korea); Ki-Bong Choi, Korea Institute of Machinery & Materials (Republic of Korea), Critical Diseases Diagnostics Convergence Research Ctr. (Republic of Korea); Geehong Kim, Korea Institute of Machinery & Materials (Republic of Korea); JaeJong Lee, Korea Institute of Machinery & Materials (Republic of Korea), Critical Diseases Diagnostics Convergence Research Ctr. (Republic of Korea); Sang-Hyeon Lee, Sang-Wan Ryu, Chonnam National Univ. (Republic of Korea); Hyungjun Lim, Korea Institute of Machinery & Materials (Republic of Korea)

12584-32 • 17:20 - 17:40 | Aquarius

Transient absorption spectroscopy of photochemical reactions in different photoinitiators

Author(s): Marius Navickas, Mikas Vengris, Vilnius Univ. (Lithuania)

Conference 12578

Optics Damage and Materials Processing by EUV/X-ray Radiation (XDam8)

24 - 25 April 2023 | Kepler

Conference Chairs: **Libor Juha,** Institute of Physics of the ASCR, v.v.i. (Czech Republic); **Saša Bajt,** Deutsches Elektronen-Synchrotron (Germany); **Stéphane Guizard,** CEA-DRF-IRAMIS, Lab. des Solides Irradiés (France)

Programme Committee: **Jaromír Chalupský,** Institute of Physics of the ASCR, v.v.i. (Czech Republic); **Henryk Fiedorowicz,** Military Univ. of Technology (Poland); **Jacek Krzywinski,** SLAC National Accelerator Lab. (United States); **Igor A. Makhotkin,** Univ. Twente (Netherlands); **Klaus Mann,** Laser-Lab. Göttingen e.V. (Germany); **Tomáš Mocek,** Institute of Physics of the ASCR, v.v.i. (Czech Republic); **Ladislav Pina,** Czech Technical Univ. in Prague (Czech Republic); **Jorge J. Rocca,** Colorado State Univ. (United States); **Michael Störmer,** Helmholtz-Zentrum Geesthacht (Germany); **Marco Truccato,** Univ. degli Studi di Torino (Italy); **Philippe Zeitoun,** Ecole Nationale Supérieure de Techniques Avancées (France); **Beata Ziaja-Motyka,** Deutsches Elektronen-Synchrotron (Germany)

MONDAY 24 APRIL

SESSION 1: DAMAGE TO OPTICS/DETECTORS I

24 April 2023 • 08:30 - 10:20 | Kepler

Session Chair: Philip A. Heimann, SLAC National Accelerator Lab. (United States)

12578-1 • 08:30 - 09:00 | Kepler

Intense radiation effects observed at European XFEL *(Invited Paper)*

Author(s): Mikako Makita, European XFEL GmbH (Germany)

12578-2 • 09:00 - 09:25 | Kepler

Radiation hardness of luminescent screens under FEL radiation

Author(s): Andreas Koch, Jan Grünert, European XFEL GmbH (Germany)

12578-3 • 09:25 - 09:50 | Kepler

Determination of thermalized fraction of intense short-wavelength radiation absorbed in solids: from UV to x-ray lasers

Author(s): Zuzana Kuglerová, Institute of Physics of the CAS, v.v.i. (Czech Republic), Charles Univ. (Czech Republic); Jaromír Chalupský, Institute of Physics of the CAS, v.v.i. (Czech Republic); Roman Dudžák, Tomáš Burian, Institute of Physics of the CAS, v.v.i. (Czech Republic), Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic); Mikako Makita, Patrik Vagovic, European XFEL GmbH (Germany); Libor Juha, Institute of Physics of the CAS, v.v.i. (Czech Republic)

12578-4 • 09:50 - 10:20 | Kepler

High-power optical elements for 13.5 nm EUV *(Invited Paper)*

Author(s): Mark A. van de Kerkhof, ASML Netherlands B.V. (Netherlands)

Coffee Break 10:20 - 10:50

SESSION 2: MECHANISMS AND THEORY I

24 April 2023 • 10:50 - 12:40 | Kepler

Session Chair: Vojtěch Vozda, Charles Univ. (Czech Republic)

12578-7 • 10:50 - 11:20 | Kepler

Similitude in classical molecular dynamics applied to study femtosecond-laser- and XUV-induced ablation *(Invited Paper)*

Author(s): Vladimir P. Lipp, Institute of Nuclear Physics PAN (Poland), Ctr. for Free-Electron Laser Science, Deutsches Elektronen-Synchrotron (Germany); Beata Ziaja-Motyka, Ctr. for Free-Electron Laser Science, Deutsches Elektronen-Synchrotron (Germany), Institute of Nuclear Physics PAN (Poland)

12578-8 • 11:20 - 11:50 | Kepler

Laser modification of nanomaterials: from ablation to phase transitions *(Invited Paper)*

Author(s): Igor Milov, Advanced Research Ctr. for Nanolithography (Netherlands), Deutsches Elektronen-Synchrotron (Germany)

12578-9 • 11:50 - 12:15 | Kepler

Nonisotropic atomic motion in a nonthermal phase transition of diamond

Author(s): Philip A. Heimann, Nicholas J. Hartley, SLAC National Accelerator Lab. (United States); Ichiro Inoue, RIKEN SPring-8 Ctr. (Japan); Andre Antoine, Univ. of Michigan (United States); Fabien Dorchies, Univ. de Bordeaux (France); Roger W. Falcone, Univ. of California, Berkeley (United States); Jérôme Gaudin, Univ. de Bordeaux (France); Hauke Höppner, European XFEL GmbH (Germany); Yuichi Inubushi, RIKEN SPring-8 Ctr. (Japan); Hae Ja Lee, SLAC National Accelerator Lab. (United States); Vladimir P. Lipp, Polish Academy of Sciences (Poland); Paloma Martinez, Univ. de Bordeaux (France); Nikita A. Medvedev, Institute of Physics of the CAS, v.v.i. (Czech Republic); Franz Tavella, SLAC National Accelerator Lab. (United States); Victor Tkachenko, Polish Academy of Sciences (Poland); Sven Toleikis, Deutsches Elektronen-Synchrotron (Germany); Makina Yabashi, Toshinori Yabuuchi, Jumpei Yamada, RIKEN SPring-8 Ctr. (Japan); Beata Ziaja-Motyka, Polish Academy of Sciences (Poland)

12578-10 • 12:15 - 12:40 | Kepler

Materials under XUV irradiation: effects of structure, size, and temperature

Author(s): Nikita A. Medvedev, Institute of Physics of the CAS, v.v.i. (Czech Republic)

Lunch Break 12:40 - 13:40

SESSION 3: DAMAGE TO OPTICS/DETECTORS II

24 April 2023 • 13:40 - 14:35 | Kepler

Session Chair: Mikako Makita, European XFEL GmbH (Germany)

12578-5 • 13:40 - 14:10 | Kepler

Laser-driven photon sources and exemplary applications at ELI Beamlines *(Invited Paper)*

Author(s): Dong-Du Mai, Ondrej Hort, Uddhab Chaulagain, Matej Jurkovic, Martin Albrecht, Ondrej Finke, Yelizaveta Pulnova, Marcel Lamac, Marek Raclavsky, Kavya Hemantha Rao, Jaroslav Nejdl, Sergei V. Bulanov, ELI Beamlines (Czech Republic)

12578-6 • 14:10 - 14:35 | Kepler

Extending the ablation imprints method of focal spot characterisation from X-ray to visible and near-infrared spectral range

Author(s): Šimon Jelínek, Institute of Physics of the CAS, v.v.i. (Czech Republic), Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic), Charles Univ. (Czech Republic); Tomáš Burian, Institute of Physics of the CAS, v.v.i. (Czech Republic), Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic); Jan Dostál, Roman Dudžák, Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic), Institute of Physics of the CAS, v.v.i. (Czech Republic); Věra Hájková, Libor Juha, Institute of Physics of the CAS, v.v.i. (Czech Republic); Michal Krupka, Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic), Institute of Physics of the CAS, v.v.i. (Czech Republic); Zuzana Kuglerová, Institute of Physics of the CAS, v.v.i. (Czech Republic), Charles Univ. (Czech Republic); Thomas M. Baumann, Simon Dold, Tommaso Mazza, Yevheniy Ovcharenko, Sergey Usenko, Michael Meyer, European XFEL GmbH (Germany); Jaromír Chalupský, Institute of Physics of the CAS, v.v.i. (Czech Republic)

SESSION 4: MECHANISMS AND THEORY II

24 April 2023 • 14:35 - 15:50 | Kepler

Session Chair: Igor Milov, Advanced Research Ctr. for Nanolithography (Netherlands)

12578-11 • 14:35 - 15:00 | Kepler

Modelling damage of alkene polymers irradiated with an XUV laser pulse

Author(s): Nikita Nikishev, Institute of Physics of the CAS, v.v.i. (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Nikita A. Medvedev, Institute of Physics of the CAS, v.v.i. (Czech Republic), Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic)

12578-12 • 15:00 - 15:25 | Kepler

Beyond EUV lithography: could direct micro-(nano-) structuring by intense EUV/x-ray radiation be engaged with microchip production?

Author(s): Libor Juha, Institute of Physics of the CAS, v.v.i. (Czech Republic)

12578-13 • 15:25 - 15:50 | Kepler

EUV impact on silicon and carbon etching vs deposition

Author(s): Evgenia Kurganova, Goran Milinkovic, Isabella Bolk, Richard van Lent, Mark A. van de Kerkhof, ASML Netherlands B.V. (Netherlands)

Coffee Break 15:50 - 16:15

MONDAY PLENARY SESSION

24 April 2023 • 16:15 - 18:00 | Nadir

12577-500 • 16:25 - 17:10 | Nadir

Exploring plasma physics with multi-petawatt laser pulses (Plenary Presentation)

Author(s): Louise Willingale, Univ. of Michigan (United States)

12579-501 • 17:15 - 18:00 | Nadir

Laser plasma accelerators (Plenary Presentation)

Author(s): Victor A. Malka, Weizmann Institute of Science (Israel)

TUESDAY 25 APRIL

TUESDAY PLENARY SESSION

25 April 2023 • 08:50 - 10:30 | Nadir

12577-600 • 08:55 - 09:40 | Nadir

Fusion ignition at the National Ignition Facility *(Plenary Presentation)*

Author(s): Thomas M. Spinka, Lawrence Livermore National Lab. (United States)

12571-601 • 09:45 - 10:30 | Nadir

AI and deep learning for microscopy *(Plenary Presentation)*

Author(s): Giovanni Volpe, Göteborgs Univ. (Sweden)

Coffee Break 10:30 - 10:50

SESSION 5: DAMAGE TO OPTICS/DETECTORS III

25 April 2023 • 10:50 - 11:20 | Kepler

Session Chair: Libor Juha, Institute of Physics of the CAS, v.v.i. (Czech Republic)

12578-14

Recent advances in EUV multilayer optics for solar physics and ultra-fast science applications *(Invited Paper)*

Author(s): Franck Delmotte, Evgueni Meltchakov, Sébastien de Rossi, Amr H. K. Mahmoud, Arnaud Jérôme, Eirini Papagiannouli, Charles Bourassin-Bouchet, Institut d'Optique Graduate School (France)

25 April 2023 • 10:50 - 11:20 | Kepler

Show Abstract +

SESSION 6: MECHANISMS AND THEORY III

25 April 2023 • 11:20 - 13:00 | Kepler

Session Chair: Libor Juha, Institute of Physics of the CAS, v.v.i. (Czech Republic)

12578-15 • 11:20 - 11:45 | Kepler

Laser-induced heating and surface modification in ruthenium thin films

Author(s): Fedor Akhmetov, Igor Milov, Univ. Twente (Netherlands); Sergey Semin, Radboud Univ. Nijmegen (Netherlands); Nikita A. Medvedev, Institute of Physics of the CAS, v.v.i. (Czech Republic), Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic); Fabio Formisano, Radboud Univ. Nijmegen (Netherlands); Vasily Zhakhovsky, Joint Institute for High Temperatures (Russian Federation); Alexey Kimel, Radboud Univ. Nijmegen (Netherlands); Igor Makhotkin, Marcelo Ackermann, Jacobus M. Sturm, Univ. Twente (Netherlands)

12578-16 • 11:45 - 12:10 | Kepler

Hybrid modeling of irradiation of materials: examples of XTANT-3 and TREKIS-4 codes

Author(s): Nikita A. Medvedev, Institute of Physics of the CAS, v.v.i. (Czech Republic)

12578-17 • 12:10 - 12:35 | Kepler

Local modifications of TiO2 and SrTiO3 properties intentionally induced by hard X-ray nanobeams

Author(s): Andrea Alessio, Univ. degli Studi di Torino (Italy); Kalle Goß, Peter Grünberg Institut, Forschungszentrum Jülich GmbH (Germany), Jülich Aachen Research Alliance, RWTH Aachen Univ. (Germany); Valentina Bonino, ESRF - The European Synchrotron (France); Vanessa Hinojosa, Univ. de Valladolid (Spain); Santanu Kumar Padhi, Federico Picollo, Lorenzo Mino, Univ. degli Studi di Torino (Italy); Jorge Serrano, Univ. de Valladolid (Spain); Gema Martinez-Criado, ESRF - The European Synchrotron (France); Regina Dittmann, Peter Grünberg Institut, Forschungszentrum Jülich GmbH (Germany), Jülich Aachen Research Alliance, RWTH Aachen Univ. (Germany); Marco Truccato, Univ. degli Studi di Torino (Italy)

12578-18 • 12:35 - 13:00 | Kepler

Ion emission from plasmas produced by femtosecond pulses of short-wavelength free-electron laser radiation focused on massive targets: an overview and comparison with long-wavelength laser ablation

Author(s): Josef Krása, Institute of Physics of the CAS, v.v.i. (Czech Republic)

POSTERS-TUESDAY

25 April 2023 • 17:45 - 19:15 | Meridian Hall

Conference attendees are invited to attend the Optics + Optoelectronics Symposium Poster Session on Tuesday afternoon. Enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster session.

Poster authors, visit Poster Presentation Guidelines for set-up instructions.

12578-20

Si transfer and self-limiting chemisorption on Ru thin film surface in hydrogen radicals environment

Author(s): Ilias Gaffarov, Jacobus M. Sturm, Marcelo D. Ackermann, Igor A. Makhotkin, University of Twente (Netherlands)

THURSDAY 27 APRIL

SESSION 7: DAMAGE BY X-RAY RADIATION

Joint Session with Conferences 12578 and 12582

27 April 2023 • 10:30 - 12:00 | Kepler

Session Chair: Carmen S. Menoni, Colorado State Univ. (United States)

NOTE: Conference 12578 runs on Monday and Tuesday, 24-25 April; the joint Session will follow on Thursday 27 April as part of the conference 12582 in room Keppler.

12582-26 • 10:30 - 11:00 | Kepler

Mass spectrometry of ion emission from covalent and molecular solids ablated by nanosecond EUV laser pulses used for focused-beam characterization *(Invited Paper)*

Author(s): Ludek Vyšín, Jaromír Chalupský, Věra Hájková, Zuzana Kuglerová, Ladislav Fekete, Institute of Physics of the CAS, v.v.i. (Czech Republic); Lydia A. Rush, Colorado State Univ. (United States); Libor Juha, Institute of Physics of the CAS, v.v.i. (Czech Republic); Jorge J. Rocca, Carmen S. Menoni, Colorado State Univ. (United States)

12578-19 • 11:00 - 11:30 | Kepler

Analysis of ablation imprints accelerated by machine learning *(Invited Paper)*

Author(s): Vojtěch Vozda, Jaromír Chalupský, Institute of Physics of the CAS, v.v.i. (Czech Republic); Jan Hering, Jan Kybic, Czech Technical Univ. in Prague (Czech Republic); Tomáš Burian, Institute of Physics of the CAS, v.v.i. (Czech Republic), Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic); Katerina Frantálová, Věra Hájková, Institute of Physics of the CAS, v.v.i. (Czech Republic); Šimon Jelínek, Institute of Physics of the CAS, v.v.i. (Czech Republic), Institute of Plasma Physics of the CAS, v.vi.i. (Czech Republic), Charles Univ. (Czech Republic); Libor Juha, Institute of Physics of the CAS, v.v.i. (Czech Republic); Barbara Keitel, Deutsches Elektronen-Synchrotron (Germany); Zuzana Kuglerová, Institute of Physics of the CAS, v.v.i. (Czech Republic), Charles Univ. (Czech Republic); Marion Kuhlmann, Deutsches Elektronen-Synchrotron (Germany); Bohdan Petryshak, Czech Technical Univ. in Prague (Czech Republic); Mabel Ruiz-Lopez, Deutsches Elektronen-Synchrotron (Germany); Ludek Vyšín, Institute of Physics of the CAS, v.v.i. (Czech Republic); Thomas A. Wodzinski, Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico (Portugal); Elke Plönjes, Deutsches Elektronen-Synchrotron (Germany)

12582-27 • 11:30 - 12:00 | Kepler

EUV laser ablation mass spectrometry for probing chemical information down to the nanoscale *(Invited Paper)*

Author(s): Lydia A. Rush, Colorado State Univ. (United States); Andrew M. Duffin, Pacific Northwest National Lab. (United States); Carmen S. Menoni, Colorado State Univ. (United States)

Conference 12579

Laser Acceleration of Electrons, Protons, and Ions VII

25 - 27 April 2023 | Stella (Tue)/Tycho (Wed-Thur)

