



Browse the 2023 Optics + Optoelectronics programme

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Conference Presentation

Shaping vector beams and ultrashort pulses in hyperbolic metamaterials

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Conference Presentation

Controlling light's darkness: tuning near-field coldspots and their properties

26 April 2023 • 11:20 - 11:50 CEST | Leo



Conference Presentation

Influence of extrinsic properties on magnetism and magnetotransport in Mn doped Bi₂Te₃ topological insulator with self-organized MnBi₂Te₄ layers

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Conference Presentation

Non-trivial band geometry and polariton lasing in electrically tunable birefringent microcavities with 2D and 3D perovskites

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Conference Presentation

Amplification and dissipation eigenchannels in non-Hermitian photonics

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Conference Presentation

Light control by scattering cancellation in ordered and disordered non-Hermitian media, direct and inverse design

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Conference Presentation

Effect of the symmetry breaking on the scattering properties of the Fano-Anderson waveguide structure

26 April 2023 • 14:50 - 15:10 CEST | Leo



Conference Presentation

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

26 April 2023 • 15:35 - 15:55 CEST | Leo



Conference Presentation

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

26 April 2023 • 15:55 - 16:15 CEST | Leo



Conference Presentation

Metamaterial photonic time crystals and parametric machines

26 April 2023 • 16:15 - 16:50 CEST | Leo



Conference Presentation

Engineering light scattering through temporal structure

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Conference Presentation

Stabilization of microlasers by non-Hermitian potentials

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Conference Presentation

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

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Conference Presentation

Chiral effects in hybrid asymmetric nanostructures: towards unconventional experiments and simulations

27 April 2023 • 08:50 - 09:20 CEST | Leo



Conference Presentation

Circular dichroism in plasmonic array of elliptical nanoholes with square lattice

27 April 2023 • 09:20 - 09:40 CEST | Leo



Conference Presentation

Light beaming and outcoupling enhancement from quantum wells with AI metasurfaces

27 April 2023 • 09:40 - 10:00 CEST | Leo



Conference Presentation

Absorptance control based on integrated devices with phase change materials

27 April 2023 • 10:00 - 10:20 CEST | Leo



Conference Presentation

Dielectric metasurfaces for spatial filtering and polarization control

27 April 2023 • 10:50 - 11:20 CEST | Leo



Conference Presentation

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

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Conference Presentation

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

27 April 2023 • 11:40 - 12:00 CEST | Leo



Conference Presentation

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

27 April 2023 • 12:00 - 12:20 CEST | Leo



Conference Presentation

A new physical framework to investigate scattering suppression from coated spheres

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Conference Presentation

Large-area nanogap plasmonic structures for light manipulation at a few-nm scale

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Conference Presentation

Nanoscale polaritons of plasmon-molecule systems

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Conference Presentation

Engineering the spectral response of disordered plasmonic nanoparticle suspensions

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Conference Presentation

Plasmon-enhanced high operating temperature infrared photodetectors

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Conference Presentation

Nonlocal techniques for investigation of nonlocal plasmonic nanostructures

27 April 2023 • 16:10 - 16:30 CEST | Leo



Conference Presentation

Optimizing the coupling of light to plasmons through engineered dipolar scatterers

27 April 2023 • 15:40 - 16:10 CEST | Leo



Conference Presentation

Hybrid plasmonic waveguides for SERS in remote mode

27 April 2023 • 16:30 - 16:50 CEST | Leo



Conference Presentation

Design and analysis of multiband metamaterial in microwave regime

On demand | Presented live 25 April 2023



Conference Presentation

Carrier density modulation and thermal effects in electrically tuned metal-dielectric-semiconductor metamaterial

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



Conference Presentation

Angle-dependent chiro-optical characterization of self-assembled nanohole arrays in silver over a wide spectrum range

On demand | Presented live 25 April 2023



Conference Presentation

Semi-analytical technique for the design of passive daytime radiative cooling coating

On demand | Presented live 25 April 2023



Conference Presentation

Quality factor enhancement via lattice coupled toroidal mode in a terahertz metamaterial

On demand | Presented live 25 April 2023



Conference Presentation

Design of an efficient broadband reflective graphene based microwave polarization converter

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Conference Presentation

Dielectric metalens with reduced meta-atom aspect ratio and high focusing efficiency

On demand | Presented live 25 April 2023



Conference Presentation

A bowtie antenna plasmonic metamaterial emitter for high-performance radiative cooling

On demand | Presented live 25 April 2023



Conference Presentation

Integration of 2D exciton with photonic bound state in continuum

On demand | Presented live 25 April 2023



Conference Presentation

Far-field molecular sensing platform using biaxial hyperbolic polaritons in van der Waals crystals

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Conference Presentation

CANCELED: Nonlocality-driven enhancement of magneto-optical effects in epsilon-near-zero metamaterials

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



Conference Presentation

Hierarchical plasmon-optical cavities based on porous silicon photonic crystals for light-matter coupling with quantum emitters

On demand | Presented live 25 April 2023



Conference Presentation

Design of all-dielectric high NA mid infra-red metalens using inverse design and topology optimization

On demand | Presented live 25 April 2023



Conference Presentation

Ultrasensitive biosensor using a Fano resonant asymmetric all-dielectric metasurface

On demand | Presented live 25 April 2023



Conference Presentation

Ultra-sensitive gas sensor using Fano resonance in hybrid nano-bar/nano-elliptic dielectric metasurface

On demand | Presented live 25 April 2023



Conference Presentation

Perfect invisibility with nested inside-out cloaks

On demand | Presented live 25 April 2023



Conference Presentation

Compressive optical imaging with super resolution

24 April 2023 • 08:40 - 09:10 CEST | Leo



Conference Presentation

Infrared upconversion imaging with a spatially shaped pump

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Conference Presentation

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

24 April 2023 • 09:30 - 09:50 CEST | Leo



Conference Presentation

Probing nonlinear optical dynamics with free electrons

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Conference Presentation

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

24 April 2023 • 10:10 - 10:30 CEST | Leo



Conference Presentation

Ultrafast nanophotonics: from all-optical switching based on metamaterial cavity electro-dynamics to plasmon-driven polaritonic chemistry

25 April 2023 • 15:00 - 15:30 CEST | Leo



Conference Presentation

Non-degenerate magneto-optical pump-probe spectroscopy of thermal and nonthermal spin dynamics in magnetic and magnetoplasmonic materials with sub-15 fs time resolution