Conference Chairs: **Stepan S. Bulanov,** Lawrence Berkeley National Lab. (United States); **Carl B. Schroeder,** Lawrence Berkeley National Lab. (United States); **örg Schreiber,** Ludwig-Maximilians-Univ. München (Germany); **Dino A. Jaroszynski,** Univ. of Strathclyde (United Kingdom); **in Sup Hur,** Ulsan National Institute of Science and Technology (Republic of Korea)

Programme Committee: **Sergei V. Bulanov,** ELI Beamlines (Czech Republic); **Min Chen,** Shanghai Jiao Tong Univ. (China); **Brigitte Cros,** Lab. de Physique des Gaz et des Plasmas (France); **Eric H. Esarey,** Lawrence Berkeley National Lab. (United States); **Leonida A. Gizzi,** Consiglio Nazionale delle Ricerche (Italy); **Gabriele M. Grittani,** ELI Beamlines (Czech Republic); **Masaki Kando,** National Institutes for Quantum and Radiological Science and Technology (Japan); **Victor Armand Malka,** Weizmann Institute of Science (Israel); **Ulrich Schramm,** Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); **Zheng-Ming Sheng,** Shanghai Jiao Tong Univ. (China); **Luis O. Silva,** Univ. Técnica de Lisboa (Portugal); **Alexander G. R. Thomas,** Univ. of Michigan (United States)

TUESDAY 25 APRIL

TUESDAY PLENARY SESSION

25 April 2023 • 08:50 - 10:30 | Nadir

12577-600 • 08:55 - 09:40 | Nadir

Fusion ignition at the National Ignition Facility *(Plenary Presentation)*

Author(s): Thomas M. Spinka, Lawrence Livermore National Lab. (United States)

12571-601 • 09:45 - 10:30 | Nadir

AI and deep learning for microscopy *(Plenary Presentation)*

Author(s): Giovanni Volpe, Göteborgs Univ. (Sweden)

Coffee Break 10:30 - 10:50

SESSION 1: RELATIVISTIC PLASMA WAVES AND PARTICLE BEAMS I: ULTRAINTENSE X-RAY & THZ

25 April 2023 • 10:50 - 12:50 | Stella

Session Chair: Laszlo Veisz, Umeå Univ. (Sweden)

12579-1 • 10:50 - 11:20 | Stella

Generation of intense THz pulses using laser-plasma interactions *(Invited Paper)*

Author(s): Hyyong Suk, Gwangju Institute of Science and Technology (Republic of Korea); Keekon Kang, Deutsches Elektronen-Synchrotron (Germany); Kyungmin Roh, Seongjin Jeon, Hyojeong Lee, Gwangju Institute of Science and Technology (Republic of Korea)

12579-2 • 11:20 - 11:50 | Stella

Coherent undulator radiation from pre-bunched attosecond bunches produced by a laser wakefield accelerator *(Invited Paper)*

Author(s): Dino A. Jaroszynski, Univ. of Strathclyde (United Kingdom)

12579-3 • 11:50 - 12:20 | Stella

R&D on compact soft X-ray source using high-vacuum laser electron accelerator *(Invited Paper)*

Author(s): Seong Hee Park, Keon Ho Kim, Hyeon Woo Lee, Sang Yun Shin, Korea Univ. Sejong Campus (Republic of Korea)

12579-36 • 12:20 - 12:50 | Stella

High-brightness self-seeded hard X-ray free-electron laser at PAL-XFEL *(Invited Paper)*

Author(s): Inhyuk Nam, Pohang Accelerator Lab. (Republic of Korea)

Lunch/Exhibition Break 12:50 - 14:00

SESSION 2: RELATIVISTIC PLASMA WAVES AND PARTICLE BEAMS II: EMISSION OF ENERGETIC PARTICLES

25 April 2023 • 14:00 - 15:30 | Stella

Session Chair: Hyyong Suk, Gwangju Institute of Science and Technology (Republic of Korea)

12579-4 • 14:00 - 14:30 | Stella

Relativistic electron acceleration from nanotips *(Invited Paper)*

Author(s): Laszlo Veisz, Aitor De Andres, Umeå Univ. (Sweden); Shikha Bhadoria, Arkady Gonoskov, Mattias Marklund, Thomas Blackburn, Javier Tello Marmolejo, Dag Hanstorp, Göteborgs Univ. (Sweden)

12579-5 • 14:30 - 15:00 | Stella

Positive and negative ion production from under-dense plasma *(Invited Paper)*

Author(s): Merve Yigitoglu Keskin, Middle East Technical Univ. (Turkey); Dino A. Jaroszynski, Univ. of Strathclyde (United Kingdom)

12579-6 • 15:00 - 15:30 | Stella

Generation of energetic ion beams with nontheremal energy distributions from layered foils irradiated by an ultraintense laser pulse *(Invited Paper)*

Author(s): Kitae Lee, Ha-Na Kim, Korea Atomic Energy Research Institute (Republic of Korea); Kyung Nam Kim, Korea Electrotechnology Research Institute (Republic of Korea); Seong Hee Park, Korea Univ. (Republic of Korea); Il Woo Choi, Seong Ku Lee, Chang Hee Nam, Gwangju Institute of Science and Technology (Republic of Korea)

Coffee Break 15:30 - 16:00

SESSION 3: RELATIVISTIC PLASMA WAVES AND PARTICLE BEAMS III: PLASMA OPTICS

25 April 2023 • 16:00 - 17:30 | Stella

Session Chair: Bernhard Ersfeld, Univ. of Strathclyde (United Kingdom)

12579-7 • 16:00 - 16:30 | Stella

The role of transient plasma photonic structures in Raman amplification experiments *(Invited Paper)*

Author(s): Dino A. Jaroszynski, Univ. of Strathclyde (United Kingdom)

12579-8 • 16:30 - 17:00 | Stella

Transient plasma photonic structures as active and passive optical components *(Invited Paper)*

Author(s): Dino A. Jaroszynski, Univ. of Strathclyde (United Kingdom)

12579-9 • 17:00 - 17:30 | Stella

Plasma-based pulse compression for next generation ultraintense lasers *(Invited Paper)*

Author(s): Min Sup Hur, Ulsan National Institute of Science and Technology (Republic of Korea)

POSTERS-TUESDAY

25 April 2023 • 17:45 - 19:15 | Meridian Hall

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Poster authors, visit Poster Presentation Guidelines for set-up instructions.

12579-37

The modified equation of motion for an extended charged particle in strong electromagnetic fields

Author(s): Teyoun Kang, Pohang Accelerator Lab. (Republic of Korea); Adam Noble, Samuel R. Yoffe, Dino A. Jaroszynski, Univ. of Strathclyde (United Kingdom); Min Sup Hur, Ulsan National Institute of Science and Technology (Republic of Korea)

12579-38

Evaluation of the possibility of determining fluctuations which could demonstrate the presence of particles interacting with photons

Author(s): Patrice Salzenstein, Ekaterina Pavlyuchenko, CNRS, FEMTO-ST (France)

12579-39

Liquid jet target system for laser-plasma interaction at kHz repetition rate

Author(s): Nina Gamaiunova, Maksym Tryus, Filip Grepl, Andriy Velyhan, Stanislav Stancek, Vasiliki Kantarelou, ELI Beamlines (Czech Republic); Pablo Cirrone, Istituto Nazionale di Fisica Nucleare (Italy), ELI Beamlines (Czech Republic); Lorenzo Giuffrida, Daniele Margarone, Timofej Chagovets, ELI Beamlines (Czech Republic)

12579-40

Numerical modelling of electron acceleration in the preplasma of thin foils

Author(s): Marek Vlasak, Czech Technical Univ. in Prague (Czech Republic); Robert Babjak, Instituto Superior Técnico (Portugal); Jan Psikal, Czech Technical Univ. in Prague (Czech Republic)

12579-41

Transition of electron beams between vacuum and plasma in the external injection into a laser wakefield accelerator

Author(s): David Gregocki, Czech Technical Univ. in Prague (Czech Republic); Dominika Maslarova, Czech Technical Univ. in Prague (Czech Republic), Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic); Miroslav Krus, Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic), Czech Technical Univ. in Prague (Czech Republic)

WEDNESDAY 26 APRIL

WEDNESDAY PLENARY SESSION

26 April 2023 • 08:50 - 10:30 | Nadir

12570-700 • 08:55 - 09:40 | Nadir

Nonlinear integrated quantum optics with AlGaAs *(Plenary Presentation)*

Author(s): Sara Ducci, Lab. Matériaux et Phénomènes Quantiques (France)

12575-701 • 09:45 - 10:30 | Nadir

Photonic crystal fibres: three decades of novel science *(Plenary Presentation)*

Author(s): Philip St. John Russell, Max-Planck-Institut für die Physik des Lichts (Germany)

Coffee Break 10:30 - 10:50

SESSION 4: LASER ELECTRON ACCELERATION I

26 April 2023 • 10:50 - 12:40 | Tycho

Session Chair: Stepan S. Bulanov, Lawrence Berkeley National Lab. (United States)

12579-10 • 10:50 - 11:20 | Tycho

Temporal coherence and superradiance in plasma wakefield based light sources *(Invited Paper)*

Author(s): Jorge Vieira, Miguel Pardal, Bernardo Malaca, Ricardo Fonseca, Instituto Superior Técnico (Portugal)

12579-11 • 11:20 - 11:40 | Tycho

Average current enhancement of laser-plasma accelerators

Author(s): Lorenzo Martelli, Thales Microwave & Imaging Subsystems (France), Lab. d'Optique Appliquée (France); Igor Andriyash, Olena Kononenko, Julien Gautier, Jean-Philippe Goddet, Amar Tafzi, Ronan Lahaye, Cédric Thaury, Lab. d'Optique Appliquée (France)

12579-12 • 11:40 - 12:00 | Tycho

Direct laser acceleration by multi-petawatt lasers

Author(s): Robert Babjak, Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico, Univ. de Lisboa (Portugal); Louise Willingale, Gérard Mourou Ctr. for Ultrafast Optical Science, Univ. of Michigan (United States); Alexey Arefiev, Univ. of California, San Diego (United States); Marija Vranic, Instituto de Plasmas e Fusão Nuclear (Portugal)

12579-13 • 12:00 - 12:20 | Tycho

Electron injection on steep ramp-up plasma density profiles in high repetition rate laser-plasma wake-field accelerators

Author(s): Vaclav Petrzilka, Pavel Gajdos, Miroslav Krus, Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic)

12579-14 • 12:20 - 12:40 | Tycho

Control of electron injection in LWFA with structured metal targets

Author(s): Seong Hee Park, Hyeon Woo Lee, Sang Yun Shin, Korea Univ. Sejong Campus (Republic of Korea)

Lunch/Exhibition Break 12:40 - 13:50

SESSION 5: LASER ION ACCELERATION I

26 April 2023 • 13:50 - 15:40 | Tycho

Session Chair: Carlo Maria Lazzarini, ELI Beamlines (Czech Republic)

12579-15 • 13:50 - 14:20 | Tycho

Surpassing TNSA performance in laser proton acceleration in the relativistic transparency regime *(Invited Paper)*

Author(s): Karl Zeil, Stefan Assenbaum, Constantin Bernert, Florian-Emanuel Brack, Thomas Kluge, Florian Kroll, Josefine Metzkes-Ng, Martin Rehwald, Marvin Elias Paul Umlandt, Milenko Vescovi, Tim Ziegler, Ulrich Schramm, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany)

12579-16 • 14:20 - 14:40 | Tycho

Commissioning experiment on laser-driven proton acceleration at SCAPA

Author(s): Matthew Alderton, Robbie Wilson, Timothy P. Frazer, Ewan J. Dolier, Jesel Patel, Maia Peat, Martin King, Grace Manahan, Ross Gray, Paul McKenna, Univ. of Strathclyde (United Kingdom)

12579-17 • 14:40 - 15:00 | Tycho

Optimization of multi-petawatt laser-driven proton acceleration in the relativistic transparency regime

Author(s): Jack Goodman, Martin King, Robbie Wilson, Ross Gray, Paul McKenna, Univ. of Strathclyde (United Kingdom)

12579-18 • 15:00 - 15:20 | Tycho

Multi-parameter Bayesian optimization of laser-driven ion acceleration in particle-in-cell simulations

Author(s): Ewan J. Dolier, Martin King, Robbie Wilson, Ross Gray, Paul McKenna, Univ. of Strathclyde (United Kingdom)

12579-19 • 15:20 - 15:40 | Tycho

Laser transmission in the relativistically-induced transparency regime for high performance proton acceleration at PW laser systems

Author(s): Marvin Elias Paul Umlandt, Tim Ziegler, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Nicholas P. Dover, The John Adams Institute for Accelerator Science, Imperial College London (United Kingdom), Kansai Photon Science Institute, National Institutes for Quantum Science and Technology (Japan); Ilja Göthel, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Thomas Kluge, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Chang Liu, Kansai Photon Science Institute, National Institutes for Quantum Science and Technology (Japan); Thomas Püschel, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Milenko Vescovi, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Mamiko Nishiuchi, Kansai Photon Science Institute, National Institutes for Quantum Science and Technology (Japan); Josefine Metzkes-Ng, Karl Zeil, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Ulrich Schramm, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany)

Coffee Break 15:40 - 16:00

SESSION 6: LASER ELECTRON ACCELERATION II

26 April 2023 • 16:00 - 17:50 | Tycho

Session Chair: Gabriele M. Grittani, ELI Beamlines (Czech Republic)

12579-20 • 16:00 - 16:30 | Tycho

50 MeV electron beams from a scalable kHz laser *(Invited Paper)*

Author(s): Carlo Maria Lazzarini, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Gabriele Maria Grittani, Petr Valenta, Illia Zymak, Roman Antipenkov, Uddhab Chaulagain, Leonardo Vila Nova Goncalves, Annika Grenfell, ELI Beamlines (Czech Republic); Marcel Lamac, ELI Beamlines (Czech Republic), Charles Univ. (Czech Republic); Sebastian Lorenz, Michal Nevrkla, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Vaclav Sobr, ELI Beamlines (Czech Republic); Alexandr Spacek, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Wojciech Jerzy Szuba, Pavel Bakule, Georg Korn, ELI Beamlines (Czech Republic); Sergei Vladimirovich Bulanov, ELI Beamlines (Czech Republic), National Institutes for Quantum Science and Technology (Japan)

12579-21 • 16:30 - 16:50 | Tycho

Experimental investigations of Trojan horse injection in a hybrid LWFA-driven PWFA platform

Author(s): Patrick Ufer, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Alastair Nutter, Univ. of Strathclyde (United Kingdom), Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Yen-Yu Chang, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Sébastien Corde, Lab. d'Optique Appliquée (France); Jurjen P. Couperus Cabadag, Alexander Debus, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Andreas Döpp, Ludwig-Maximilians-Univ. München (Germany), Max-Planck-Institut für Quantenoptik (Germany); Florian Moritz Förster, Ludwig-Maximilians-Univ. München (Germany); Max Gilljohann, Lab. d'Optique Appliquée (France), Ludwig-Maximilians-Univ. München (Germany); Thomas Heinemann, Univ. of Strathclyde (United Kingdom), Max-Planck-Institut für Quantenoptik (Germany); Bernhard Hidding, Univ. of Strathclyde (United Kingdom); Stefan Karsch, Ludwig-Maximilians-Univ. München (Germany), Max-Planck-Institut für Quantenoptik (Germany); Alexander Köhler, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Olena Kononenko, Lab. d'Optique Appliquée (France); Richard Pausch, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Susanne Schöbel, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Alberto Martinez de la Ossa, Deutsches Elektronen-Synchrotron (Germany); Ulrich Schramm, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Arie Irman, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany)

12579-22 • 16:50 - 17:10 | Tycho

Beam-driven wakefield probed by femtosecond shadowgraphy

Author(s): Susanne Schöbel, Richard Pausch, Yen-Yu Chang, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Sébastien Corde, Lab. d'Optique Appliquée, Ecole Nationale Supérieure de Techniques Avancées, Ecole Polytechnique, CNRS (France); Jurjen P. Couperus Cadabag, Alexander Debus, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Hao Ding, Andreas Döpp, Florian Moritz Förster, Ludwig-Maximilians-Univ. München (Germany); Max Gilljohann, Lab. d'Optique Appliquée (France), Ludwig-Maximilians-Univ. München (Germany); Florian Haberstroh, Ludwig-Maximilians-Univ. München (Germany); Thomas Heinemann, Univ. of Strathclyde (United Kingdom), The Cockcroft Institute (United Kingdom); Bernhard Hidding, Univ. of Strathclyde (United Kingdom); Stefan Karsch, Ludwig-Maximilians-Univ. München (Germany); Alexander Köhler, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Olena Kononenko, Lab. d'Optique Appliquée (France); Alastair Nutter, Univ. of Strathclyde (United Kingdom), Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Klaus Steiniger, Patrick Ufer, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Alberto Martinez de la Ossa, Deutsches Elektronen-Synchrotron (Germany); Ulrich Schramm, Arie Irman, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany)

12579-23 • 17:10 - 17:30 | Tycho

Dynamics of monoenergetic asymmetric injection of laser wakefield accelerator

Author(s): Shao-Wei Chou, Sung-Wei Huang, Wei-Cheng Liu, Ctr. for High Energy and High Field Physics, National Central Univ. (Taiwan); Shih-Hung Chen, National Central Univ. (Taiwan); Ming-Wei Lin, Institute of Nuclear Engineering and Science, National Tsing Hua Univ. (Taiwan)

12579-24 • 17:30 - 17:50 | Tycho

Development of gas targets for stable laser wakefield electron acceleration

Author(s): Sebastian Lorenz, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Gabriele M. Grittani, Leonardo Goncalves, ELI Beamlines (Czech Republic); Marcel Lamač, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Carlo Maria Lazzarini, ELI Beamlines (Czech Republic); Jiří Limpouch, Czech Technical Univ. in Prague (Czech Republic); Michal Nevrkla, Marek Raclavský, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Alžběta Špádová, Czech Technical Univ. in Prague (Czech Republic); Petr Valenta, Illia Zymak, ELI Beamlines (Czech Republic); Sergei V. Bulanov, ELI Beamlines (Czech Republic), Kansai Photon Science Institute (Japan)

THURSDAY 27 APRIL

SESSION 7: LASER ION ACCELERATION II

27 April 2023 • 09:10 - 10:30 | Tycho

Session Chair: Stepan S. Bulanov, Lawrence Berkeley National Lab. (United States)

12579-25 • 09:10 - 09:30 | Tycho

New capabilities of the iP2 beamline for laser-solid interaction studies at the BELLA PW facility

Author(s): Sahel Hakimi, Lieselotte Obst-Huebl, Kei Nakamura, Axel Huebl, Stepan Bulanov, Anya Jewell, Jared De Chant, Antoine Snijders, Csaba Toth, Anthony Gonsalves, Carl Schroeder, Jeroen van Tilborg, Jean-Luc Vay, Eric Esarey, Cameron Geddes, Lawrence Berkeley National Lab. (United States)

12579-26 • 09:30 - 09:50 | Tycho

Calibration of a Thomson spectrometer for laser plasma proton beams with super-low emittance

Author(s): Parvin Varmazyar, Prashant Kumar Singh, National Laser-induced Transmutation Lab., Univ. of Szeged (Hungary); Zoltán Elekes, Zoltán Halász, Institute for Nuclear Research (Hungary); Bence Nagy, Tibor Gilinger, National Laser-induced Transmutation Lab., Univ. of Szeged (Hungary); Janos Csontos, Kwinten Nelissen, Rita Emilia Szabó, Reka Molnar, Tamás Somoskoi, Szabolcs Tóth, ELI-ALPS Research Institute, ELI-HU Nonprofit Ltd. (Hungary); Sargis Ter-Avetisyan, National Laser-Initiated Transmutation Lab., Univ. of Szeged (Hungary); Karoly Osvay, National Laser-induced Transmutation Lab., Univ. of Szeged (Hungary)

12579-27 • 09:50 - 10:10 | Tycho

Deuteron acceleration and fast neutron generation with few-cycle, relativistic laser pulses at 1 Hz repetition rate

Author(s): Károly Osvay, Miklós Füle, Tibor Gilinger, Bence Kis, Prashant K. Singh, Sargis Ter-Avetisyan, Parvin Varmazyar, National Laser-Initiated Transmutation Lab., Univ. of Szeged (Hungary); Barna Biró, László Csedreki, Zsolt Dombrádi, Zoltán Elekes, András Fenyvesi, Zsolt Fülöp, Zoltán Halász, Institute for Nuclear Research (Hungary); Zeren Korkulu, Ctr. for Exotic Nuclear Studies, Institute for Basic Science (Republic of Korea), Institute for Nuclear Research (Hungary); István Kuti, Institute for Nuclear Research (Hungary); László Stuhl, Ctr. for Exotic Nuclear Studies, Institute for Basic Science (Republic of Korea), Institute for Nuclear Research (Hungary); Adrián Bembibre, Jose Benlliure, Juan Peñas, Univ. de Santiago de Compostela (Spain); Ádám Börzsönyi, ELI-ALPS Research Institute (Hungary); Janos Csontos, ELI-HU Nonprofit Ltd. (Hungary); Arnold Farkas, ELI-ALPS Research Institute (Hungary); Árpád Mohácsi, National Laser-Initiated Transmutation Lab., Univ. of Szeged (Hungary), ELI-ALPS Research Institute (Hungary); Tamás Somoskoi, ELI-ALPS Research Institute (Hungary); Gábor Szabó, Univ. of Szeged (Hungary), ELI-ALPS Research Institute (Hungary); Szabolcs Tóth, ELI-ALPS Research Institute (Hungary)

12579-28 • 10:10 - 10:30 | Tycho

Real-time characterization of laser-accelerated protons using a scintillator stack

Author(s): Valeria Istokskaia, Czech Technical Univ. in Prague (Czech Republic); Giada Petringa, Istituto Nazionale di Fisica Nucleare (Italy); Benoit Lefebvre, ELI Beamlines (Czech Republic); Pablo Cirrone, Istituto Nazionale di Fisica Nucleare (Czech Republic); Mariacristina Guarrera, Istituto Nazionale di Fisica Nucleare (Italy); Roberto Versaci, Veronika Olšovcová, Daniele Margarone, Lorenzo Giuffrida, ELI Beamlines (Czech Republic)

Coffee Break 10:30 - 11:00

SESSION 8: LASER ION ACCELERATION III

27 April 2023 • 11:00 - 12:10 | Tycho

Session Chair: Sahel Hakimi, Lawrence Berkeley National Lab. (United States)

12579-29 • 11:00 - 11:30 | Tycho

Enhanced ion acceleration from transparency-driven foils demonstrated at two ultraintense laser facilities *(Invited Paper)*

Author(s): Nicholas P. Dover, Kansai Photon Science Institute, National Institutes for Quantum Science and Technology (Japan), Imperial College London (United Kingdom); Tim Ziegler, Stefan Assenbaum, Constantin Bernert, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Stefan Bock, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Florian-Emanuel Brack, Thomas E. Cowan, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Emma-Jane Ditter, Imperial College London (United Kingdom); Marco Garten, Lennart Gaus, Ilja Goethel, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); George S. Hicks, Imperial College London (United Kingdom); Hiromitsu Kiriyama, Kansai Photon Science Institute, National Institutes for Quantum Science and Technology (Japan); Thomas Kluge, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); James K. Koga, Akira Kon, Kotaro Kondo, Kansai Photon Science Institute, National Institutes for Quantum Science and Technology (Japan); Stephan Kraft, Florian Kroll, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Hazel F. Lowe, Kansai Photon Science Institute, National Institutes for Quantum Science and Technology (Japan); Josefine Metzkes-Ng, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Tatsuhiko Miyatake, Kansai Photon Science Institute, National Institutes for Quantum Science and Technology (Japan), Kyushu Univ. (Japan); Zulfikar Najmudin, Imperial College London (United Kingdom); Thomas Püschel, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Martin Rehwald, Marvin Reimold, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Hironao Sakaki, Kansai Photon Science Institute, National Institutes for Quantum Science and Technology (Japan), Kyushu Univ. (Japan); Hans-Peter Schlenvoigt, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Keiichiro Shiokawa, Kansai Photon Science Institute, National Institutes for Quantum Science and Technology (Japan), Kyushu Univ. (Japan); Marvin Elias Paul . Umlandt, Ulrich Schramm, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Karl Zeil, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Mamiko Nishiuchi, Kansai Photon Science Institute, National Institutes for Quantum Science and Technology (Japan)

12579-30 • 11:30 - 11:50 | Tycho

Development of an ultrathin liquid leaf target system for deuteron acceleration at 10 Hz repetition rate

Author(s): Miklós Fule, Tibor Gilinger, Bálint G. Nagyillés, Máté Karnok, Péter Gaál, National Laser-Initiated Transmutation Lab., Univ. of Szeged (Hungary); Stephan Figul, Gerd Marowsky, Advanced Microfluidic Systems GmbH (Germany); Attila P. Kovács, Univ. of Szeged (Hungary); Károly Osvay, National Laser-Initiated Transmutation Lab., Univ. of Szeged (Hungary)

12579-31 • 11:50 - 12:10 | Tycho

Commissioning experiments at the ELIMAIA user beamline

Author(s): Lorenzo Giuffrida, Francesco Schillaci, Filip Grepl, Maksym Tryus, Stanislav Stancek, Andriy Velyhan, Valeria Istokskaia, ELI Beamlines, Institute of Physics of the CAS, v.v.i. (Czech Republic); Giada Petringa, Pablo Cirrone, Lab. Nazionali del Sud, Istituto Nazionale di Fisica Nucleare (Italy); Josep Cupal, Lucie Koubikova, Davorin Peceli, Jeffrey Alan Jarboe, Timofej Chagovets, Vasiliki Kantarelou, Nina Gamaiunova, Arsenios Hadjikyriacou, Jan Psikal, ELI Beamlines, Institute of Physics of the CAS, v.v.i. (Czech Republic); Satyabrata Kar, Marco Borghesi, Queen's Univ. Belfast (United Kingdom); Bedrich Rus, Daniele Margarone, ELI Beamlines, Institute of Physics of the CAS, v.v.i. (Czech Republic)

Lunch Break 12:10 - 13:30

SESSION 9: LASER ION ACCELERATION IV

27 April 2023 • 13:30 - 15:00 | Tycho

Session Chair: Jörg Schreiber, Ludwig-Maximilians-Univ. München (Germany)

12579-32 • 13:30 - 14:00 | Tycho

Perspectives for application of sub 10-MeV laser-driven proton beams: PIXE and medical radioisotopes production *(Invited Paper)*

Author(s): Martina Salvadori, Federica Baffigi, Damiano Del Sarto, Lorenzo Fulgentini, Petra Koester, Andrea Marasciulli, Fernando Brandi, Luca Umberto Labate, Istituto Nazionale di Ottica, Consiglio Nazionale delle Ricerche (Italy); Leonida Antonio Gizzi, Istituto Nazionale di Ottica, Consiglio Nazionale delle Ricerche (Italy), Istituto Nazionale di Fisica Nucleare (Italy)

12579-33 • 14:00 - 14:20 | Tycho

Transient laser-induced breakdown of dielectrics in ultra-relativistic laser-solid interactions

Author(s): Constantin Bernert, Stefan Assenbaum, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Stefan Bock, Florian-Emanuel Brack, Thomas E. Cowan, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Chandra B. Curry, SLAC National Accelerator Lab. (United States), Univ. of Alberta (Canada); Marco Garten, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Lennart Gaus, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Maxence Gauthier, SLAC National Accelerator Lab. (United States); René Gebhardt, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Sebastian Göde, European XFEL GmbH (Germany); Siegfried H. Glenzer, SLAC National Accelerator Lab. (United States); Uwe Helbig, Thomas Kluge, Stephan Kraft, Florian Kroll, Lieselotte Obst-Huebl, Thomas Pueschel, Martin Rehwald, Hans-Peter Schlenvoigt, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Christopher Schönwälder, SLAC National Accelerator Lab. (United States), Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); Ulrich Schramm, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Franziska Treffert, SLAC National Accelerator Lab. (United States), Technische Univ. Darmstadt (Germany); Milenko Vescovi, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Tim Ziegler, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Karl Zeil, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany)

12579-34 • 14:20 - 14:40 | Tycho

Transverse instabilities induced periodic modulation in laser driven proton beams

Author(s): Jianhui Bin, Zhe Liu, Jingwei Wang, Make Zhao, Yuxin Leng, Ruxin Li, Shanghai Institute of Optics and Fine Mechanics (China)

12579-35 • 14:40 - 15:00 | Tycho

Investigation of the transient dynamics of cavitation bubble produced during pulsed laser ablation of a solid immersed in liquid by shadowgraphic imaging

Author(s): Prahlad K. Baruah, Pandit Deendayal Energy Univ. (India); Ashwini K. Sharma, Alika Khare, Indian Institute of Technology Guwahati (India)

Conference 12580

Research Using Extreme Light: Entering New Frontiers with Petawatt-Class Lasers V

24 - 25 April 2023 | Tycho

Conference Chairs: **Sergei V. Bulanov,** ELI Beamlines (Czech Republic); **Luis O. Silva,** Univ. Técnica de Lisboa (Portugal)

Programme Committee: **Dimitrios Charalambidis,** Foundation for Research and Technology-Hellas (Greece); **Gabriele M. Grittani,** ELI Beamlines (Czech Republic); **Cristina Hernandez-Gomez,** Rutherford Appleton Lab. (United Kingdom); **Georg Korn,** Institute of Physics of the ASCR, v.v.i. (Czech Republic); **Mattias Marklund,** Umeå Univ. (Sweden); **Matthew Zepf,** Queen's Univ. Belfast (United Kingdom); V**ictor Zamfir,** Horia Hulubei National Institute of Physics and Nuclear Engineering (Romania)

MONDAY 24 APRIL

SESSION 1: EXTREME FIELD LIMITS I

24 April 2023 • 08:30 - 10:15 | Tycho

Session Chair: Sergei Vladimirovich Bulanov, ELI Beamlines (Czech Republic)

12580-1 • 08:30 - 09:05 | Tycho

Extreme field physics with ultra-intense laser pulses *(Keynote Presentation)*

Author(s): Christoph H. Keitel, Max-Planck-Institut für Kernphysik (Germany)

12580-2 • 09:05 - 09:35 | Tycho

All-optical nonlinear Breit-Wheeler pair production with gamma-flash photons *(Invited Paper)*

Author(s): Alexander Macleod, Prokopis Hadjisolomou, Tae Moon Jeong, ELI Beamlines (Czech Republic); Sergei V. Bulanov, ELI Beamlines (Czech Republic), Kansai Photon Science Institute, National Institutes for Quantum Science and Technology (Japan)

12580-3 • 09:35 - 09:55 | Tycho

Nonlinear Compton scattering and nonlinear Breit-Wheeler pair production including the damping of particle states

Author(s): Tobias Podszus, Max-Planck-Institut für Kernphysik (Germany); Victor Dinu, Univ. din Bucuresti (Romania); Antonino Di Piazza, Max-Planck-Institut für Kernphysik (Germany)

=12580-4 • 09:55 - 10:15 | Tycho

ELI-ELBA all-optical GeV electron-PW laser collider

Author(s): Gabriele M. Grittani, Leonardo V. Goncalves, Martin Jirka, Carlo M. Lazzarini, Sebastian Lorenz, Michal Nevrkla, Jiri Sisma, Vanda Slukova, Petr Valenta, Filip Vitha, Illia Zymak, Georg Korn, Sergei V. Bulanov, ELI Beamlines (Czech Republic)

Coffee Break 10:15 - 10:40

SESSION 2: EXTREME FIELD LIMITS II

24 April 2023 • 10:40 - 12:20 | Tycho

Session Chair: Luis O. Silva, Univ. de Lisboa (Portugal)

12580-5 • 10:40 - 11:00 | Tycho

High-order modes of intense second harmonic light produced from a plasma aperture

Author(s): Ewan F. J. Bacon, Martin King, Robbie Wilson, Timothy P. Frazer, Ross Gray, Paul McKenna, Univ. of Strathclyde (United Kingdom)

12580-6 • 11:00 - 11:20 | Tycho

Relativistic flying mirror for strong-field quantum electrodynamics

Author(s): Tae Moon Jeong, Sergei V. Bulanov, Petr Valenta, Prokopis Hadjisolomou, Alexander J. Macleod, ELI Beamlines (Czech Republic)

12580-7 • 11:20 - 11:40 | Tycho

Strong field QED studies at PW-class laser facilities and beyond

Author(s): Stepan S. Bulanov, Lawrence Berkeley National Lab. (United States)

12580-8 • 11:40 - 12:00 | Tycho

Intense long-lived magnetic wakes driven by relativistic laser pulses

Author(s): Marcel Lamac, Uddhab Chaulagain, Jaroslav Nejdl, Sergei V. Bulanov, ELI Beamlines (Czech Republic)

12580-9 • 12:00 - 12:20 | Tycho

Decay of a strong electromagnetic eave in near-critical plasmas due to the radiation loss effects: elementary process underlying the gamma flash generation

Author(s): Sergei V. Bulanov, ELI Beamlines (Czech Republic)

Lunch Break 12:20 - 13:30

SESSION 3: ACCELERATION OF PARTICLES USING HIGH POWER PW CLASS LASERS I

24 April 2023 • 13:30 - 15:50 | Tycho

Session Chair: Gabriele M. Grittani, ELI Beamlines (Czech Republic)

12580-10 • 13:30 - 14:00 | Tycho

Demonstration of all optical nonlinear Compton scattering between a multi-GeV electron beam and an ultrahigh intensity laser *(Invited Paper)*

Author(s): Chang Hee Nam, Ctr. for Relativistic Laser Science, Institute for Basic Science (Republic of Korea)

12580-11 • 14:00 - 14:20 | Tycho

10 PW laser systems facility at ELI-NP

Author(s): Ioan Dancus, Institutul National pentru Fizica Laserilor, Plasmei si Radiatiei (Romania)

12580-12 • 14:20 - 14:40 | Tycho

On the electron beam loading in radiation-reaction dominated regime of direct laser acceleration

Author(s): Petr Valenta, ELI Beamlines (Czech Republic); Dominika Mašlárová, Czech Technical Univ. in Prague (Czech Republic), Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic); Robert Babjak, Instituto de Plasmas e Fusão Nuclear (Portugal), Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic); Bertrand Martinez, Marija Vranic, Instituto de Plasmas e Fusão Nuclear (Portugal)

12580-13 • 14:40 - 15:10 | Tycho

New avenues and opportunities for research at multi-PW laser facilities *(Invited Paper)*

Author(s): Gianluca Sarri, Queen's Univ. Belfast (United Kingdom)