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Conference Presentation

Measurement of nonlinear refractive index dispersion in photonic crystal fiber

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Conference Presentation

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

24 April 2023 • 11:40 - 12:00 CEST | Leo



Conference Presentation

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

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Conference Presentation

Multicolor sub-diffraction-limited two- and three-photon microscopy

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Conference Presentation

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

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Conference Presentation

Characterization of self-pulsing in active silicon ring resonators

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Conference Presentation

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

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Conference Presentation

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

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Conference Presentation

Time-reversal asymmetric nonlinear metasurface

25 April 2023 • 11:00 - 11:30 CEST | Leo



Conference Presentation

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

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Conference Presentation

Light transfer in complex photonic lattices in elliptical geometry

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Conference Presentation

K-space engineering in nonlinear metasurfaces

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Conference Presentation

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

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Conference Presentation

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

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Conference Presentation

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

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Conference Presentation

Whispering gallery mode resonator surface functionalization for active applications

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Conference Presentation

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

On demand | Presented live 25 April 2023



Conference Presentation

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

On demand | Presented live 25 April 2023



Conference Presentation

Advanced techniques to improving the transmission capacity of passive optical networks

On demand | Presented live 25 April 2023



Conference Presentation

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

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Conference Presentation

Low-phase noise compact optical delay line optoelectronic oscillator

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Conference Presentation

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

On demand | Presented live 25 April 2023



Conference Presentation

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

On demand | Presented live 25 April 2023



Conference Presentation

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

On demand | Presented live 25 April 2023



Conference Presentation

Label-free three photon deep imaging in streptomyces bacterial communities

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Conference Presentation

Chip-scale simulations using quantum frequency comb

26 April 2023 • 11:00 - 11:30 CEST | Quadrant



Conference Presentation

Design and fabrication of basic silicon quantum photonic integrated circuits

26 April 2023 • 11:30 - 12:00 CEST | Quadrant



Conference Presentation

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

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



Conference Presentation

Free electron beams as a source of quantum light

27 April 2023 • 15:50 - 16:10 CEST | Quadrant



Conference Presentation

National infrastructure for dissemination of precise time and ultra-stable optical frequency also aiming to connect quantum sources: CITAF

26 April 2023 • 14:00 - 14:30 CEST | Quadrant



Conference Presentation

Optimisation of control circuit of single photon detector for space projects

26 April 2023 • 14:30 - 14:50 CEST | Quadrant



Conference Presentation

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

26 April 2023 • 14:50 - 15:10 CEST | Quadrant



Conference Presentation

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

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Conference Presentation

Satellite range finding by photon counting against optical time ruler

26 April 2023 • 16:10 - 16:30 CEST | Quadrant



Conference Presentation

Multimode fiber influence on single-photon avalanche diode timing jitter

26 April 2023 • 16:30 - 16:50 CEST | Quadrant



Conference Presentation

Optimization of microlens arrays for photon detectors

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Conference Presentation

Commercial innovations in superconducting nanowire single-photon detectors for quantum and not-so-quantum optics

27 April 2023 • 09:30 - 10:00 CEST | Quadrant



Conference Presentation

Investigation of NbRe for superconducting microstrips single photon detectors

27 April 2023 • 10:00 - 10:30 CEST | Quadrant



Conference Presentation

Infrared photon counting with superconducting detectors

27 April 2023 • 11:00 - 11:30 CEST | Quadrant



Conference Presentation

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

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Conference Presentation

Design of integrated SSPD-SFQ two-photon coincidence correlator

27 April 2023 • 11:50 - 12:10 CEST | Quadrant



Conference Presentation

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

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Conference Presentation

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

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Conference Presentation

Hybrid photonic-plasmonic microcavity for enhancing light-matter interaction

27 April 2023 • 14:20 - 14:40 CEST | Quadrant



Conference Presentation

Characterizing background photons and dark counts in real field TF-QKD setup

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Conference Presentation

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

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Conference Presentation

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

27 April 2023 • 16:10 - 16:30 CEST | Quadrant



Conference Presentation

Fast thermoelectric photodetector for UV radiation

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



Conference Presentation

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

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Conference Presentation

Single photon detection with silicon-based avalanche photodiode

On demand | Presented live 25 April 2023



Conference Presentation

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

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



Conference Presentation

Optimal configuration of a superconducting photon number resolving detector

On demand | Presented live 25 April 2023



Conference Presentation

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

On demand | Presented live 25 April 2023



Conference Presentation

Nonlinear integrated quantum optics with AlGaAs

26 April 2023 • 08:55 - 09:40 CEST | Nadir



Conference Presentation

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

24 April 2023 • 08:30 - 09:00 CEST | Aquarius



Conference Presentation

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

24 April 2023 • 09:00 - 09:20 CEST | Aquarius



Conference Presentation

RECASA: real-time computer-assisted sperm analysis

24 April 2023 • 09:20 - 09:40 CEST | Aquarius



Conference Presentation

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

24 April 2023 • 09:40 - 10:00 CEST | Aquarius



Conference Presentation

Parallel semi-fragile color image watermarking authentication scheme using EXIF metadata

24 April 2023 • 10:00 - 10:20 CEST | Aquarius



Conference Presentation

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

24 April 2023 • 10:50 - 11:10 CEST | Aquarius



Conference Presentation

Towards learning-based denoising of light fields

24 April 2023 • 11:10 - 11:30 CEST | Aquarius



Conference Presentation

Real-time 3D tracking of a microparticle using chromatic aberration

24 April 2023 • 11:30 - 11:50 CEST | Aquarius



Conference Presentation

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

24 April 2023 • 11:50 - 12:10 CEST | Aquarius



Conference Presentation

CANCELED: Introduction to the current state of quantum computing

24 April 2023 • 13:40 - 14:10 CEST | Aquarius



Conference Presentation

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

24 April 2023 • 14:10 - 14:30 CEST | Aquarius



Conference Presentation

Computational efficient deep learning-based super resolution approach

24 April 2023 • 14:30 - 14:50 CEST | Aquarius



Conference Presentation

In-sensor neural network for real-time KWS by image processing

24 April 2023 • 14:50 - 15:10 CEST | Aquarius



Conference Presentation

Low-power CNN for real-time driver posture monitoring by image processing

24 April 2023 • 15:10 - 15:30 CEST | Aquarius



Conference Presentation

CANCELED: Machine learning application benchmarking on COTS inference processors

24 April 2023 • 15:30 - 15:50 CEST | Aquarius



Conference Presentation

CANCELED: Towards a fully monolithic and fully computational SWIR silicon camera

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Conference Presentation

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

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Conference Presentation

Steered mixture-of-experts autoencoder design for real-time image modelling and denoising