12580-14 • 15:10 - 15:30 | Tycho

Direct laser acceleration of electrons and positrons at high intensities

Author(s): Robert Babjak, Instituto Superior Técnico (Slovakia); Bertrand Martinez, Instituto de Plasmas e Fusão Nuclear (Portugal); Dominika Mašlárová, Petr Valenta, Czech Technical Univ. in Prague (Czech Republic); Marija Vranic, Instituto Superior Técnico (Portugal)

12580-15 • 15:30 - 15:50 | Tycho

Deflection of positrons from the Breit-Wheeler pair creation by a multi-PW laser pulse

Author(s): Dominika Mašlárová, Czech Technical Univ. in Prague (Czech Republic), Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic); Bertrand Martinez, Marija Vranic, Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico, Univ. de Lisboa (Portugal)

Coffee Break 15:50 - 16:15

MONDAY PLENARY SESSION

24 April 2023 • 16:15 - 18:00 | Nadir

12577-500 • 16:25 - 17:10 | Nadir

Exploring plasma physics with multi-petawatt laser pulses (Plenary Presentation)

Author(s): Louise Willingale, Univ. of Michigan (United States)

12579-501 • 17:15 - 18:00 | Nadir

Laser plasma accelerators (Plenary Presentation)

Author(s): Victor A. Malka, Weizmann Institute of Science (Israel)

TUESDAY 25 APRIL

TUESDAY PLENARY SESSION

25 April 2023 • 08:50 - 10:30 | Nadir

12577-600 • 08:55 - 09:40 | Nadir

Fusion ignition at the National Ignition Facility *(Plenary Presentation)*

Author(s): Thomas M. Spinka, Lawrence Livermore National Lab. (United States)

12571-601 • 09:45 - 10:30 | Nadir

AI and deep learning for microscopy *(Plenary Presentation)*

Author(s): Giovanni Volpe, Göteborgs Univ. (Sweden)

Coffee Break 10:30 - 10:50

SESSION 4: EXTREME LIGHT FACILITIES, PROJECTS, DIRECTIONS I

25 April 2023 • 10:50 - 12:20 | Tycho

Session Chair: Tae Moon Jeong, ELI Beamlines (Czech Republic)

12580-16 • 10:50 - 11:20 | Tycho

Science at ELI-ALPS using extreme light: past, present and future *(Invited Paper)*

Author(s): Subhendu Kahaly, ELI-ALPS Research Institute (Hungary)

12580-17 • 11:20 - 11:50 | Tycho

Status of ELI-Beamlines laser systems, development of new PW and high-repetition rate capabilites *(Invited Paper)*

Author(s): Bedrich Rus, ELI Beamlines (Czech Republic)

12580-18 • 11:50 - 12:20 | Tycho

Extreme Light Infrastructure-Nuclear Physics: overview and perspectives *(Invited Paper)*

Author(s): Calin A. Ur, Extreme Light Infrastructure Nuclear Physics (Romania)

Lunch/Exhibition Break 12:20 - 13:30

SESSION 5: EXTREME LIGHT FACILITIES, PROJECTS, DIRECTIONS II

25 April 2023 • 13:30 - 15:00 | Tycho

Session Chair: Mamiko Nishiuchi, National Institutes for Quantum and Radiological Science and Technology (Japan)

12580-19 • 13:30 - 14:00 | Tycho

Nuclear fusion using ultrafast high intensity lasers *(Invited Paper)*

Author(s): Hartmut Ruhl, Marvel Fusion GmbH (Germany)

12580-20 • 14:00 - 14:30 | Tycho

User research opportunities at the ELI Beamlines facility *(Invited Paper)*

Author(s): Daniele Margarone, ELI Beamlines (Czech Republic)

12580-21 • 14:30 - 15:00 | Tycho

Status and challenges of high power laser physics applications in the Petawatt era *(Invited Paper)*

Author(s): Jörg Schreiber, Ludwig-Maximilians-Univ. München (Germany)

Coffee Break 15:00 - 15:20

SESSION 6: ACCELERATION OF PARTICLES USING HIGH POWER PW CLASS LASERS II

25 April 2023 • 15:20 - 17:40 | Tycho

Session Chair: Gianluca Sarri, Queen's Univ. Belfast (United Kingdom)

12580-22 • 15:20 - 15:50 | Tycho

Efficient acceleration of bulk target ions with PW-class lasers *(Invited Paper)*

Author(s): Marco Borghesi, Queen's Univ. Belfast (United Kingdom)

12580-23 • 15:50 - 16:10 | Tycho

Picosecond ramp of ultrashort laser pulse: its effect on laser-driven ion acceleration or plasma shutter

Author(s): Jan Psikal, Czech Technical Univ. in Prague (Czech Republic), ELI Beamlines (Czech Republic)

12580-24 • 16:10 - 16:30 | Tycho

Latest results from the commissioning of the 1 PW and 10 PW laser system of ELI-NP via laser-driven acceleration of particles

Author(s): Domenico Doria, Extreme Light Infrastructure Nuclear Physics (Romania)

12580-25 • 16:30 - 16:50 | Tycho

Spiral pulse generation via ultra-thin foil and circularly polarized laser pulse

Author(s): Martin Matys, ELI Beamlines (Czech Republic); Kunioki Mima, Institute of Laser Engineering, Osaka Univ. (Japan); Ondrej Klimo, Tae Moon Jeong, Jan Psikal, Sergei V. Bulanov, ELI Beamlines (Czech Republic)

12580-26 • 16:50 - 17:20 | Tycho

Efficient acceleration of highly ionized heavy ions via ultra-relativistic high fields with PW laser systems *(Invited Paper)*

Author(s): Mamiko Nishiuchi, National Institutes for Quantum and Radiological Science and Technology (Japan); Nicholas P. Dover, National Institutes for Quantum and Radiological Science and Technology (Japan), The John Adams Institute for Accelerator Science, Imperial College London (United Kingdom); Akira Kon, Chang Liu, Kotaro Kondo, Hiromitsu Kiriyama, Hironao Sakaki, Hazel Lowe, James K. Koga, Tatsuhiko Miyatake, Ibuki Takemoto, National Institutes for Quantum and Radiological Science and Technology (Japan); Emma-Jane Ditter, George S. Hicks, Zulfikar Najmudin, The John Adams Institute for Accelerator Science (United Kingdom); Tim Ziegler, Stefan Bock, Thomas Pueschel, Marvin Elias Paul . Umlandt, Thomas Kluge, Constantin Bernert, Ilja Goethel, Ulrich Schramm, Karl Zeil, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany)

12580-28 • 17:20 - 17:40 | Tycho

Photon—photon scattering in Born—Infeld electrodynamics

Author(s): Hedvika Kadlecova, ELI Beamlines (Czech Republic)

POSTERS-TUESDAY

25 April 2023 • 17:45 - 19:15 | Meridian Hall

Conference attendees are invited to attend the Optics + Optoelectronics Symposium Poster Session on Tuesday afternoon. Enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster session.

Poster authors, visit Poster Presentation Guidelines for set-up instructions.

12580-29

Radiation generation during laser and particle beam interactions in particle-in-cell codes

Author(s): Patrik Puškáš, Czech Technical Univ. in Prague (Czech Republic); Dominika Mašlárová, Czech Technical Univ. in Prague (Czech Republic), Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic); Robert Babjak, Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic), Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico, Univ. de Lisboa (Portugal); Miroslav Krus, Czech Technical Univ. in Prague (Czech Republic), Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic)

Conference 12581

X-Ray Free-Electron Lasers: Advances in Source Development and Instrumentation VI

26 - 27 April 2023 | Zenit

Conference Chairs: **Thomas Tschentscher,** European XFEL GmbH (Germany); **Luc Patthey,** Paul Scherrer Institut (Switzerland); **Kai Tiedtke,** Deutsches Elektronen-Synchrotron (Germany); **Marco Zangrando,** Elettra-Sincrotrone Trieste S.C.p.A. (Italy)

Program Committee: **Enrico M. Allaria,** Elettra-Sincrotrone Trieste S.C.p.A. (Italy); **Intae Eom,** Pohang Univ. of Science and Technology (Republic of Korea); **David Mark Fritz,** SLAC National Accelerator Lab. (United States); **Eduard Prat,** Paul Scherrer Institut (Switzerland); **Frank Siewert,** Helmholtz-Zentrum Berlin für Materialien und Energie GmbH (Germany); **Makina Yabashi,** RIKEN SPring-8 Ctr. (Japan); **Mikhail V. Yurkov**, Deutsches Elektronen-Synchrotron (Germany)

TUESDAY 25 APRIL

POSTERS-TUESDAY

25 April 2023 • 17:45 - 19:15 | Meridian Hall

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Poster authors, visit Poster Presentation Guidelines for set-up instructions.

[12581-34]

Progress on fresh-slice multi-stage amplification at SwissFEL, Guanglei Wang

Author(s): Sven Reiche, Kirsten Andrea Schnor, Eduard Prat, Paul Scherrer Institut (Switzerland)

[12581-35]

EuPRAXIA@SPARC_LAB status update

Author(s): Fabio Villa, Istituto Nazionale di Fisica Nucleare (Italy)

[12581-36]

Demonstration of two-color x-ray FEL by laser emittance spoiler

Author(s): Carlo Vicario, Simona Bettoni, Andreas Dax, Martin Huppert, Christopher Arrell, Philip Johnson, Eduard Prat Costa, Sven Reiche, Alexandre Trisorio, Paul Scherrer Institut (Switzerland); Philipp Dijkstal, Deutsches Elektronen-Synchrotron (Germany); Alberto Lutman, SLAC National Accelerator Lab. (United States); Wojciech B?achucki, Institute of Nuclear Physics PAN (Poland)

[12581-37]

Improvement of Reverse-taper enhanced Echo-enabled Harmonic Lasing at SXFEL

Author(s): Weijie Fan, Shanghai Institute of Applied Physics (China); Kaiqing Zhang, chao feng, Shanghai Advanced Research Institute, Chinese Academy of Sciences (China); Lingjun Tu, Shanghai Institute of Applied Physics (China) and University of Chinese Academy of Sciences (China); Minghua Zhao, Shanghai Institute of Applied Physics (China)

[12581-38]

Prototype development of soft X-ray online beam position monitoring detector for PAL-XFEL

Author(s): HyoJung Hyun, Seonghan Kim, Sunmin Hwang, Hoyoung Jang, Garam Hahn, Donghyun Song, Pohang Accelerator Lab. (Korea, Republic of); Seungcheol Lee, Pohang Accelerator Lab. (Korea, Republic of)

[12581-39]

High resolution, soft X-ray spectrometer at SwissFEL

Author(s): Christopher Arrell, Ulrich Wagner, Luc Patthey, Rolf Follath, Paul Scherrer Institut (Switzerland)

[12581-41]

Bendable grating for monochromatization in the extreme-ultraviolet

Author(s): Gabriele Zeni, Fabio Frassetto, Antonio Vanzo, Stefano Bonora, Luca Poletto, CNR-Istituto di Fotonica e Nanotecnologie (Italy)

[12581-42]

Estimation of the transmitted intensity through a diamond channel cut monochromator under high dynamical heat load at EuXFEL

Author(s): Kelin R. Tasca, Anders Madsen, Ilia Petrov, Angel Rodriguez-Fernandez, Roman Shayduk, Maurizzio Vannoni, Alexey Zozulya, Liubov Samoylova, European XFEL GmbH (Germany)

[12581-43]

A compact numerical representation of MHz XFEL pulse instability

Author(s): Trey Guest, European XFEL GmbH (Germany) and La Trobe Univ. (Australia); Brian Abbey, La Trobe Univ. (Australia); Richard Bean, European XFEL GmbH (Germany); Grant van Riessen, La Trobe Univ. (Australia); Adrian P. Mancuso, Diamond Light Source Ltd. (United Kingdom) and La Trobe Univ. (Australia) and European XFEL GmbH (Germany); David M. Paganin, Monash Univ. (Australia)

[12581-45]

Towards automated analysis of serial crystallography data at European XFEL

Author(s): Oleksii Turkot, Fabio Dall'Antonia, Raphaël de Wijn, Adam Round, Faisal Koua, Diogo Melo, Sravya Kantamneni, European XFEL GmbH (Germany); Grant Mills, European XFEL GmbH (Germany) and Evotec SE (Germany); Henry Kirkwood, European XFEL GmbH (Germany) and PlantTech Research Institute Ltd. (New Zealand); Luca Gelisio, European XFEL GmbH (Germany)

[12581-46]

Simulation of generating ultrafast XFEL using an LPA at SXFEL

Author(s): Lingjun Tu, Shanghai Institute of Applied Physics (China); Weijie Fan, Shanghai Institute of Applied Physics (China); Chao Feng, Zhentang Zhao, Shanghai Institute of Applied Physics (China)

[12581-47]

Time-resolved photoemission with a momentum microscope at LCLS II

Author(s): Jake D. Koralek, SLAC National Accelerator Lab. (United States)

[12581-48]
Multi-pass cell-based nonlinear pulse compression of Yb:YAG Pump-Probe Lasers at FLASH
Author(s): Marcus Seidel, Deutsches Elektronen-Synchrotron (Germany); Anne-Lise Viotti, Deutsches Elektronen-Synchrotron (Germany) and Lund Univ. (Sweden); Skirmantas Alisauskas, Ayhan Tajalli, Onder Akcaalan, John Darvill, Nagitha Ekanayake, Uwe Grosse-Wortmann, Chen Li, Christian Mohr, Federico Pressacco, Nora Schirmel, Angad Swiderski, Hamed Tavakol, Henrik Tünnermann, Caterina Vidoli, Lutz Winkelmann, Deutsches Elektronen-Synchrotron (Germany); Christoph M. Heyl, Deutsches Elektronen-Synchrotron (Germany) and Helmholtz Institute Jena (Germany) and GSI Helmholtzzentrum für Schwerionenforschung GmbH (Germany); Bastian Manschwetus, Huseyin Cankaya, Ingmar Hartl, Deutsches Elektronen-Synchrotron (Germany)

[12581-49]
Enabling time-resolved experiments with ultrashort FEL pulses via the split-and-delay unit for FLASH2
Author(s): Matthias Dreimann, Ctr. for Soft Nanoscience, Westfälische Wilhelms-Univ. Münster (Germany); Dennis Eckermann, Westfälische Wilhelms-Univ. Münster (Germany); Sebastian Roling, Frank Wahlert, Physikalisches Institut, Westfälische Wilhelms-Univ. Münster (Germany); Marion Kuhlmann, Sven Toleikis, Rolf Treusch, Elke Plönjes-Palm, Deutsches Elektronen-Synchrotron (Germany); Helmut Zacharias, Ctr. for Soft Nanoscience, Westfälische Wilhelms-Univ. Münster (Germany)

[12581-50]
Five years operation experience with the AGIPD detectors at the European XFEL
Author(s): Ivana Klackova, Jolanta Sztuk-Dambietz, European XFEL GmbH (Germany); Heinz Graafsma, Torsten Laurus, Deutsches Elektronen-Synchrotron (Germany); Olivier Meyer, Thomas Preston, Natascha Raab, Roman Shayduk, Marcin Sikorski, European XFEL GmbH (Germany); Cornelius Strohm, Deutsches Elektronen-Synchrotron (Germany); Monica Turcato, European XFEL GmbH (Germany)

WEDNESDAY 26 APRIL

WEDNESDAY PLENARY SESSION

26 April 2023 • 08:50 - 10:30 | Nadir

12570-700 • 08:55 - 09:40 | Nadir
Nonlinear integrated quantum optics with AlGaAs *(Plenary Presentation)*
Author(s): Sara Ducci, Lab. Matériaux et Phénomènes Quantiques (France)

12575-701 • 09:45 - 10:30 | Nadir
Photonic crystal fibres: three decades of novel science *(Plenary Presentation)*
Author(s): Philip St. John Russell, Max-Planck-Institut für die Physik des Lichts (Germany)

Coffee Break 10:30 - 10:50

SESSION 1: UPDATES ON FACILITIES AND NEW FEL SOURCES

26 April 2023 • 10:50 - 12:40 | Zenit
Session Chair: Makina Yabashi, RIKEN SPring-8 Ctr. (Japan)

12581-1 • 10:50 - 11:20 | Zenit
LCLS-II commissioning, first light, and future prospects *(Invited Paper)*
Author(s): Mike Dunne, SLAC National Accelerator Lab. (United States)

12581-2 • 11:20 - 11:40 | Zenit
Current status of PAL-XFEL
Author(s): Intae Eom, Pohang Accelerator Lab. (Republic of Korea)

12581-3 • 11:40 - 12:00 | Zenit
Externally seeded free electron laser invading the X-ray region
Author(s): Enrico Allaria, Elettra-Sincrotrone Trieste S.C.p.A. (Italy)

12581-4 • 12:00 - 12:20 | Zenit
Status of the Shanghai soft X-ray free-electron laser
Author(s): Chao Feng, Shanghai Advanced Research Institute (China)

12581-5 • 12:20 - 12:40 | Zenit
Generation and measurement of ultrashort free electron laser pulse in ultraviolet (EUV) to the soft-X-ray region
Author(s): Najmeh Mirian, Deutsches Elektronen-Synchrotron (Germany); Luca Giannessi, Istituto Nazionale di Fisica Nucleare (Italy); Enrico Allaria, Carlo Spezzani, Michele Di Fraia, Filippo Sottocorona, Simone Spampinati, Laura Badano, Miltcho Danailov, Alexander Demidovich, Giovanni De Ninno, Simone Di Mitri, Giuseppe Penco, Carlo Spezzani, Mauro Trovo, Michele Manfredda, Oksana Plekan, Kevin Prince, Elettra-Sincrotrone Trieste S.C.p.A. (Italy); Tommaso Mazza, European XFEL GmbH (Germany); Richard Squibb, Carlo Callegari, Primoz Rebernik, Marco Zangrando, Elettra-Sincrotrone Trieste S.C.p.A. (Italy); Xi Yang, Brookhaven National Lab. (United States)