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Conference Presentation

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

On demand | Presented live 25 April 2023



Conference Presentation

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

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Conference Presentation

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

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



Conference Presentation

Sensor-guided robotics: progress and industry needs

25 April 2023 • 12:00 - 12:30 CEST | Aquarius



Conference Presentation

AI and deep learning for microscopy

25 April 2023 • 09:45 - 10:30 CEST | Nadir



Conference Presentation

Plasmonics for biosensing

24 April 2023 • 13:40 - 14:10 CEST | Taurus



Conference Presentation

Plasmonic nanostructures based on novel metamolecular units for biological samples investigation

24 April 2023 • 14:10 - 14:30 CEST | Taurus



Conference Presentation

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

24 April 2023 • 14:30 - 14:50 CEST | Taurus



Conference Presentation

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

24 April 2023 • 14:50 - 15:10 CEST | Taurus



Conference Presentation

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

24 April 2023 • 15:10 - 15:30 CEST | Taurus



Conference Presentation

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

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Conference Presentation

Automated atrial flutter detection using photoplethysmography

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Conference Presentation

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

fibres

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Conference Presentation

Stokes polarimeter using vector diffractive optical elements

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Conference Presentation

CANCELED: Correlated frequency combs measure nanoradian phase shift

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Conference Presentation

Fabrication of metallic nanopore arrays via plasmonic photochemistry

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Conference Presentation

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

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Conference Presentation

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

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Conference Presentation

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

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Conference Presentation

SERS substrates fabricated on a wafer-scale

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Conference Presentation

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

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Conference Presentation

Raman spectroscopy applied to the online measurement of natural gas composition

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Conference Presentation

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

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Conference Presentation

Optical biosensing and superresolution enhanced with DNA origami

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Conference Presentation

Optochemical sensor-based systems for the analysis of cell metabolism and bioenergetics: an overview

26 April 2023 • 11:30 - 11:50 CEST | Taurus



Conference Presentation

Liquid crystal-based polarization immunosensor for Escherichia coli detection

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Conference Presentation

High stability optical mount of infrared chalcogenide glass for aerospace applications

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Conference Presentation

Application of machine learning on optical fibre distributed sensing for power line applications

26 April 2023 • 14:10 - 14:30 CEST | Taurus



Conference Presentation

Concept for a passive athermalization of additively manufactured and monolithic mounting structures

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Conference Presentation

Direct measurement of the maximum detection range of an automotive lidar with a table-top setup for series production

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Conference Presentation

SiN strip waveguide design for sensing applications

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Conference Presentation

Impact of Au morphology on optical fiber-based sensor

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Conference Presentation

High performance photonics-based biosensing platform for COVID detection

26 April 2023 • 16:20 - 16:40 CEST | Taurus



Conference Presentation

Bending fiber sensor based on capillary hollow-core fiber

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Conference Presentation

Bragg grating manufacturing in planar silica substrates

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Conference Presentation

Self-Written waveguides as an optical polymer sensor

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Conference Presentation

Freeform sensor used in off-axis optical design

On demand | Presented live 25 April 2023



Conference Presentation

Novel design for LiNbO3 single crystal transparency sensor for photoacoustic image application

On demand | Presented live 25 April 2023



Conference Presentation

Permeable diffractive optical elements for real-time sensing of running fluids

On demand | Presented live 25 April 2023



Conference Presentation

Functionalization of nanostructured surfaces for optical sensor platforms

On demand | Presented live 25 April 2023



Conference Presentation

Temporal behavior and processing of the LiDAR signal in fog

On demand | Presented live 25 April 2023



Conference Presentation

Optical sensor for NO2 gas detection using an external cavity diode laser

On demand | Presented live 25 April 2023



Conference Presentation

Mathematical modeling and experimental validation of the impact of the incident angle in optical precision metrology

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Conference Presentation

Development and application of quasi-planar InGaAsSb p-B-n devices for spectroscopic sensing

On demand | Presented live 25 April 2023



Conference Presentation

Integrated SU-8 ring resonator for rapid humidity sensing

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Conference Presentation

Fluorescent Yeonnokjam silk as a smart textile chemo-sensor

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Conference Presentation

High performance light in- analog out temperature sensor based on asymmetric Fabry-Perot cavity onto optical fibre tip

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Conference Presentation

Optoelectronic oscillator controlled by photodiode-based optoelectronic chromatic dispersion

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Conference Presentation

Electrical characterization of plasmonic nanopores excited with light

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



Conference Presentation

Optical fiber-based probe for detection of magnetic field

On demand | Presented live 25 April 2023



Conference Presentation

CANCELED: A miniaturized electrothermal-MEMS-based OCT probe

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Conference Presentation

Reflectance biosensor platform using residual-layer-free nanoimprint lithography

On demand | Presented live 25 April 2023



Conference Presentation

Study of the effects of multi-conditions of detection heavy metals using magneto-optics surface plasmon resonance

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Conference Presentation

Exceptional point-based sensing via nanostructured photonic waveguide

On demand | Presented live 25 April 2023



Conference Presentation

Development of biosensor integrating plasmonic and electrochemical methods

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Conference Presentation

Graphene microribbon array on silicon waveguide for sensing applications

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Conference Presentation

Silicon nitride thin film for optofluidic sensor application

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Conference Presentation

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

 On demand | Presented live 25 April 2023



Conference Presentation

Brillouin interaction between single optical modes excited in multimode fibers

 On demand | Presented live 25 April 2023



Conference Presentation

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

 On demand | Presented live 25 April 2023



Conference Presentation

Towards modulating near-field plasmonic coupling for enhanced optical spectroscopy

 On demand | Presented live 25 April 2023



Conference Presentation

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

 On demand | Presented live 25 April 2023



Conference Presentation

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

 On demand | Presented live 25 April 2023



Conference Presentation

Optical fiber biosensor with enhanced fluorescence collection

 On demand | Presented live 25 April 2023



Conference Presentation

Hetero-substituted derivative of PtPFPP for intracellular O₂ sensing of mammalian cells