Lunch/Exhibition Break 12:40 - 13:40

SESSION 2: ADVANCED LASING SOURCES

26 April 2023 • 13:40 - 15:40 | Zenit
Session Chair: Eduard Prat Costa, Paul Scherrer Institut (Switzerland)

12581-6 • 13:40 - 14:10 | Zenit
Generation of isolated terawatt attosecond X-ray pulses from a free-electron laser *(Invited Paper)*
Author(s): Chi Hyun Shim, Pohang Accelerator Lab. (Republic of Korea); Ki Moon Nam, Pohang Univ. of Science and Technology (Republic of Korea); Yong Woon Parc, Pohang Accelerator Lab. (Republic of Korea); Dong Eon Kim, Pohang Univ. of Science and Technology (Republic of Korea)

12581-7 • 14:10 - 14:40 | Zenit
Seeding at SwissFEL *(Invited Paper)*
Author(s): Sven Reiche, Paul Scherrer Institut (Switzerland)

12581-8 • 14:40 - 15:00 | Zenit
A method to generate short pulses at X-ray FELs
Author(s): Evgeny A. Schneidmiller, Deutsches Elektronen-Synchrotron (Germany)

12581-9 • 15:00 - 15:20 | Zenit
Numerical simulation studies of superconducting afterburner operation at SASE2 beamline of European XFEL
Author(s): Christoph Lechner, Sara Casalbuoni, Gianluca Geloni, Barbara Marchetti, European XFEL GmbH (Germany); Evgeny Schneidmiller, Deutsches Elektronen-Synchrotron (Germany); Svitozar Serkez, Harald Sinn, European XFEL GmbH (Germany)

12581-10 • 15:20 - 15:40 | Zenit
An active Q-switched X-ray regenerative amplifier free-electron laser
Author(s): Zhirong Huang, SLAC National Accelerator Lab. (United States)

Coffee Break 15:40 - 16:00

SESSION 3: INSTRUMENTATION/TECHNIQUES: X-RAY DIAGNOSTIC METHODS

26 April 2023 • 16:00 - 17:50 | Zenit

Session Chair: Kai Tiedtke, Deutsches Elektronen-Synchrotron (Germany)

12581-11 • 16:00 - 16:30 | Zenit

Single-shot ptychography at free-electron lasers for imaging and beam characterization *(Invited Paper)*

Author(s): Konstantin Kharitonov, European XFEL GmbH (Germany); Mabel Ruiz-Lopez, Barbara Keitel, Elke Plönjes, Alessandro Marras, Jonathan Correa, Cornelia Wunderer, Deutsches Elektronen-Synchrotron (Germany)

12581-13 • 16:30 - 16:50 | Zenit

Post-undulator beam measurements with PolariX TDS in SwissFEL

Author(s): Paolo Craievich, Eduard Prat, Paul Scherrer Institut (Switzerland)

12581-14 • 16:50 - 17:10 | Zenit

Short-pulse diagnostics at the attosecond frontier for EuXFEL and FLASH

Author(s): Markus Ilchen, Deutsches Elektronen-Synchrotron (Germany); Sadia Bari, Deutsches Elektronen-Synchrotron (Germany); Thomas Baumann, European XFEL GmbH (Germany); Christopher Behrens, Yilmaz Bican, Mahdi Bidhendi, Deutsches Elektronen-Synchrotron (Germany); Rebecca Boll, European XFEL GmbH (Germany); Markus Braune, Günter Brenner, Francesca Callegari, Deutsches Elektronen-Synchrotron (Germany); Alberto De Fanis, European XFEL GmbH (Germany); Markus Degenhardt, Deutsches Elektronen-Synchrotron (Germany); Kristina Dingel, Univ. Kassel (Germany); Stefan Düsterer, Deutsches Elektronen-Synchrotron (Germany); Felix Egun, Imperial College London (United Kingdom); Arno Ehresmann, Univ. Kassel (Germany); Benjamin Erk, Deutsches Elektronen-Synchrotron (Germany); Lars Funke, Technische Univ. Dortmund (Germany); Andreas Galler, Gianluca Geloni, European XFEL GmbH (Germany); Gesa Götzke, Deutsches Elektronen-Synchrotron (Germany); Tais Gorkhover, Univ. Hamburg (Germany); Jan Grünert, Patrik Grychtol, Marc Guetg, European XFEL GmbH (Germany); Andreas Hans, Univ. Kassel (Germany); Arne Held, Technische Univ. Dortmund (Germany); Ruda Hindrikson, Univ. Kassel (Germany); Moritz Hoesch, Deutsches Elektronen-Synchrotron (Germany); Till Jahnke, Goethe-Univ. Frankfurt am Main (Germany); Fini Jastrow, Deutsches Elektronen-Synchrotron (Germany); Reinhard Kienberger, Technische Univ. München (Germany); Joakim Laksman, European XFEL GmbH (Germany); Mats Larsson, Stockholm Univ. (Germany); Jia Liu, European XFEL GmbH (Germany); Jon Marangos, Imperial College London (Germany); Lutz Marder, Univ. Kassel (Germany); David Meier, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH (Germany); Michael Meyer, European XFEL GmbH (Germany); Najmeh Mirian, Deutsches Elektronen-Synchrotron (Germany); Jacobo Montano, Terence Mullins, European XFEL GmbH (Germany); Valerija Music, Univ. Kassel (Germany); Christian Ott, Max-Planck-Institut für Kernphysik (Germany); Thorsten Otto, Univ. Kassel (Germany); Yevheniy Ovcharenko, European XFEL GmbH (Germany); Steffen Palutke, Christopher Passow, Deutsches Elektronen-Synchrotron (Germany); Thomas Pfeifer, Max-Planck-Institut für Kernphysik (Germany); Nils Rennhack, Daniel Rivas, European XFEL GmbH (Germany); Daniel Rolles, Artem Rudenko, Kansas State Univ. (United States); Patrick Rupprecht, Max-Planck-Institut für Kernphysik (Germany); Sara Savio, Technische Univ. Dortmund (Germany); Albert Schletter, Technische Univ. München (Germany); Frank Scholz, Jörn Seltmann, Deutsches Elektronen-Synchrotron (Germany); Svitozar Serkez, Philipp Schmidt, European XFEL GmbH (Germany); Evgeny Schneidmiller, Deutsches Elektronen-Synchrotron (Germany); Bernhard Sick, Univ. Kassel (Germany); Richard Thomas, Stockholm Univ. (Sweden); Sergey Usenko, European XFEL GmbH (Germany); Jens Viefhaus, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH (Germany); Peter Walter, SLAC National Accelerator Lab. (United States); Vincent Wanie, Deutsches Elektronen-Synchrotron (Germany); Niclas Wieland, Lasse Wülfing, Technische Univ. Dortmund (Germany); Mikhail Yurkov, Deutsches Elektronen-Synchrotron (Germany); Vitali Zhaunerchyk, Göteborgs Univ. (Sweden); Kai Tiedtke, Deutsches Elektronen-Synchrotron (Germany); Wolfram Helml, Technische Univ. Dortmund (Germany)

12581-15 • 17:10 - 17:30 | Zenit

Angle-resolved photo-electron spectrometer for hard X-ray photon diagnostics at the European XFEL

Author(s): Joakim Laksman, Florian Dietrich, Jia Liu, Theophilos Maltezopoulos, Naresh Kujala, Marc Planas, Wolfgang Freund, European XFEL GmbH (Germany); Sonia Francoual, Deutsches Elektronen-Synchrotron (Germany); Jan Grünert, European XFEL GmbH (Germany)

12581-16 • 17:30 - 17:50 | Zenit

Fast absolute pulse energy measurements at SwissFEL

Author(s): Pavle Juranic, Arturo Alarcon, Rasmus Ischebeck, Paul Scherrer Institut (Switzerland)

THURSDAY 27 APRIL

SESSION 4: INSTRUMENTATION/TECHNIQUES: X-RAY OPTICS & BEAM DELIVERY

27 April 2023 • 08:30 - 10:20 | Zenit

Session Chair: Marco Zangrando, Elettra-Sincrotrone Trieste S.C.p.A. (Italy)

12581-17 • 08:30 - 09:00 | Zenit

Fabrication of atomically precise, super smooth, and damage-free X-ray optics *(Invited Paper)*

Author(s): Pho Bui, Osaka Univ. (Japan), JTEC Corp. (Japan); Masahiko Kanaoka, JTEC Corp. (Japan); Makina Yabashi, Tetsuya Ishikawa, RIKEN SPring-8 Ctr. (Japan); Yasuhisa Sano, Osaka Univ. (Japan), S-Surface Technologies Co., Ltd. (Japan); Kazuto Yamauchi, Osaka Univ. (Japan)

12581-18 • 09:00 - 09:20 | Zenit

SwissFEL KB-optics at-wavelength wavefront characterisation

Author(s): Juraj Krempasky, Uwe Flechsig, Benedikt Roessner, Bill Pedrini, Jakub Vonka, Ulrich Wagner, Rolf Follath, Paul Scherrer Institut (Switzerland); Mikako Makita, Patrik Vagovic, European XFEL GmbH (Germany); Christian David, Paul Scherrer Institut (Switzerland)

12581-19 • 09:20 - 09:40 | Zenit

On the current state of reflective and diffractive X-ray optical elements and their characterization by means of ex-situ and at-wave-length metrology

Author(s): Frank Siewert, Jana Buchheim, Grzegorz Gwalt, Analia Fernandez Herrero, Stephanie Lemke, Svyatoslav Alimov, Jeniffa Knedel, Tino Seliger, Thomas Zeschke, Stefan Rehbein, Andrey Sokolov, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH (Germany)

12581-20 • 09:40 - 10:00 | Zenit

Splitting and delaying fully coherent FELs pulses for advancing ultrafast X-ray science: the AC/DC optical device at the FERMI FEL

Author(s): Alberto Simoncig, Michele Manfredda, Giulio Gaio, Elettra-Sincrotrone Trieste S.C.p.A. (Italy); Nicola Mahne, Istituto Officina dei Materiali (Italy); Lorenzo Raimondi, Claudio Fava, Simone Gerusina, Riccardo Gobessi, Alessandro Abrami, Flavio Capotondi, Dario De Angelis, Ralf Menk, Matteo Pancaldi, Emanuele Pedersoli, Marco Zangrando, Elettra-Sincrotrone Trieste S.C.p.A. (Italy)

12581-21 • 10:00 - 10:20 | Zenit

Design of a compact time-delay-compensated monochromator for femtosecond pulses in the extreme-ultraviolet

Author(s): Luca Poletto, Fabio Frassetto, CNR-Istituto di Fotonica e Nanotecnologie (Italy)

Coffee Break 10:20 - 10:50

SESSION 5: INSTRUMENTATION/TECHNIQUES: INSTRUMENTS

27 April 2023 • 10:50 - 12:50 | Zenit

Session Chair: Intae Eom, Pohang Accelerator Lab. (Republic of Korea)

12581-22 • 10:50 - 11:20 | Zenit

Ultrafast dynamics in quantum matter at SwissFEL: capabilities of Furka endstation *(Invited Paper)*

Author(s): Elia Razzoli, Eugenio Paris, Hiroki Ueda, Luc Patthey, Paul Scherrer Institut (Switzerland)

12581-23 • 11:20 - 11:50 | Zenit

Small bandwidth and short FEL pulses: the new pulse-length preserving double monochromator beamline at FLASH *(Invited Paper)*

Author(s): Günter Brenner, Elke Plönjes, Mabel Ruiz-Lopez, Deutsches Elektronen-Synchrotron (Germany); Luca Poletto, CNR-Istituto di Fotonica e Nanotecnologie (Italy); Maciej Brachmanski, Holger Weigelt, Mathias Hesse, Horst Schulte-Schrepping, Siarhei Dziarzhytski, Mangalika Sinha, Huseyin Cankaya, Hilmar Bienert, Thorsten Hans, Boris Steffen, Rolf Treusch, Stefan Düsterer, Sören Grunewald, Markus Degenhardt, Pragya Chopra, Deutsches Elektronen-Synchrotron (Germany)

12581-24 • 11:50 - 12:10 | Zenit

Time-resolved resonant X-ray scattering at PAL-XFEL

Author(s): Saehwan Chun, Pohang Accelerator Lab. (Republic of Korea)

12581-25 • 12:10 - 12:30 | Zenit

Exposed Interfaces and fast mixing in XFEL-friendly liquid sheets

Author(s): David J. Hoffman, SLAC National Accelerator Lab. (United States); Hans A. Bechtel, Lawrence Berkeley National Lab. (United States); Diego A. Huyke, Juan G. Santiago, Stanford Univ. (United States); Daniel P. DePonte, Jake D. Koralek, SLAC National Accelerator Lab. (United States)

12581-26 • 12:30 - 12:50 | Zenit

Liquids jets standardization at EuXFEL

Author(s): Joana Valerio, European XFEL GmbH (Germany)

Lunch Break 12:50 - 14:10

SESSION 6: INSTRUMENTATION/TECHNIQUES: DETECTOR & DATA TECHNIQUES

27 April 2023 • 14:10 - 15:10 | Zenit

Session Chair: Thomas Tschentscher, European XFEL GmbH (Germany)

12581-27 • 14:10 - 14:30 | Zenit

Large-area detector performance for hard X-ray solution scattering at the LCLS

Author(s): Tim B. van Driel, SLAC National Accelerator Lab. (United States)

12581-28 • 14:30 - 14:50 | Zenit

Detector calibration software infrastructure at the European XFEL

Author(s): David Hammer, Philipp Schmidt, Thomas Michelat, Thomas Kluyver, Karim Ahmed, Cyril Danilevski, Robert Rosca, Luca Gelisio, European XFEL GmbH (Germany)

12581-30 • 14:50 - 15:10 | Zenit

Computer vision approaches for the absolute energy calibration of Bragg crystal setups

Author(s): Christian Grech, Deutsches Elektronen-Synchrotron (Germany); Gianluca . Geloni, European XFEL GmbH (Germany); Marc Guetg, Deutsches Elektronen-Synchrotron (Germany)

Coffee Break 15:10 - 15:40

SESSION 7: SCIENTIFIC EXPERIMENT RESULTS

27 April 2023 • 15:40 - 17:00 | Zenit

Session Chair: Luc Patthey, Paul Scherrer Institut (Switzerland)

12581-31 • 15:40 - 16:10 | Zenit

X-ray induced Coulomb explosion imaging of complex molecules *(Invited Paper)*

Author(s): Rebecca Boll, European XFEL GmbH (Germany)

12581-32 • 16:10 - 16:40 | Zenit

Low-density matter explored with a seeded free electron laser *(Invited Paper)*

Author(s): Carlo Callegari, Elettra-Sincrotrone Trieste S.C.p.A. (Italy)

12581-33 • 16:40 - 17:00 | Zenit

New insights into correlated materials in the time domain: combining far-infrared excitation with x-ray probes at cryogenic temperatures

Author(s): Roman Mankowsky, Mathias Sander, Serhane Zerdane, Jakub Vonka, Marek Bartkowiak, Yunpei Deng, Rafael Winkler, Flavio Giorgianni, Guy Matmon, Simon Gerber, Paul Beaud, Henrik T. Lemke, Paul Scherrer Institut (Switzerland)

Conference 12582

Compact Radiation Sources from EUV to Gamma-rays: Development and Applications

25 - 27 April 2023 | Kepler

Conference Chairs: **Carmen S. Menoni,** Colorado State Univ. (United States); **Jaroslav Nejdl,** ELI Beamlines (Czech Republic)

Programme Committee: **Cord L. Arnold,** Lund Univ. (Sweden); D**avide Bleiner,** EMPA (Switzerland); **Uddhab Chaulagain,** ELI Beamlines (Czech Republic); **Liming Chen,** Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences (China); **Henryk Fiedorowicz,** Wojskowa Akademia Techniczna im. Jaroslawa Dabrowskiego (Poland); **Ondrej Hort,** ELI Beamlines (Czech Republic); **Subhendu Kahaly,** ELI-HU Nonprofit Ltd. (Hungary); **Tetsuya Kawachi,** National Institutes for Quantum and Radiological Science and Technology (Japan); **Hyung Taek Kim,** APRI, GIST (Republic of Korea); **Annie Klisnick,** Institut des Sciences Moléculaires d'Orsay (France); **Dong-Du Mai,** ELI Beamlines (Czech Republic); C**atalin Matei,** Extreme Light Infrastructure Nuclear Physics (Romania); **Zulfikar Najmudin,** Imperial College London (United Kingdom); **Jorge J. Rocca,** Colorado State Univ. (United States); **Stéphane Sebban,** LOA, ENSTA (France); B**ernd Schütte,** Max-Born-Institut für Nichtlineare Optik und Kurzzeitspektroskopie (Germany); **Kim Ta Phuoc,** Lab. d'Optique Appliquée (France); **Jens Uhlig,** Lund Univ. (Sweden); **Amelle Zair,** Imperial College London (United Kingdom)

TUESDAY 25 APRIL

TUESDAY PLENARY SESSION

25 April 2023 • 08:50 - 10:30 | Nadir

12577-600 • 08:55 - 09:40 | Nadir

Fusion ignition at the National Ignition Facility *(Plenary Presentation)*

Author(s): Thomas M. Spinka, Lawrence Livermore National Lab. (United States)

12571-601 • 09:45 - 10:30 | Nadir

AI and deep learning for microscopy *(Plenary Presentation)*

Author(s): Giovanni Volpe, Göteborgs Univ. (Sweden)

SESSION 1: PLASMA-BASED X-RAY LASERS

25 April 2023 • 13:45 - 15:15 | Kepler

Session Chairs: Jaroslav Nejdl, ELI Beamlines (Czech Republic), Carmen S. Menoni, Colorado State Univ. (United States)

12582-1 • 13:45 - 14:15 | Kepler

Recent advances in laser-plasma-based soft x-ray lasers *(Invited Paper)*

Author(s): Stéphane Sebban, CNRS, Ecole Nationale Supérieure de Techniques Avancées, Ecole Polytechnique (France)

12582-3 • 14:15 - 14:30 | Kepler

Amplification of HOH carrying orbital angular momentum in plasma-based amplifiers

Author(s): Eduardo Oliva, Santiago López, Elena de la Fuente, Agustín Alonso, Univ. Politécnica de Madrid (Spain); Alok Kumar Pandey, Olivier Guilbaud, Univ. Paris-Saclay (France)

12582-4 • 14:30 - 14:45 | Kepler

Single shot coherence studies of plasma based X-ray laser

Author(s): Martin Albrecht, Michaela Kozlová, ELI Beamlines (Czech Republic); Miroslav Krus, Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic); Jaroslav Nejdl, ELI Beamlines (Czech Republic)

12582-5 • 14:45 - 15:15 | Kepler

Technical Design Report of EMPULSE *(Invited Paper)*

Author(s): Yousuf Hemani, Harsha Panuganti, EMPA (Switzerland); Marco Galimberti, Central Laser Facility, RAL (United Kingdom); Davide Bleiner, EMPA (Switzerland)

Coffee Break 15:15 - 15:45

SESSION 2: HHG FROM GAS TARGETS I

25 April 2023 • 15:45 - 17:30 | Kepler

Session Chair: Amelle Zair, Imperial College London (United Kingdom)

12582-6 • 15:45 - 16:15 | Kepler

Ptychographic imaging and wavefront sensing at extreme-ultraviolet wavelengths *(Invited Paper)*

Author(s): Stefan M. Witte, Menqgi Du, Fengling Zhang, Antonios Pelekanidis, Matthias Gouder, Xiaomeng Liu, Kjeld Eikema, Advanced Research Ctr. for Nanolithography (Netherlands)

12582-7 • 16:15 - 16:30 | Kepler

Upgraded XUV source at ELI Beamlines facility and current experimental results

Author(s): Ondrej Hort, ELI Beamlines (Czech Republic); Lucie Jurkovičová, Ondrej Finke, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Martin Albrecht, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Jan Vábek, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic), Ctr. Lasers Intenses et Applications, Univ. de Bordeaux, CNRS, CEA (France); Jaroslav Nejdl, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic)

12582-8 • 16:30 - 16:45 | Kepler

A multipurpose end-station MAC for applications with intense HHG-based EUV source at ELI Beamlines

Author(s): Maria Krikunova, ELI Beamlines (Czech Republic), Technical Univ. of Applied Sciences (Germany); Ziaul Hoque, Andreas Roos, Eva Klimešová, ELI Beamlines (Czech Republic); Ltaief Ben Ltaief, Aarhus Univ. (Denmark); Lucie Jurkovičová, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Ondrej Hort, ELI Beamlines (Czech Republic); Ondrej Finke, Martin Albrecht, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Dong-Du Mai, ELI Beamlines (Czech Republic); Jaroslav Nejdl, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Marcel Mudrich, Aarhus Univ. (Denmark); Jakob Andreasson, ELI Beamlines (Czech Republic)

12582-9 • 16:45 - 17:00 | Kepler

Multiscale modeling of HHG and its applications

Author(s): Jan Vábek, Czech Technical Univ. in Prague (Czech Republic), ELI Beamlines (Czech Republic), Univ. de Bordeaux (France); Ondrej Finke, ELI Beamlines (Czech Republic), Czech Technical Univ.in Prague (Czech Republic); Kevin Veyrinas, Ctr. des Lasers Intenses et Applications, Univ. de Bordeaux, CNRS, CEA (France); Constance Valentin, Ctr. Lasers Intenses et Applications, Univ. de Bordeaux, CNRS, CEA (France); Tadeáš Němec, Czech Technical Univ. in Prague (Czech Republic); Dominique Descamps, Ctr. Lasers Intenses et Applications, Univ. de Bordeaux, CNRS, CEA (France); Michal Nevrkla, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Clément Péjot, Ctr. Lasers Intenses et Applications, Univ. de Bordeaux, CNRS, CEA (France); Nadezda Bobrova, Czech Technical Univ. in Prague (Czech Republic); Frédéric Burgy, Ctr. Lasers Intenses et Applications, Univ. de Bordeaux, CNRS, CEA (France); Lucie Jurkovičová, Martin Albrecht, Alexandr Jancárek, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Eric Constant, Institut Lumière Matière, Univ. Claude Bernard Lyon 1 (France); Ondrej Hort, ELI Beamlines (Czech Republic); Eric Mével, Ctr. Lasers Intenses et Applications (France); Jiří Limpouch, Czech Technical Univ. in Prague (Czech Republic); Stefan Skupin, Institut Lumière Matière (France); Jaroslav Nejdl, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Fabrice Catoire, Ctr. Lasers Intenses et Applications (France)

12582-10 • 17:00 - 17:30 | Kepler

Quantitative nanoscale coherence tomography driven by high harmonic generation *(Invited Paper)*

Author(s): Silvio Fuchs, Univ. of Applied Sciences Mittweida (Germany); Felix Wiesner, Johann Jakob Abel, Martin Wünsche, Julius Reinhard, Gerhard G. Paulus, Friedrich-Schiller-Univ. Jena (Germany)

POSTERS-TUESDAY

25 April 2023 • 17:45 - 19:15 | Meridian Hall

Conference attendees are invited to attend the Optics + Optoelectronics Symposium Poster Session on Tuesday afternoon. Enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster session.

Poster authors, visit Poster Presentation Guidelines for set-up instructions.

12582-39

Shining light on solids: a TDDFT study of solid-state HHG

Author(s): André M. Antunes, GoLP/Instituto de Plasmas e Fusão Nuclear, Insituto Superior Técnico (Portugal); Mukhtar Hussain, Extreme Light Lab., Univ. of Nebraska-Lincoln (United States); Joana Alves, Gonçalo Vaz, Hugo Pires, GoLP/Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico (Portugal); Marco Peres, Katharina Lorenz, Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico (Portugal); Encarnación G. Víllora, Kiyoshi Shimamura, National Institute for Materials Science (Japan); Gonçalo N. Figueira, GoLP/Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico (Portugal); Saibabu Madas, Mousumi U. Kahaly, Subhendu Kahaly, ELI-ALPS Research Institute (Hungary); Marta Fajardo, Gareth Williams, GoLP/Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico (Portugal)

12582-40

Instruments for best target position determination in the high-intensity laser-solid interaction experiment

Author(s): Eugene A. Vishnyakov, ELI Beamlines (Czech Republic); Akito Sagisaka, Koichi Ogura, Kansai Photon Science Institute (Japan); Tatiana A. Pikuz, Osaka Univ. (Japan); Chris D. Armstrong, Central Laser Facility, STFC Rutherford Appleton Lab. (United Kingdom); Sergey A. Pikuz, Joint Institute for High Temperatures (Russian Federation); Bruno Gonzalez-Izquierdo, Timur Z. Esirkepov, Kansai Photon Science Institute (Japan); Wenchao Yan, Tae Moon Jeong, ELI Beamlines (Czech Republic); Sushil Singh, Institute of Plasma Physics (Czech Republic); Prokopis Hadjisolomou, Ondrej Finke, Gabriele Maria Grittani, Michal Nevrkla, Carlo Maria Lazzarini, Andriy Velyhan, ELI Beamlines (Czech Republic); Takehito Hayakawa, Yuji Fukuda, James K. Koga, Masahiko Ishino, Kotaro Kondo, Yasuhiro Miyasaka, Akira Kon, Masaharu Nishikino, Kansai Photon Science Institute (Japan); Evgeny V. Nosach, P. N. Lebedev Physical Institute (Russian Federation); Danila Khikhlukha, ELI Beamlines (Czech Republic); Ilya P. Tsygvintsev, M. V. Keldysh Institute of Applied Mathematics (Russian Federation); Deepak Kumar, Jaroslav Nejdl, Daniele Margarone, Pavel V. Sasorov, ELI Beamlines (Czech Republic); Masaki Kando, Hiromitsu Kiriyama, Kansai Photon Science Institute (Japan); Georg Korn, ELI Beamlines (Czech Republic); David Neely, Central Laser Facility, STFC Rutherford Appleton Lab. (United Kingdom); Kiminori Kondo, Kansai Photon Science Institute (Japan); Sergei V. Bulanov, ELI Beamlines (Czech Republic); Tetsuya Kawachi, Alexander S. Pirozhkov, Kansai Photon Science Institute (Japan)

12582-41

Recent advances in gaseous target designs for high harmonic generation at ELI Beamlines

Author(s): Ondrej Finke, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Jan Vábek, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic), Univ. de Bordeaux, CNRS, CEA (France); Michal Nevrkla, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Matej Dvorácek, Czech Technical Univ. in Prague (Czech Republic); Lucie Jurkovičová, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Ondrej Hort, ELI Beamlines (Czech Republic); Martin Albrecht, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Nadezda Bobrova, Czech Technical Univ. in Prague (Czech Republic); Fabrice Catoire, Univ. de Bordeaux, CNRS, CEA (France); Stefan Skupin, Institut Lumière Matière (France); Alexandr Jancárek, Czech Technical Univ. in Prague (Czech Republic), ELI Beamlines (Czech Republic); Jaroslav Nejdl, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic)

12582-42

Röntgen Materials for X-Ray Lasers On-a-Chip

Author(s): Sharath Rameshbabu, Davide Bleiner, Swiss Federal Labs. for Materials Science and Technology (Switzerland)

12582-43

Two-color resonant betatron X-ray generation

Author(s): Marcel Lamač, Uddhab Chaulagain, Jaroslav Nejdl, Lucie Jurkovičová, Sergey V. Bulanov, ELI Beamlines (Czech Republic)

12582-44

Study and control of the effects of numerical dispersion on plasma simulations of relativistic high harmonic generation

Author(s): Holly M. Huddleston, Ctr. for Light Matter Interactions, Queen's Univ. Belfast (United Kingdom); Brendan Dromey, Mark Yeung, Ctr. for Light Matter Interactions, Queen's Univ. Belfast (United Kingdom)

12582-45

Multipass high-sensitivity tomography characterization of LPA nozzles

Author(s): Marek Raclavsky, ELI Beamlines (Czech Republic)

12582-46
Powerful isolated attosecond pulse generation from Hermite-Gaussian laser-plasma interaction
Author(s): Zahra Mohamadzade, Shahid Beheshti Univ. (Iran, Islamic Republic of)

12582-47
Gauge-invariant picture of ionization dynamics
Author(s): Jan Vábek, ELI Beamlines (Czech Republic), Ctr. Lasers Intenses et Applications, Univ. de Bordeaux, CNRS, CEA (France), Czech Technical Univ. in Prague (Czech Republic); Henri Bachau, Fabrice Catoire, Ctr. Lasers Intenses et Applications, Univ. de Bordeaux, CNRS, CEA (France)

12582-48
Correlative soft X-ray and fluorescence microscopy in the water window region in an integrated laboratory-based setup
Author(s): Sophia Kaleta, Julius Reinhard, Felix Wiesner, Institut für Optik und Quantenelektronik. Friedrich-Schiller-Univ. Jena (Germany); Johann Jakob Abel, Institute for Optics and Quantum Electronics, Friedrich-Schiller-Univ. Jena (Germany); Martin Wünsche, Institut für Optik und Quantenelektronik. Friedrich-Schiller-Univ. Jena (Germany), Helmholtz Institute Jena (Germany); Martin Westermann, Elektronenmikroskopisches Zentrum, Universitätsklinikum Jena (Germany); Eric Seemann, Institut für Biochemie, Universitätsklinikum Jena (Germany); Katharina Reglinski, Christian Franke, Institut für Angewandte Optik und Biophysik, Friedrich-Schiller-Univ. Jena (Germany); Alexander Iliou, Falk Hillmann, Leibniz-Institut für Naturstoff-Forschung und Infektionsbiologie e. V.- Hans-Knöll-Institut (Germany); Christian Eggeling, Institut für Angewandte Optik und Biophysik, Friedrich-Schiller-Univ. Jena (Germany), Leibniz-Institut für Photonische Technologien e.V. (Germany); Silvio Fuchs, Helmholtz Institute Jena (Germany); Gerhard G. Paulus, Institut für Optik und Quantenelektronik. Friedrich-Schiller-Univ. Jena (Germany), Helmholtz Institute Jena (Germany)

12582-49
Quantitative imaging with laser-driven X-ray sources
Author(s): Kavya Hemantha Rao, Uddhab Chaulagain, Marek Raclavsky, Marcel Lamac, Jaroslav Nejdl, ELI Beamlines (Czech Republic)

12582-50
Soft X-ray zone plates fabricated using 3D laser lithography
Author(s): Ben Delaney, Fergal O'Reilly, Univ. College Dublin (Ireland)

WEDNESDAY 26 APRIL

WEDNESDAY PLENARY SESSION

26 April 2023 • 08:50 - 10:30 | Nadir

12570-700 • 08:55 - 09:40 | Nadir
Nonlinear integrated quantum optics with AlGaAs *(Plenary Presentation)*
Author(s): Sara Ducci, Lab. Matériaux et Phénomènes Quantiques (France)

12575-701 • 09:45 - 10:30 | Nadir
Photonic crystal fibres: three decades of novel science *(Plenary Presentation)*
Author(s): Philip St. John Russell, Max-Planck-Institut für die Physik des Lichts (Germany)

Coffee Break 10:30 - 10:50

SESSION 3: HHG FROM GAS TARGETS II

26 April 2023 • 10:50 - 12:20 | Kepler
Session Chair: Ondřej Hort, ELI Beamlines (Czech Republic)

12582-11 • 10:50 - 11:20 | Kepler
Recent experiments and advances at the high-repetition-rate attosecond beamlines of ELI ALPS *(Invited Paper)*
Author(s): Tímea Grósz, Péter Jójárt, Imre Seres, Zsolt Bengery, Barnabás Gilicze, ELI-ALPS Research Institute (Hungary); Katalin Varjú, Subhendu Kahaly, ELI-ALPS Research Institute (Hungary), Univ. of Szeged (Hungary); Balazs Major, ELI-ALPS Research Institute, Univ. of Szeged (Hungary), Univ. of Szeged (Hungary)

12582-12 • 11:20 - 11:35 | Kepler
Attosecond pulse generation using incommensurate two-colour fields
Author(s): Colm Fitzpatrick, Brendan Dromey, Mark Yeung, Queen's Univ. Belfast (United Kingdom)

12582-13 • 11:35 - 11:50 | Kepler
Continuously-tunable monochromatic HHG source for applications
Author(s): Lucie Jurkovičová, ELI Beamlines, Institute of Physics of the CAS, v.v.i. (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Ltaief Ben Ltaief, Aarhus Univ. (Denmark); Andreas Hult Roos, Ondřej Hort, ELI Beamlines, Institute of Physics of the CAS, v.v.i. (Czech Republic); Ondrej Finke, ELI Beamlines (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Martin Albrecht, ELI Beamlines, Institute of Physics of the CAS, v.v.i. (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Ziaul Hoque, Eva Klimešová, ELI Beamlines, Institute of Physics of the CAS, v.v.i. (Czech Republic); Akgash Sundaralingam, Aarhus Univ. (Denmark); Roman Antipenkov, Annika Grenfell, ELI Beamlines, Institute of Physics of the CAS, v.v.i. (Czech Republic); Alexandr Spacek, ELI Beamlines, Institute of Physics of the CAS, v.v.i. (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Wojciech Szuba, Maria Krikunova, ELI Beamlines, Institute of Physics of the CAS, v.v.i. (Czech Republic); Marcel Mudrich, Aarhus Univ. (Denmark); Jaroslav Nejdl, ELI Beamlines, Institute of Physics of the CAS, v.v.i. (Czech Republic), Czech Technical Univ. in Prague (Czech Republic); Jakob Andreasson, ELI Beamlines, Institute of Physics of the CAS, v.v.i. (Czech Republic)

12582-14 • 11:50 - 12:20 | Kepler
Extreme ultraviolet vector-vortex beams from laser high order harmonic generation *(Invited Paper)*
Author(s): Olivier Guilbaud, Alok-Kumar Pandey, Lab. de Physique des 2 Infinis Irène Joliot-Curie (France); Alba De Las Heras Munoz, Julio San Román, Francisco Javier Serrano Rodriguez, Univ. de Salamanca (Spain); Elsa Baynard, Moana Pittman, Lab. de Physique des 2 Infinis Irène Joliot-Curie (France); Guillaume Dovillaire, Imagine Optic SA (France); Luis Plaja, Univ. de Salamanca (Spain); Charles Durfee, Colorado School of Mines (United States); Sophie Kazamias, Lab. de Physique des 2 Infinis Irène Joliot-Curie (France); Carlos Hernández García, Univ. de Salamanca (Spain)