 On demand | Presented live 25 April 2023



Conference Presentation

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

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Conference Presentation

Au-mos2 modified optical fiber sensor for ferritin detection

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Conference Presentation

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

 On demand | Presented live 25 April 2023



Conference Presentation

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

 On demand | Presented live 25 April 2023



Conference Presentation

Optofluidic sensor for measuring water salinity

 On demand | Presented live 25 April 2023



Conference Presentation

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

25 April 2023 • 17:20 - 17:40 CEST | Taurus



Conference Presentation

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

On demand | Presented live 25 April 2023



Conference Presentation

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

On demand | Presented live 25 April 2023



Conference Presentation

A method of fitting BOTDA data for the estimation of the Brillouin frequency shift

On demand | Presented live 25 April 2023



Conference Presentation

Dynamic laser speckle imaging for estimation of microbial colony growth in a noisy environment

On demand | Presented live 25 April 2023



Conference Presentation

Fe₃O₄@Au core satellite magnetic nanoparticles to enhance colorimetric immunosensor response

26 April 2023 • 12:10 - 12:30 CEST | Taurus



Conference Presentation

Polymer fibers for sensing: from physical to biochemical parameters

24 April 2023 • 09:00 - 09:30 CEST | Virgo



Conference Presentation

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

24 April 2023 • 09:30 - 09:50 CEST | Virgo



Conference Presentation

Humidity responsivity of CYTOP-XYLEX fibre Bragg grating sensors

24 April 2023 • 09:50 - 10:10 CEST | Virgo



Conference Presentation

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

24 April 2023 • 10:10 - 10:30 CEST | Virgo



Conference Presentation

Distributed acoustic sensing over available fiber networks: what can available fiber infrastructure tell us about our planet?

24 April 2023 • 11:00 - 11:30 CEST | Virgo



Conference Presentation

Non-Hermitian light control in periodically modulated multimode fibers

24 April 2023 • 11:30 - 11:50 CEST | Virgo



Conference Presentation

Single-mode nanoparticles-doped optical fibers: opportunities for high-performance biosensing.

24 April 2023 • 11:50 - 12:20 CEST | Virgo



Conference Presentation

Chalcogenide photonic crystal fibers: fabrication and applications

24 April 2023 • 13:40 - 14:10 CEST | Virgo



Conference Presentation

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

24 April 2023 • 14:10 - 14:30 CEST | Virgo



Conference Presentation

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

24 April 2023 • 14:30 - 14:50 CEST | Virgo



Conference Presentation

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

24 April 2023 • 14:50 - 15:10 CEST | Virgo



Conference Presentation

Specialty fiber fabrication using carbon monoxide laser heating

24 April 2023 • 15:10 - 15:40 CEST | Virgo



Conference Presentation

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

25 April 2023 • 10:50 - 11:10 CEST | Virgo



Conference Presentation

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

25 April 2023 • 11:10 - 11:30 CEST | Virgo



Conference Presentation

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

25 April 2023 • 11:30 - 11:50 CEST | Virgo



Conference Presentation

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

25 April 2023 • 11:50 - 12:10 CEST | Virgo



Conference Presentation

Ring core fiber supporting orbital angular momentum for modal multiplexing

25 April 2023 • 13:20 - 13:50 CEST | Virgo



Conference Presentation

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

25 April 2023 • 13:50 - 14:10 CEST | Virgo



Conference Presentation

Birefringence enhancement in ZEBRA fiber with artificially anisotropic core

25 April 2023 • 14:10 - 14:30 CEST | Virgo



Conference Presentation

Thulium-doped fiber amplifier optimized for wavelengths beyond 1800 nm

25 April 2023 • 14:30 - 14:50 CEST | Virgo



Conference Presentation

Statistical learning method for modal analysis of optical fibers

25 April 2023 • 14:50 - 15:10 CEST | Virgo



Conference Presentation

Planar nanophotonics meets optical fibers: a novel platform for flexible light focussing

25 April 2023 • 15:40 - 16:10 CEST | Virgo



Conference Presentation

Advanced multicore fibers for 3D micro-endoscopy

25 April 2023 • 16:10 - 16:30 CEST | Virgo



Conference Presentation

Soft infrared optoelectronic fibers for modulation and recording of neural activity

25 April 2023 • 16:30 - 16:50 CEST | Virgo



Conference Presentation

Ultralow numerical aperture counter-propagating intracavity optical tweezers

25 April 2023 • 16:50 - 17:10 CEST | Virgo



Conference Presentation

Novel technologies to micro and nanostructure highly nonplanar optical fibers: from the micro to the sub-50 nm regime

25 April 2023 • 17:10 - 17:40 CEST | Virgo



Conference Presentation

Design and fabrication of special photonic crystal fibers for sensing applications

On demand | Presented live 25 April 2023



Conference Presentation

Signal processing treatments for static and dynamic Brillouin distributed sensing

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



Conference Presentation

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

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



Conference Presentation

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

On demand | Presented live 25 April 2023



Conference Presentation

Spectrally effective mitigation of polarization mode dispersion in optical fibers

On demand | Presented live 25 April 2023



Conference Presentation

Nanocrystalline ceramic coatings for the capillary fiber lasers

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



Conference Presentation

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

On demand | Presented live 25 April 2023



Conference Presentation

Soliton Raman shift wavelength tuning through the pump pulse polarization control

On demand | Presented live 25 April 2023



Conference Presentation

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

On demand | Presented live 25 April 2023



Conference Presentation

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

On demand | Presented live 25 April 2023



Conference Presentation

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

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



Conference Presentation

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

On demand | Presented live 25 April 2023



Conference Presentation

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

📺 On demand | Presented live 25 April 2023



Conference Presentation

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

📺 On demand | Presented live 25 April 2023



Conference Presentation

Multilayer volume holographic gratings from BayFol HX: light and neutron optical characteristics

24 April 2023 • 13:30 - 14:00 CEST | Zodiac



Conference Presentation

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

24 April 2023 • 14:00 - 14:20 CEST | Zodiac



Conference Presentation

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

24 April 2023 • 14:20 - 14:40 CEST | Zodiac



Conference Presentation

Development of holographic optical elements for use in wound monitoring

24 April 2023 • 14:40 - 15:00 CEST | Zodiac



Conference Presentation

Spinning optical drills by dynamic high-order Bessel beam mixing

24 April 2023 • 15:00 - 15:20 CEST | Zodiac



Conference Presentation

Analysing beam coherence through self-written waveguides

26 April 2023 • 12:20 - 12:40 CEST | Zodiac



Conference Presentation

Laser ultrasonics for measurement of the thickness of metal plates using a photorefractive liquid crystal

25 April 2023 • 11:00 - 11:30 CEST | Zodiac



Conference Presentation

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

25 April 2023 • 11:30 - 11:50 CEST | Zodiac



Conference Presentation

Review of refractive index modulation achievable in photosensitive polymer materials in view of their application with diffractive optical elements for LEDs

25 April 2023 • 13:30 - 14:00 CEST | Zodiac



Conference Presentation

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

25 April 2023 • 14:00 - 14:20 CEST | Zodiac



Conference Presentation

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

25 April 2023 • 14:20 - 14:40 CEST | Zodiac



Conference Presentation

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

25 April 2023 • 14:40 - 15:00 CEST | Zodiac



Conference Presentation

Generating diffraction efficiency profiles in Bayfol HX vHOE's

25 April 2023 • 15:30 - 16:00 CEST | Zodiac



Conference Presentation

Diffraction efficiency in reflection holograms stored in photopolymers doped with metallic nanoparticles

25 April 2023 • 16:00 - 16:20 CEST | Zodiac



Conference Presentation

Improvements in VPHGs for astronomy based on photopolymers

25 April 2023 • 16:20 - 16:40 CEST | Zodiac



Conference Presentation

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

25 April 2023 • 16:40 - 17:00 CEST | Zodiac



Conference Presentation

System for the manufacture of low-frequency gratings with different geometric profiles

25 April 2023 • 17:00 - 17:20 CEST | Zodiac



Conference Presentation

Maskless polymer photomorphing for reprogrammable holograms

25 April 2023 • 17:20 - 17:40 CEST | Zodiac



Conference Presentation

Holographic-laser-excited volumetric graphics

26 April 2023 • 10:50 - 11:20 CEST | Zodiac



Conference Presentation

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

26 April 2023 • 11:20 - 11:40 CEST | Zodiac



Conference Presentation

Deep variational Hilbert quantitative phase imaging

26 April 2023 • 11:40 - 12:00 CEST | Zodiac



Conference Presentation

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

26 April 2023 • 12:00 - 12:20 CEST | Zodiac



Conference Presentation

CANCELED: Optimal quantization in computer-generated holography for different matrix dimensions

26 April 2023 • 12:40 - 12:40 CEST | Zodiac



Conference Presentation

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

26 April 2023 • 13:50 - 14:10 CEST | Zodiac



Conference Presentation

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

26 April 2023 • 14:10 - 14:30 CEST | Zodiac



Conference Presentation

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

26 April 2023 • 14:30 - 14:50 CEST | Zodiac



Conference Presentation

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

26 April 2023 • 14:50 - 15:10 CEST | Zodiac



Conference Presentation

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

26 April 2023 • 15:40 - 16:00 CEST | Zodiac



Conference Presentation

Compressive digital holography and Gibbs ringing

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



Conference Presentation

Performance evaluation of different optical schemes for realization of holographic printers

26 April 2023 • 16:20 - 16:40 CEST | Zodiac



Conference Presentation

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

26 April 2023 • 16:40 - 17:00 CEST | Zodiac



Conference Presentation

CCD and Hartmann-Shack wavefront sensor to analyse holographic lens resolution

26 April 2023 • 17:00 - 17:20 CEST | Zodiac



Conference Presentation

Measuring the lipid content in angiosperms using in-line digital holographic microscopy

26 April 2023 • 17:20 - 17:40 CEST | Zodiac



Conference Presentation

Double exposure ESPI for non-contact photoacoustic tomography

26 April 2023 • 17:40 - 18:00 CEST | Zodiac



Conference Presentation

Chalcogenide thin films as a material for holographic applications

On demand | Presented live 25 April 2023



Conference Presentation

Developing novel holographic optomechanical sensing platform for detection of volatile organic compounds

On demand | Presented live 25 April 2023



Conference Presentation

Study of the conservation of different holograms sandwiched between glasses

On demand | Presented live 25 April 2023



Conference Presentation

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

25 April 2023 • 11:50 - 12:10 CEST | Zodiac



Conference Presentation

Welcome and Introduction: Tribute to John Sheridan

24 April 2023 • 13:00 - 13:30 CEST | Zodiac



Conference Presentation

Glass integrated photonics: passive, active and hybrid devices

24 April 2023 • 09:15 - 09:45 CEST | Nadir



Conference Presentation

Recent progress in femtosecond pulsed ultralong fiber ring laser sources

24 April 2023 • 09:45 - 10:15 CEST | Nadir



Conference Presentation

Biomedical imaging and diagnostic methods with silicon nitride visible wavelength PICs

24 April 2023 • 10:50 - 11:10 CEST | Nadir



Conference Presentation

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

24 April 2023 • 11:10 - 11:30 CEST | Nadir



Conference Presentation

On-chip trace gas sensing down to ppb levels with mid-IR spectroscopy

24 April 2023 • 11:30 - 12:00 CEST | Nadir



Conference Presentation

Mid-infrared waveguides for broadband single-mode guidance

24 April 2023 • 12:00 - 12:20 CEST | Nadir



Conference Presentation

Highly doped silicon plasmonic infrared nanoantennas for energy harvesting applications

24 April 2023 • 12:20 - 12:40 CEST | Nadir



Conference Presentation

Complex quantum states and their applications in integrated optics

24 April 2023 • 14:10 - 14:50 CEST | Nadir



Conference Presentation

Polarization singularities and optical chirality in metasurfaces

24 April 2023 • 14:50 - 15:20 CEST | Nadir



Conference Presentation

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

24 April 2023 • 15:20 - 15:40 CEST | Nadir



Conference Presentation

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

25 April 2023 • 11:10 - 11:30 CEST | Nadir



Conference Presentation

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

25 April 2023 • 11:30 - 11:50 CEST | Nadir



Conference Presentation

Subwavelength control of light and sound in silicon

25 April 2023 • 13:20 - 13:50 CEST | Nadir



Conference Presentation

Recent progress in subwavelength grating metamaterial engineered silicon photonic devices

25 April 2023 • 13:50 - 14:20 CEST | Nadir



Conference Presentation

Silicon-based surface gratings for efficient fiber-chip and free-space beam coupling