Lunch/Exhibition Break 12:20 - 13:30

SESSION 4: X-RAYS FROM RELATIVISTIC ELECTRONS I

26 April 2023 • 13:30 - 15:30 | Kepler

Session Chairs: Carmen S. Menoni, Colorado State Univ. (United States), Jaroslav Nejdl, ELI Beamlines (Czech Republic)

12582-15 • 13:30 - 14:00 | Kepler

LWFA-based X-ray machine to respond to strategic challenges *(Invited Paper)*

Author(s): Jean-Claude Kieffer, Sylvain Fourmaux, Institut National de la Recherche Scientifique (Canada); Emil Hallin, Institute for Food Security, Univ. of Saskatchewan (Canada)

12582-16 • 14:00 - 14:30 | Kepler

Towards high-sensitivity and low-dose medical imaging with laser X-ray sources *(Invited Paper)*

Author(s): Dan Stutman, Nicoleta Safca, Elena Anghel, Calin A. Ur, Extreme Light Infrastructure Nuclear Physics (Romania)

12582-17 • 14:30 - 14:45 | Kepler

LPA-based X-ray sources at ELI beamline facility

Author(s): Uddhab Chaulagain, Marcel Lamac, Marek Raclavsky, Kavya Hemantha Rao, Sergei Bulanov, Jaroslav Nejdl, ELI Beamlines (Czech Republic)

12582-18 • 14:45 - 15:00 | Kepler

Compact undulator-based soft X-ray radiation source at ELI Beamlines: user-oriented program

Author(s): Eugene A. Vishnyakov, ELI Beamlines (Czech Republic); Dong-Du Mai, Jonathan Tyler Green, Alamgir Mondal, Petr Zimmermann, Sebastian Niekrasz, Alexander Molodozhentsev, ELI Beamlines (Czech Republic)

12582-19 • 15:00 - 15:30 | Kepler

Femtosecond structural probing of warm dense matter with Betatron x-ray source *(Invited Paper)*

Author(s): Fabien Dorchies, Univ. de Bordeaux. Ctr. Lasers Intenses et Applications, CNRS, CEA (France); Adrïan Grolleau, CEA-DAM-DIF (France); Sylvain Briand, Univ. de Bordeaux (France), CEA-DAM-DIF (France); Julien Gautier, Lab. d'Optique Appliquée, Ecole Nationale Supérieure de Techniques Avancées, CNRS, Ecole Polytechnique (France); Patrick Renaudin, Vanina Recoules, CEA-DAM-DIF (France); Kim Ta Phuoc, Lab. d'Optique Appliquée, Ecole Nationale Supérieure de Techniques Avancées, CNRS, Ecole Polytechnique (France); Ludovic Lecherbourg, CEA-DAM-DIF (France), Lab. d'Optique Appliquée, Ecole Nationale Supérieure de Techniques Avancées, CNRS, Ecole Polytechnique (France)

Coffee Break 15:30 - 16:00

SESSION 5: X-RAYS FROM RELATIVISTIC ELECTRONS II

26 April 2023 • 16:00 - 17:15 | Kepler

Session Chair: Uddhab Chaulagain, ELI Beamlines (Czech Republic)

12582-20 • 16:00 - 16:30 | Kepler

Ultrabright laser-driven BISER coherent x-ray source *(Invited Paper)*

Author(s): Alexander S. Pirozhkov, National Institutes for Quantum and Radiological Science and Technology (Japan); Alexey N. Shatokhin, P. N. Lebedev Physical Institute (Russian Federation); Akito Sagisaka, Koichi Ogura, National Institutes for Quantum and Radiological Science and Technology (Japan); Tatiana A. Pikuz, Osaka Univ. (Japan); Alexander Kotov, Institute of Applied Physics (Russian Federation); Thomas Dzelzainis, Central Laser Facility, STFC Rutherford Appleton Lab. (United Kingdom); Andreas Bierwage, Kotaro Kondo, National Institutes for Quantum and Radiological Science and Technology (Japan); H. Ohiro, Hiroshima Univ. (Japan); Sebastian Lorenz, ELI Beamlines (Czech Republic); Yung-Kun Liu, National Taiwan Univ. (Taiwan); Gabriele M. Grittani, Tae Moon . Jeong, ELI Beamlines (Czech Republic); Nobuhiko Nakanii, Kai Huang, Akira Kon , Yasuhiro Miyasaka, National Institutes for Quantum and Radiological Science and Technology (Japan); Gregory Hull, Stephen Dann, Central Laser Facility, STFC Rutherford Appleton Lab. (United Kingdom); Eugene A. Vishnyakov, ELI Beamlines (Czech Republic); Alexei Kolesnikov, P. N. Lebedev Physical Institute (Russian Federation); Masato Koike, National Institutes for Quantum and Radiological Science and Technology (Japan); P. Chen, National Taiwan Univ. (Taiwan); Timur Z. Esirkepov, James K. Koga, National Institutes for Quantum and Radiological Science and Technology (Japan); Ross Gray, Univ. of Strathclyde (United Kingdom); A. Soloviev, Institute of Applied Physics (Russian Federation); Evgeny N. Ragozin, P. N. Lebedev Physical Institute (Russian Federation); Sergei V. Bulanov, ELI Beamlines (Czech Republic); Shin-Ichi Namba, Hiroshima Univ. (Japan); Hiromitsu Kiriyama, Masaki Kando, Kiminori Kondo, Tetsuya Kawachi, National Institutes for Quantum and Radiological Science and Technology (Japan); Paul McKenna, Univ. of Strathclyde (United Kingdom); Daniel R. Symes, Central Laser Facility, STFC Rutherford Appleton Lab. (United Kingdom); David Neely, Central Laser Facility, STFC Rutherford Appleton Lab. (United Kingdom)

12582-21 • 16:30 - 17:00 | Kepler

Ultrafast X-ray absorption spectroscopy using laser-plasma accelerators *(Invited Paper)*

Author(s): Brendan Kettle, Imperial College London (United Kingdom); Rory Baggott, Cary Colgan, Eva Los, Steven Rose, The John Adams Institute for Accelerator Science (United Kingdom); Stuart Mangles, The John Adams Institute for Accelerator Science, Imperial College London (United Kingdom)

12582-22 • 17:00 - 17:15 | Kepler

Development of the MeV Thomson-scattered gamma ray source using laser plasma accelerators at the BELLA Center

Author(s): Qiang Chen, Robert Jacob, Jeroen van Tilborg, Anthony Gonsalves, Kei Nakamura, Carl Schroeder, Eric Esarey, Cameron Geddes, Lawrence Berkeley National Lab. (United States)

THURSDAY 27 APRIL

SESSION 6: X-RAYS FROM RELATIVISTIC ELECTRONS III

27 April 2023 • 09:00 - 10:00 | Kepler

Session Chair: Jean-Claude Kieffer, Institut National de la Recherche Scientifique (Canada)

12582-24 • 09:00 - 09:30 | Kepler

Laser Plasma accelerated ultra-intense electron beam for efficiently exciting nuclear isomers *(Invited Paper)*

Author(s): Jie Feng, Shanghai Jiao Tong Univ. (China)

12582-25 • 09:30 - 10:00 | Kepler

Advanced laser-driven betatron X-ray generation *(Invited Paper)*

Author(s): Matthias Fuchs, Junzhi Wang, Ping Zhang, Kyle Jensen, Tian Hu, Shaoxian Li, Joseph Natal, Univ. of Nebraska-Lincoln (United States); Reed Hollinger, Zeev Shpilman, Shoujun Wang, Jorge Rocca, Colorado State Univ. (United States); Brad A. Shadwick, Univ. of Nebraska-Lincoln (United States)

Coffee Break 10:00 - 10:30

Conference 12582

SESSION 7: DAMAGE BY X-RAY RADIATION

Joint Session with Conferences 12578 and 12582

27 April 2023 • 10:30 - 12:00 | Kepler

Session Chair: Carmen S. Menoni, Colorado State Univ. (United States)

Note: Conference 12578 runs on Monday and Tuesday, 24-25 April; the joint Session will follow on Thursday 27 April as part of the conference 12582.

12582-26 • 10:30 - 11:00 | Kepler

Mass spectrometry of ion emission from covalent and molecular solids ablated by nanosecond EUV laser pulses used for focused-beam characterization *(Invited Paper)*

Author(s): Ludek Vyšín, Jaromír Chalupský, Věra Hájková, Zuzana Kuglerová, Ladislav Fekete, Institute of Physics of the CAS, v.v.i. (Czech Republic); Lydia A. Rush, Colorado State Univ. (United States); Libor Juha, Institute of Physics of the CAS, v.v.i. (Czech Republic); Jorge J. Rocca, Carmen S. Menoni, Colorado State Univ. (United States)

12578-19 • 11:00 - 11:30 | Kepler

Analysis of ablation imprints accelerated by machine learning *(Invited Paper)*

Author(s): Vojtěch Vozda, Jaromír Chalupský, Institute of Physics of the CAS, v.v.i. (Czech Republic); Jan Hering, Jan Kybic, Czech Technical Univ. in Prague (Czech Republic); Tomáš Burian, Institute of Physics of the CAS, v.v.i. (Czech Republic), Institute of Plasma Physics of the CAS, v.v.i. (Czech Republic); Katerina Frantálová, Věra Hájková, Institute of Physics of the CAS, v.v.i. (Czech Republic); Šimon Jelínek, Institute of Physics of the CAS, v.v.i. (Czech Republic), Institute of Plasma Physics of the CAS, v.vi.i. (Czech Republic), Charles Univ. (Czech Republic); Libor Juha, Institute of Physics of the CAS, v.v.i. (Czech Republic); Barbara Keitel, Deutsches Elektronen-Synchrotron (Germany); Zuzana Kuglerová, Institute of Physics of the CAS, v.v.i. (Czech Republic), Charles Univ. (Czech Republic); Marion Kuhlmann, Deutsches Elektronen-Synchrotron (Germany); Bohdan Petryshak, Czech Technical Univ. in Prague (Czech Republic); Mabel Ruiz-Lopez, Deutsches Elektronen-Synchrotron (Germany); Ludek Vyšín, Institute of Physics of the CAS, v.v.i. (Czech Republic); Thomas A. Wodzinski, Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico (Portugal); Elke Plönjes, Deutsches Elektronen-Synchrotron (Germany)

12582-27 • 11:30 - 12:00 | Kepler

EUV laser ablation mass spectrometry for probing chemical information down to the nanoscale *(Invited Paper)*

Author(s): Lydia A. Rush, Colorado State Univ. (United States); Andrew M. Duffin, Pacific Northwest National Lab. (United States); Carmen S. Menoni, Colorado State Univ. (United States)

Lunch Break 12:00 - 13:10

SESSION 8: INCOHERENT PLASMA X-RAY SOURCES

27 April 2023 • 13:10 - 15:25 | Kepler

Session Chair: Jaroslav Nejdl, ELI Beamlines (Czech Republic)

12582-28 • 13:10 - 13:40 | Kepler

Recent advances in the development and application of laser plasma X-ray and extreme ultraviolet (EUV) sources based on a gas puff target *(Invited Paper)*

Author(s): Henryk Fiedorowicz, Wojskowa Akademia Techniczna im. Jaroslawa Dabrowskiego (Poland)

12582-29 • 13:40 - 13:55 | Kepler

Laser driven cu-tape-based PXS for pump-probe spectroscopy and imaging

Author(s): Dong-Du Mai, Yelizaveta Pulnova, Jaroslav Nejdl, Sergei Bulanov, ELI Beamlines (Czech Republic)

12582-30 • 13:55 - 14:10 | Kepler

Generation of MeV X-rays with 3-mJ, picosecond laser pulses

Author(s): Christoph Rose-Petruck, Brown Univ. (United States), Research Instruments Corp. (United States); Daniel DeCiccio, Keith Bisogno, Bernhard Adams, Research Instruments Corp. (United States); Gaia Barbiero, Michael Rampp, Thomas Metzger, TRUMPF Scientific Lasers GmbH + Co. KG (Germany)

12582-31 • 14:10 - 14:25 | Kepler

Laser plasma imaging for soft X-ray source development

Author(s): Ruairí Brady, Kevin Mongey, Ben Delaney, Emma Sokell, Fergal O'Reilly, Univ. College Dublin (Ireland)

12582-32 • 14:25 - 14:40 | Kepler

Interaction of structured laser pulses and nanoparticles for efficient k-alpha X-ray production

Author(s): Pablo San Miguel Claveria, Instituto Superior Técnico (Portugal)

12582-33 • 14:40 - 14:55 | Kepler

Tabletop soft X-ray source for high-resolution NEXAFS spectroscopy

Author(s): Jonathan Holburg, Institut für Nanophotonik Göttingen e.V. (Germany), Institut für Nanophotonik Göttingen e.V. (Germany); Anja Ahrens, Lars Sölter, Maik Lübbecke, Klaus Mann, Institut für Nanophotonik Göttingen e.V. (Germany)

12582-34 • 14:55 - 15:25 | Kepler

Soft X-ray absorption spectroscopy in the lab using laser-based sources and novel reflection zone-plate optics *(Invited Paper)*

Author(s): Holger Stiel, Julia Braenzel, Max-Born-Institut für Nichtlineare Optik und Kurzzeitspektroskopie (Germany), Berlin Lab. for Innovative X-ray Technologies (Germany); Matthias Schnuerer, Max-Born-Institut für Nichtlineare Optik und Kurzzeitspektroskopie (Germany); Johannes Tuemmler, Max-Born-Institut für Nichtlineare Optik und Kurzzeitspektroskopie (Germany), Berlin Lab. for Innovative X-ray Technologies (Germany); Themis Sidiroupolos, Max-Born-Institut für Nichtlineare Optik und Kurzzeitspektroskopie (Germany); Richard Gnewkow, Ioanna Mantouvalou, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH (Germany), Berlin Lab. for Innovative X-ray Technologies (Germany); Christian Seifert, Alexei Erko, Institut für Angewandte Photonik e.V. (Germany); Thomas Krist, NOB Nano Optics Berlin GmbH (Germany); Lutz Ehrentraut, Max-Born-Institut für Nichtlineare Optik und Kurzzeitspektroskopie (Germany)

Coffee Break 15:25 - 15:50

SESSION 9: HHG FROM SOLID TARGETS

27 April 2023 • 15:50 - 17:20 | Kepler

Session Chair: Subhendu Kahaly, ELI-ALPS Research Institute (Hungary)

12582-35 • 15:50 - 16:20 | Kepler

Surface high-harmonic generation on a relativistic plasma mirror for generating intense isolated attosecond field transients *(Invited Paper)*

Author(s): Stefan Haessler, Lab. d'Optique Appliquée, Institut Polytechnique de Paris, CNRS (France); Jaismeen Kaur, Lab. d'Optique Appliquée (France); Marie Ouillé, Lab. d'Optique Appliquée (France), RIKEN Ctr. for Advanced Photonics (Japan); Zhao Cheng, Rodrigo Lopez-Martens, Lab. d'Optique Appliquée (France)

12582-36 • 16:20 - 16:35 | Kepler

Noncollinear gating of laser-plasma-driven attosecond pulses without spectral filtering

Author(s): Mark Yeung, Jonathan P. Kennedy, Brendan Dromey, Queen's Univ. Belfast (United Kingdom)

12582-37 • 16:35 - 16:50 | Kepler

Relativistic high harmonic generation using a PW level short-pulse laser

Author(s): Milenko Vescovi, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Marvin Elias Paul Umlandt, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Stefan Assenbaum, Thomas Meric, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Martin Rehwald, Florian Kroll, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Radka Stefanikova, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Thomas Püschel, Irene Prencipe, Stephan Kraft, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Ulrich Schramm, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Karl Zeil, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany)

12582-38 • 16:50 - 17:20 | Kepler

Highly efficient relativistic high-order harmonic generation by controlling plasma density *(Invited Paper)*

Author(s): Hyeok Yun, Gwangju Institute of Science and Technology (Republic of Korea)

Conference 12583

Applying Laser-driven Particle Acceleration III: Uses of Distinctive Energetic Particle and Photon Sources

24 April 2023 | Quadrant

Conference Chairs: **Jörg Schreiber,** Ludwig-Maximilians-Univ. München (Germany); **Paul R. Bolton,** Consultant (United States)

Programme Committee: **Antonio Giulietti,** Consiglio Nazionale delle Ricerche (Italy); **Kenneth W. D. Ledingham,** Univ. of Strathclyde (United Kingdom); **Paul McKenna,** Univ. of Strathclyde (United Kingdom); **Katia Parodi,** Ludwig-Maximilians-Univ. München (Germany); **Ulrich Schramm,** Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany)

MONDAY 24 APRIL

SESSION 1: MATERIAL STUDIES, ELEMENTAL ANALYSIS, RADIOLYSIS I

24 April 2023 • 09:00 - 10:25 | Quadrant
Session Chair: Jörg Schreiber, Ludwig-Maximilians-Univ. München (Germany)

12583-1 • 09:00 - 09:35 | Quadrant
Ultrafast nanodosimetry: investigating the role of nanoscale structure and dynamics during radiation interactions in matter *(Keynote Presentation)*
Author(s): Brendan . Dromey, Queen's Univ. Belfast (United Kingdom)