25 April 2023 • 14:20 - 14:50 CEST | Nadir



Conference Presentation

Hybrid integration of monolithic microresonators

25 April 2023 • 15:20 - 15:50 CEST | Nadir



Conference Presentation

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

25 April 2023 • 15:50 - 16:10 CEST | Nadir



Conference Presentation

All dielectric Mie-resonant waveguides and nanophotonic structures

26 April 2023 • 11:10 - 11:40 CEST | Nadir



Conference Presentation

Design optimization of silicon nitride-based micro-ring resonator systems in a CMOS mass production environment

26 April 2023 • 11:40 - 12:00 CEST | Nadir



Conference Presentation

Self-adaptive photonic integrated processors for free space communication

26 April 2023 • 13:40 - 14:20 CEST | Nadir



Conference Presentation

Thermal insulation of silicon ring modulators in densely-packed photonic integrated circuits

26 April 2023 • 14:20 - 14:40 CEST | Nadir



Conference Presentation

Tunable four-channel wavelength division (De) multiplexer based on cascaded long-period waveguide gratings

26 April 2023 • 14:40 - 15:00 CEST | Nadir



Conference Presentation

Angled MMI optical switch

26 April 2023 • 16:10 - 16:30 CEST | Nadir



Conference Presentation

Plasmonic logic circuits based on integrated electro-optic plasmonic switches based on phase-change materials

26 April 2023 • 15:30 - 15:50 CEST | Nadir



Conference Presentation

Designing an integrated microresonator suitable for Kerr frequency comb soliton formation

26 April 2023 • 15:50 - 16:10 CEST | Nadir



Conference Presentation

A silicon nitride MMI O-band power combiner based on slot waveguide structures

26 April 2023 • 12:00 - 12:20 CEST | Nadir



Conference Presentation

Emulation and testbed prototyping of laser beam propagation features through atmospheric turbulence for optical satellite feeder links

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



Conference Presentation

Active optic glass for broadband amplification by erbium-bismuth activators

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



Conference Presentation

Design of highly sensitive plasmonic nanoantenna mid-IR gas sensor

On demand | Presented live 25 April 2023



Conference Presentation

Multi-functional optical design for IRST system using high-definition detector

On demand | Presented live 25 April 2023



Conference Presentation

Spectral reflectance analysis of plant leaves during accelerated senescence in the VIS, NIR, MIR range

On demand | Presented live 25 April 2023



Conference Presentation

Applying a Riesz-projection-based contour integral eigenvalue solver to compute resonance modes of a VCSEL

On demand | Presented live 25 April 2023



Conference Presentation

Broadband plasmonic switching based on asymmetric metallic nanostructures on a VO2 coated metallic film

On demand | Presented live 25 April 2023



Conference Presentation

Valley selective routing of interlayer excitons in two-dimensional semiconductor heterostructures via microresonators

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



Conference Presentation

Machine learning analysis of waveguides bending

On demand | Presented live 25 April 2023



Conference Presentation

NIL master manufacturing for optical gratings

25 April 2023 • 16:10 - 16:30 CEST | Nadir



Conference Presentation

Mid-infrared localized surface plasmon resonances in silicon-dioxide nanoantennas for ozone detection

On demand | Presented live 25 April 2023



Conference Presentation

Photonic crystal fibres: three decades of novel science

26 April 2023 • 09:45 - 10:30 CEST | Nadir



Conference Presentation

Grazing incidence X-ray optics in the Czech Republic: past, present, future

26 April 2023 • 11:30 - 11:50 CEST | Stella



Conference Presentation

Assembly of an ultralight weight X-ray telescope using MEMS technologies

26 April 2023 • 11:50 - 12:10 CEST | Stella



Conference Presentation

Imaging performance above 150 keV of the wide field monitor on board the ASTENA concept mission

26 April 2023 • 13:40 - 14:00 CEST | Stella



Conference Presentation

Development of silicon foil X-ray optics using hot plastic deformation process

26 April 2023 • 14:00 - 14:20 CEST | Stella



Conference Presentation

Novel lobster eye and Kirkpatrick Baez modules based on multifoil technology: design, assembly and tests

26 April 2023 • 14:20 - 14:40 CEST | Stella



Conference Presentation

Testing of lobster-eye type telescopes with X-rays and visible light

26 April 2023 • 15:00 - 15:20 CEST | Stella



Conference Presentation

Differential deposition applied to x-ray mirror substrates

26 April 2023 • 15:50 - 16:10 CEST | Stella



Conference Presentation

Development of multilayer gratings for Solar-C EUV spectro-imager

26 April 2023 • 16:10 - 16:30 CEST | Stella



Conference Presentation

A guided tour of the Deutsches Röntgen-Museum: displaying X-ray history

26 April 2023 • 16:50 - 17:10 CEST | Stella



Conference Presentation

The Röntgen Medal: honouring X-ray excellence

26 April 2023 • 17:10 - 17:30 CEST | Stella



Conference Presentation

Temporal and spectral investigation of EUV and SXR induced plasmas

27 April 2023 • 09:20 - 09:40 CEST | Stella



Conference Presentation

Multi-beam X-ray ptychography using coded probes for rapid nondestructive high-resolution imaging of extended samples

27 April 2023 • 09:40 - 10:00 CEST | Stella



Conference Presentation

Soft X-ray spectroscopy in the lab with an ellipsoidal mirror and a wavefront corrected reflection zone plate

27 April 2023 • 10:00 - 10:20 CEST | Stella



Conference Presentation

The stitching interferometry system of ALBA

27 April 2023 • 11:10 - 11:30 CEST | Stella



Conference Presentation

New bonding and alignment techniques for building LAUE lenses for astrophysics

27 April 2023 • 11:30 - 11:50 CEST | Stella



Conference Presentation

An achromatic X-ray lens

27 April 2023 • 11:50 - 12:10 CEST | Stella



Conference Presentation

Anodic bonding to manufacture LAUE lenses for high-energy astrophysics

27 April 2023 • 12:10 - 12:30 CEST | Stella



Conference Presentation

Achromatic X-ray lenses based on low-Z hydride compounds

27 April 2023 • 12:30 - 12:50 CEST | Stella



Conference Presentation

Microfocus laboratory soft X-ray source for vacuum optical test facilities

27 April 2023 • 10:20 - 10:40 CEST | Stella



Conference Presentation

X-ray lobster eye optics and telescopes

26 April 2023 • 11:00 - 11:30 CEST | Stella



Conference Presentation

Developments in X-ray synchrotron beamlines and optics

27 April 2023 • 08:50 - 09:20 CEST | Stella



Conference Presentation

CubeSat tandem flight for asteroid surveillance

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



Conference Presentation

CubeSat microsatellite demonstrator with X-ray optical payload

26 April 2023 • 14:40 - 15:00 CEST | Stella



Conference Presentation

LOPSIMUL: quick numerical simulator of multi-foil reflective optical system

26 April 2023 • 16:30 - 16:50 CEST | Stella



Conference Presentation

Optical parametric synthesis of relativistic intensity sub-4.5 fs waveforms

24 April 2023 • 09:40 - 10:10 CEST | Zenit



Conference Presentation

Evolutionary optimization and long-term stabilization of a multi-stage OPCPA system

24 April 2023 • 10:10 - 10:30 CEST | Zenit



Conference Presentation

Recent status of the SYLOS2 laser system of ELI-ALPS

24 April 2023 • 11:00 - 11:20 CEST | Zenit



Conference Presentation

L1 Allegra laser at ELI Beamlines facility as a driver for electron acceleration at 1 kHz repetition rate

24 April 2023 • 11:20 - 11:40 CEST | Zenit



Conference Presentation

Femtosecond synchronization of OPCPA based F-SYNC and L1-Allegra lasers

24 April 2023 • 11:40 - 12:00 CEST | Zenit



Conference Presentation

Real-time single-shot CEP measurement at 100 kHz repetition rate

24 April 2023 • 14:10 - 14:30 CEST | Zenit



Conference Presentation

MLD-grating-based pulse compressors for high average power Ti:Sa lasers

24 April 2023 • 14:30 - 14:50 CEST | Zenit



Conference Presentation

Commissioning of the L4n laser beamline: a high-repetition-rate nanosecond-pulse laser system for high-energy density physics experiments

25 April 2023 • 11:00 - 11:20 CEST | Zenit



Conference Presentation

Extreme photonics applications centre: high energy DPSSL pump for a 10 Hz PW-level laser

25 April 2023 • 11:20 - 11:40 CEST | Zenit



Conference Presentation

Development of 500 mJ, 1 kHz, thin-disk multipass amplifier

25 April 2023 • 11:40 - 12:00 CEST | Zenit



Conference Presentation

High-efficiency hybridized parametric amplification

25 April 2023 • 13:30 - 14:00 CEST | Zenit



Conference Presentation

Investigation of E-field distribution and film material influence on laser-induced contamination

25 April 2023 • 14:00 - 14:20 CEST | Zenit



Conference Presentation

TempoRL: laser pulse temporal shape optimization with Deep Reinforcement Learning

On demand | Presented live 25 April 2023



Conference Presentation

Adiabatic frequency converter as a custom octave-spanning dispersive element

25 April 2023 • 14:20 - 14:40 CEST | Zenit



Conference Presentation

Telescopic zoom system for electron acceleration with lasers: general design and tests

25 April 2023 • 14:40 - 15:00 CEST | Zenit



Conference Presentation

Multi-TW peak power laser pulses with sub-5 fs duration from a single thin-plate compressor

25 April 2023 • 15:30 - 15:50 CEST | Zenit



Conference Presentation

High-energy, high-average power multipass cell spectral broadening of a thin disk regenerative amplifier

25 April 2023 • 15:50 - 16:10 CEST | Zenit



Conference Presentation

Comprehensive 3+1D numerical simulation tool for thin-plate post-compression of high-energy ultrashort pulses

25 April 2023 • 16:10 - 16:30 CEST | Zenit



Conference Presentation

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

25 April 2023 • 16:30 - 16:50 CEST | Zenit



Conference Presentation

Highly efficient nonlinear spectral broadening of mJ pulses at 2 μ m wavelength in a gas multipass cell and compression sub-30 fs

25 April 2023 • 16:50 - 17:10 CEST | Zenit



Conference Presentation

Sub-TW laser pulses via post-compression of 9 mJ, 1.2 picosecond laser pulses to 13 fs

25 April 2023 • 17:10 - 17:30 CEST | Zenit



Conference Presentation

Post-compression of a 100-TW Ti:sapphire laser

25 April 2023 • 17:30 - 17:50 CEST | Zenit



Conference Presentation

Experimental demonstration of temporal contrast enhancement in the petawatt J-KAREN-P laser

26 April 2023 • 10:50 - 11:10 CEST | Virgo



Conference Presentation

Development of L2-DUHA laser front-end for near-IR and mid-IR generation at ELI-Beamlines

26 April 2023 • 11:10 - 11:30 CEST | Virgo



Conference Presentation

Progress in commissioning the L4-ATON laser system 10PW kilojoule capability

26 April 2023 • 11:30 - 11:50 CEST | Virgo



Conference Presentation

First demonstration of a 500TW/10Hz 20fs TiSa laser in ELI ALPS

26 April 2023 • 11:50 - 12:10 CEST | Virgo



Conference Presentation

Operation experiences of the 10 Hz PW laser at ELI ALPS during the first ramping up phase

26 April 2023 • 12:10 - 12:30 CEST | Virgo



Conference Presentation

Status of SIOM OPCPA laser facility

26 April 2023 • 12:30 - 13:00 CEST | Virgo

Conference Presentation

CANCELED: Stretcher design for matching an out-of-plane MLD grating compressor

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



Conference Presentation

Study of the reproducibility of Brillouin scattering measurements on bulk materials using a power laser

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



Conference Presentation

Comparison of compact lasers Nd:YAG/V:YAG and Nd:YAP/V:YAG generating in the 1.3 μm spectral region

 On demand | Presented live 25 April 2023



Conference Presentation

Laser-diode-pumped Cr:ZnSe continuous wave laser tunable in mid-IR range of 2.05-2.65 μm

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



Conference Presentation

Acousto-optically Q-switched Er:YAP laser emitting at 2.8 μm

 On demand | Presented live 25 April 2023



Conference Presentation

Influence of crystal orientation on Ho:YAP microchip laser generation

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



Conference Presentation

Effect of cryogenic temperature on spectroscopic and laser properties of Tm:SrF₂ crystal

 On demand | Presented live 25 April 2023



Conference Presentation

Real time pulse characterization for a terawatt laser facility

 On demand | Presented live 25 April 2023



Conference Presentation

Polarization-based idler elimination: enhancing the efficiency of optical parametric amplification

24 April 2023 • 12:00 - 12:20 CEST | Zenit



Conference Presentation

Novel dual-wavelength front-end with active fiber loop for high intensity laser systems