12583-2 • 09:35 - 10:00 | Quadrant
Transient absorption measurement of laser-accelerated ion bunch radiolysis on sub-ps timescales
Author(s): Alexander Prasselsperger, Ludwig-Maximilians-Univ. München (Germany); Mark Coughlan, Nicole Breslin, Mark Yeung, Christine Arthur, Hannah Donnelly, Steven White, Queen's Univ. Belfast (United Kingdom); Martin Speicher, Rong Yang, Masoud Afshari, Ludwig-Maximilians-Univ. München (Germany); Balder Villagomez-Bernabe, Frederick Currell, The Univ. of Manchester (United Kingdom); Jörg Schreiber, Ludwig-Maximilians-Univ. München (Germany); Brendan Dromey, Queen's Univ. Belfast (United Kingdom)

12583-3 • 10:00 - 10:25 | Quadrant
Laser-driven particle acceleration for multipurpose elemental analysis of materials
Author(s): Francesco Mirani, Alessandro Maffini, Marta Galbiati, Arianna Formenti, Davide Vavassori, David Dellasega, Valeria Russo, Matteo Passoni, Politecnico di Milano (Italy)

Coffee Break 10:25 - 10:55

SESSION 2: MATERIAL STUDIES, ELEMENTAL ANALYSIS, RADIOLYSIS II

24 April 2023 • 10:55 - 12:35 | Quadrant
Session Chair: Brendan H. Dromey, Queen's Univ. Belfast (United Kingdom)

12583-4 • 10:55 - 11:20 | Quadrant
Defect engineering of silicon with ion pulses from laser-accelerators
Author(s): Thomas Schenkel, Wei Liu, Kaushalya Jhuria, Qing Ji, Lawrence Berkeley National Lab. (United States)

12583-5 • 11:20 - 11:45 | Quadrant
Absolute timing of laser-driven radiation sources interacting in matter
Author(s): Jonathan P. Kennedy, Colm Fitzpatrick, Mark Coughlan, Mark Yeung, Brendan Dromey, Queen's Univ. Belfast (United Kingdom)

12583-6 • 11:45 - 12:10 | Quadrant
Simulation and optimization of an X-ray source for nondestructive testing
Author(s): Benyounes Bel Moussa, Lab. d'Optique Appliquée, Ecole Polytechnique, Ecole Nationale Supérieure de Techniques Avancées, Institut Polytechnique de Paris, CNRS (France); Alessandro Flacco, Cédric Thaury, Lab. d'Optique Appliquée, Ecole Polytechnique, ENSTA Paris, Institut Polytechnique de Paris, CNRS (France)

12583-7 • 12:10 - 12:35 | Quadrant
Demonstration of nondestructive material characterization at a laser-based neutron source
Author(s): Marc Zimmer, Focused Energy GmbH (Germany); Stefan Scheuren, Tim Jäger, Jonas Kohl, Gabriel Schaumann, Markus Roth, Technische Univ. Darmstadt (Germany)

Lunch Break 12:35 - 13:50

SESSION 3: DOSIMETRY, RADIOBIOLOGY, RADIOTHERAPY I

24 April 2023 • 13:50 - 15:40 | Quadrant
Session Chair: Lieselotte Obst-Huebl, Lawrence Berkeley National Lab. (United States)

12583-8 • 13:50 - 14:25 | Quadrant
Systematic in vivo experiments at the Dresden platform for ultrahigh dose rate radiobiology *(Invited Paper)*
Author(s): Elke Beyreuther, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), OncoRay - National Ctr. for Radiation Research in Oncology, TU Dresden (Germany), Universitätsklinikum Carl Gustav Carus Dresden (Germany); Michael Brand, DFG-Ctr. for Regenerative Therapies Dresden, TU Dresden (Germany); Steffen Loeck, OncoRay - National Ctr. for Radiation Research in Oncology (Germany), Universitätsklinikum Carl Gustav Carus Dresden (Germany), Deutschen Konsortium für Translationale Krebsforschung (Germany); Josefine Metzkes-Ng, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Jörg Pawelke, OncoRay - National Ctr. for Radiation Research in Oncology (Germany), Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Ulrich Schramm, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Joao Seco, Deutsches Krebsforschungszentrum (Germany), Ruprecht-Karls-Univ. Heidelberg (Germany); Rita E. Szabo, ELI-ALPS Research Institute (Hungary); Karl Zeil, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany)

12583-9 • 14:25 - 14:50 | Quadrant

Laser-FLASH: high dose, ultrahigh dose rate, single-pulse radiobiology with a laser-driven proton source

Author(s): Alessandro Flacco, Emilie Bayart, Lab. d'Optique Appliquée, Ecole Nationale Supérieure de Techniques Avancées, CNRS, Institut Polytechnique de Paris (France); Lorenzo Romagnani, Lab. pour l'Utilisation des Lasers Intenses, École Polytechnique, Institut Polytechnique de Paris (France); Isabelle Lamarre-Jouenne, Lab. d'Optique et Biosciences, École Polytechnique, Institut Polytechnique de Paris (France); Marco Cavallone, Ctr. de Protonthérapie, Institut Curie (France); Thomas Rösch, Ludwig-Maximilians-Univ. München (Germany); Ludovic DeMarzi, Annalisa Patriarca, Ctr. de Protonthérapie, Institut Curie (France); Camilla Giaccaglia, Lab. d'Optique Appliquée, Ecole Nationale Supérieure de Techniques Avancées, Institut Polytechnique de Paris, CNRS (France); Josephine Monzac, Lab. d'Optique Appliquée, Ecole Nationale Supérieure de Techniques Avancées, CNRS, Institut Polytechnique de Paris (France); Katia Parodi, Jörg Schreiber, Ludwig-Maximilians-Univ. München (Germany)

12583-10 • 14:50 - 15:15 | Quadrant

A simulation study of focused very highly energetic electron beams for radiotherapy

Author(s): Arnaud Courvoisier, Institut d'Optique Graduate School (France); Atul Sengar, Weizmann Institute of Science (Israel)

12583-11 • 15:15 - 15:40 | Quadrant

LhARA; a step on the way to precision, personalised particle-beam therapy

Author(s): Kenneth Long, Imperial College London (United Kingdom), Science and Technology Facilities Council (United Kingdom); Nicholas P. Dover, The John Adams Institute for Accelerator Science (United Kingdom)

Coffee Break 15:40 - 16:15

MONDAY PLENARY SESSION

24 April 2023 • 16:15 - 18:00 | Nadir

12577-500 • 16:25 - 17:10 | Nadir

Exploring plasma physics with multi-petawatt laser pulses (Plenary Presentation)

Author(s): Louise Willingale, Univ. of Michigan (United States)

12579-501 • 17:15 - 18:00 | Nadir

Laser plasma accelerators (Plenary Presentation)

Author(s): Victor A. Malka, Weizmann Institute of Science (Israel)

TUESDAY 25 APRIL

TUESDAY PLENARY SESSION

25 April 2023 • 08:50 - 10:30 | Nadir

12577-600 • 08:55 - 09:40 | Nadir

Fusion ignition at the National Ignition Facility *(Plenary Presentation)*

Author(s): Thomas M. Spinka, Lawrence Livermore National Lab. (United States)

12571-601 • 09:45 - 10:30 | Nadir

AI and deep learning for microscopy *(Plenary Presentation)*

Author(s): Giovanni Volpe, Göteborgs Univ. (Sweden)

Coffee Break 10:30 - 11:00

SESSION 4: DOSIMETRY, RADIOBIOLOGY, RADIOTHERAPY II

25 April 2023 • 11:00 - 12:10 | Quadrant

Session Chair: Ulrich Schramm, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany)

12583-12 • 11:00 - 11:35 | Quadrant

Radiobiology experiments exploring the ultrahigh proton-dose rate regime at the BELLA PW *(Invited Paper)*

Author(s): Lieselotte Obst-Huebl, Kei Nakamura, Sahel Hakimi, Jianhui Bin, Jian-Hua Mao, Laura Desiree Geulig, Hang Chang, Qing Ji, Jared De Chant, Anthony J. Gonsalves, Axel Huebl, Stepan S. Bulanov, Jeroen van Tilborg, Susan E. Celniker, Zachary Kober, Carl B. Schroeder, Cameron G. R. Geddes, Jean-Luc Vay, Blake Simmons, Thomas Schenkel, Corie Ralston, Eleanor A. Blakely, Sven Steinke, Antoine Snijders, Eric Esarey, Lawrence Berkeley National Lab. (United States)

12583-13 • 11:35 - 12:10 | Quadrant

Tumor irradiation in mice with a laser-accelerated proton beam *(Keynote Presentation)*

Author(s): Florian-Emanuel Brack, Florian Kroll, Elke Beyreuther, Stephan Kraft, Josefine Metzkes-Ng, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Jörg Pawelke, OncoRay - National Ctr. for Radiation Research in Oncology (Germany); Marvin Reimold, Ulrich Schramm, Marvin Elias Paul Umlandt, Tim Ziegler, Karl Zeil, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany)

Lunch/Exhibition Break 12:10 - 13:25

SESSION 5: ENERGETIC SOURCE DEVELOPMENT

25 April 2023 • 13:25 - 15:40 | Quadrant

Session Chair: Kenneth Long, Imperial College London (United Kingdom)

12583-14 • 13:25 - 14:00 | Quadrant

The COXINEL seeded free electron laser driven by the HZDR laser plasma acceleration *(Invited Paper)*

Author(s): Amin Ghaith, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Marie Labat, Synchrotron SOLEIL (France); Arie Irman, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Eléonore Roussel, Lab. de Physique des Lasers, Atomes et Molécules (France); Jurjen Couperus, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Alexandre Loulergue, Synchrotron SOLEIL (France); Susanne Schöbel, Maxwell LaBerge, Patrick Ufer, Yen-Yu Chang, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Nicolas Hubert, Moussa El Ajjouri, Anthony Berlioux, Mathieu Valléau, Philippe Berteaud, Fréderic Blache, Synchrotron SOLEIL (France); Stefan Bock, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Francois Bouvet, Fabien Briquez, Synchrotron SOLEIL (France); Sébastien Corde, Lab. d'Optique Appliquée (France); Alexander Debus, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Carlos De Oliviera, Jean-Pierre Duval, Yannick Dietrich, Synchrotron SOLEIL (France); Christopher Eisenmann, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Julien Gautier, Synchrotron SOLEIL (France); René Gebhardt, Simon Grams, Uwe Helbig, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Christian Herbeaux, Charles Kitégi, Synchrotron SOLEIL (France); Olena Kononenko, Lab. d'Optique Appliquée (France); Michael Kuntzsch, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Stéphane Lê, Bruno Leluan, Fabrice Marteau, Manh Huy Nguyen, Synchrotron SOLEIL (France); Richard Pausch, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Pascal Rousseau, Lab. d'Optique Appliquée (France); Mourad Sebdaoui, Synchrotron SOLEIL (France); Klaus Steiniger, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Keihan Tavakoli, Synchrotron SOLEIL (France); Cédric Thaury, Lab. d'Optique Appliquée (France); Marc Vandenberghe, José Vétéran, Synchrotron SOLEIL (France); Victor Malka, Lab. d'Optique Appliquée (France); Driss Oumbarek-Espinos, Damien Pereira, Synchrotron SOLEIL (France); Thomas Püschel, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Jean-Paul Ricaud, Patrick Rommeluère, Synchrotron SOLEIL (France); Ulrich Schramm, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany)

Conference 12583

12583-15 • 14:00 - 14:25 | Quadrant

Cryogenic hydrogen jet platform for quasi-continuous laser proton acceleration from tailored near-critical density targets

Author(s): Stefan Assenbaum, Constantin Bernert, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Stefan Bock, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Chandra Curry, SLAC National Accelerator Lab. (United States), Univ. of Alberta (Canada); Maxence Gauthier, SLAC National Accelerator Lab. (United States); René Gebhardt, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Siegfried Glenzer, SLAC National Accelerator Lab. (United States); Sebastian Göde, European XFEL GmbH (Germany); Uwe Helbig, Thomas Kluge, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Daniel Loureiro, European XFEL GmbH (Germany); Thomas Miethlinger, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Thomas Püschel, Martin Rehwald, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Christopher Schönwälder, SLAC National Accelerator Lab. (United States), Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); Milenko Vescovi, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany); Long Yang, Karl Zeil, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany); Ulrich Schramm, Helmholtz-Zentrum Dresden-Rossendorf e. V. (Germany), TU Dresden (Germany)

12583-16 • 14:25 - 14:50 | Quadrant

Towards the fission-fusion reaction mechanism

Author(s): Laura Desiree Geulig, Erin Grace Fitzpatrick, Maximilian Julius Weiser, Veronika Kratzer, Vitus Magin, Masoud Afshari, Florian H. Lindner, Jörg Schreiber, Peter G. Thirolf, Ludwig-Maximilians-Univ. München (Germany)

12583-17 • 14:50 - 15:15 | Quadrant

Machine learning-driven optimization of laser-plasma sources for applications

Author(s): Ross Gray, Ewan Dollier, Martin King, Robbie Wilson, Paul McKenna, Univ. of Strathclyde (United Kingdom)

12583-18 • 15:15 - 15:40 | Quadrant

Ion acceleration by laser-matter interaction: status and perspective with the upcoming I-LUCE facility at INFN-LNS

Author(s): Giuseppe Antonio Pablo Cirrone, Roberto Catalano, Giacomo Cuttone, Salvatore Tudisco, Istituto Nazionale di Fisica Nucleare (Italy)

Coffee Break 15:40 - 16:10

ALPA ROUNDTABLE DISCUSSION

25 April 2023 • 16:10 - 16:40 | Quadrant

Moderator: Jörg Schreiber.
Ludwig-Maximilians-Univ. München (Germany)

POSTERS-TUESDAY

25 April 2023 • 17:45 - 19:45 | Meridian Hall

Conference attendees are invited to attend the Optics + Optoelectronics Symposium Poster Session on Tuesday afternoon. Enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster session.

Poster authors, visit Poster Presentation Guidelines for set-up instructions.

12583-19

PRAGUE (Proton Range Measurement Using Silicon Carbide): a detector to measure online the proton beam range with laser-driven proton beams

Author(s): Giada Petringa, Giuseppe Antonio Pablo Cirrone, Mariacristina Guarrera, Alma Kurmanova, Istituto Nazionale di Fisica Nucleare (Italy); Daniele Margarone, ELI Beamlines, Institute of Physics of the CAS, v.v.i. (Czech Republic); Salvatore Tudisco, Istituto Nazionale di Fisica Nucleare (Italy)

12583-20

Spectroscopic real-time temperature diagnostic for laser-heated thin gold foils

Author(s): Veronika Kratzer, Laura Desiree Geulig, Erin Grace Fitzpatrick, Florian H. Lindner, Vitus Magin, Maximilian Julius Weiser, Peter G. Thirolf, Ludwig-Maximilians-Univ. München (Germany)

Conference 12584 is part of the Emerging Technologies programme track, and its programme can be found on page 63.

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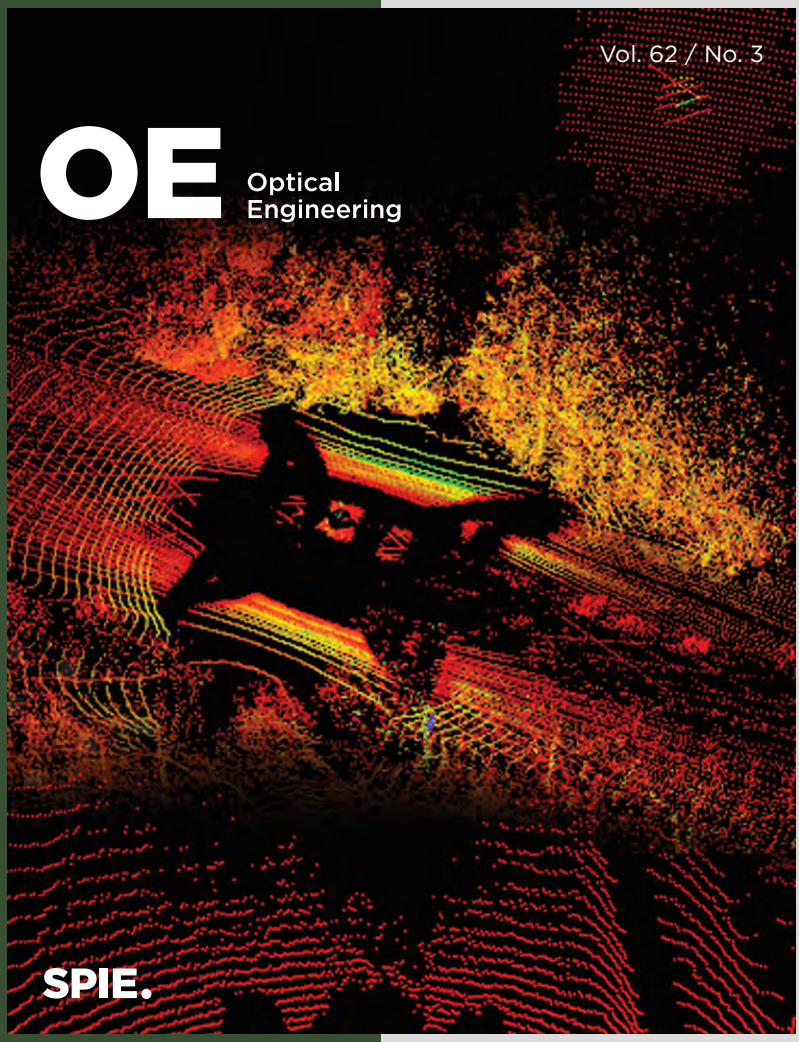

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