24 April 2023 • 12:20 - 12:40 CEST | Zenit



Conference Presentation

Exploring plasma physics with multi-petawatt laser pulses

24 April 2023 • 16:25 - 17:10 CEST | Nadir



Conference Presentation

Fusion ignition at the National Ignition Facility

25 April 2023 • 08:55 - 09:40 CEST | Nadir



Conference Presentation

Intense radiation effects observed at European XFEL

24 April 2023 • 08:30 - 09:00 CEST | Kepler



Conference Presentation

Radiation hardness of luminescent screens under FEL radiation

24 April 2023 • 09:00 - 09:25 CEST | Kepler



Conference Presentation

Determination of thermalized fraction of intense short-wavelength radiation absorbed in solids: from UV to x-ray lasers

24 April 2023 • 09:25 - 09:50 CEST | Kepler



Conference Presentation

High-power optical elements for 13.5 nm EUV

24 April 2023 • 09:50 - 10:20 CEST | Kepler



Conference Presentation

Laser-driven photon sources and exemplary applications at ELI Beamlines

24 April 2023 • 13:40 - 14:10 CEST | Kepler



Conference Presentation

Extending the ablation imprints method of focal spot characterisation from X-ray to visible and near-infrared spectral range

24 April 2023 • 14:10 - 14:35 CEST | Kepler



Conference Presentation

Similitude in classical molecular dynamics applied to study femtosecond-laser- and XUV-induced ablation

24 April 2023 • 10:50 - 11:20 CEST | Kepler



Conference Presentation

Laser modification of nanomaterials: from ablation to phase transitions

24 April 2023 • 11:20 - 11:50 CEST | Kepler



Conference Presentation

Nonisotropic atomic motion in a nonthermal phase transition of diamond

24 April 2023 • 11:50 - 12:15 CEST | Kepler



Conference Presentation

Materials under XUV irradiation: effects of structure, size, and temperature

24 April 2023 • 12:15 - 12:40 CEST | Kepler



Conference Presentation

Modelling damage of alkene polymers irradiated with an XUV laser pulse

24 April 2023 • 14:35 - 15:00 CEST | Kepler



Conference Presentation

Beyond EUV lithography: could direct micro-(nano-)structuring by intense EUV/x-ray radiation be engaged with microchip production?

24 April 2023 • 15:00 - 15:25 CEST | Kepler



Conference Presentation

EUV impact on silicon and carbon etching vs deposition

24 April 2023 • 15:25 - 15:50 CEST | Kepler



Conference Presentation

Recent advances in EUV multilayer optics for solar physics and ultra-fast science applications

25 April 2023 • 10:50 - 11:20 CEST | Kepler



Conference Presentation

Laser-induced heating and surface modification in ruthenium thin films

25 April 2023 • 11:20 - 11:45 CEST | Kepler



Conference Presentation

Hybrid modeling of irradiation of materials: examples of XTANT-3 and TREKIS-4 codes

25 April 2023 • 11:45 - 12:10 CEST | Kepler



Conference Presentation

Local modifications of TiO₂ and SrTiO₃ properties intentionally induced by hard X-ray nanobeams

25 April 2023 • 12:10 - 12:35 CEST | Kepler



Conference Presentation

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

25 April 2023 • 12:35 - 13:00 CEST | Kepler



Conference Presentation

Analysis of ablation imprints accelerated by machine learning

27 April 2023 • 11:00 - 11:30 CEST | Kepler



Conference Presentation

Si transfer and self-limiting chemisorption on Ru thin film surface in hydrogen radicals environment

On demand | Presented live 25 April 2023



Conference Presentation

Generation of intense THz pulses using laser-plasma interactions

25 April 2023 • 10:50 - 11:20 CEST | Stella



Conference Presentation

Coherent undulator radiation from pre-bunched attosecond bunches produced by a laser wakefield accelerator

25 April 2023 • 11:20 - 11:50 CEST | Stella



Conference Presentation

R&D on compact soft X-ray source using high-vacuum laser electron accelerator

25 April 2023 • 11:50 - 12:20 CEST | Stella



Conference Presentation

Relativistic electron acceleration from nanotips

25 April 2023 • 14:00 - 14:30 CEST | Stella



Conference Presentation

Method of producing 100 keVs ion beams from a gas jet using two intense laser pulses

25 April 2023 • 14:30 - 15:00 CEST | Stella



Conference Presentation

Generation of energetic ion beams with nonthermal energy distributions from layered foils irradiated by an ultraintense laser pulse

25 April 2023 • 15:00 - 15:30 CEST | Stella



Conference Presentation

The role of transient plasma photonic structures in Raman amplification experiments

25 April 2023 • 16:00 - 16:30 CEST | Stella



Conference Presentation

Analytic modelling of transient plasma photonic structures

25 April 2023 • 16:30 - 17:00 CEST | Stella



Conference Presentation

Plasma-based pulse compression for next generation ultraintense lasers

25 April 2023 • 17:00 - 17:30 CEST | Stella



Conference Presentation

Temporal coherence and superradiance in plasma wakefield based light sources

26 April 2023 • 10:50 - 11:20 CEST | Tycho



Conference Presentation

Average current enhancement of laser-plasma accelerators

26 April 2023 • 11:20 - 11:40 CEST | Tycho



Conference Presentation

Direct laser acceleration by multi-petawatt lasers

26 April 2023 • 11:40 - 12:00 CEST | Tycho



Conference Presentation

Electron injection on steep ramp-up plasma density profiles in high repetition rate laser-plasma wake-field accelerators

26 April 2023 • 12:00 - 12:20 CEST | Tycho



Conference Presentation

Control of electron injection in LWFA with structured metal targets

26 April 2023 • 12:20 - 12:40 CEST | Tycho



Conference Presentation

Surpassing TNSA performance in laser proton acceleration in the relativistic transparency regime

26 April 2023 • 13:50 - 14:20 CEST | Tycho



Conference Presentation

Commissioning experiment on laser-driven proton acceleration at SCAPA

26 April 2023 • 14:20 - 14:40 CEST | Tycho



Conference Presentation

Optimization of multi-petawatt laser-driven proton acceleration in the relativistic transparency regime

26 April 2023 • 14:40 - 15:00 CEST | Tycho



Conference Presentation

Multi-parameter Bayesian optimization of laser-driven ion acceleration in particle-in-cell simulations

26 April 2023 • 15:00 - 15:20 CEST | Tycho



Conference Presentation

Laser transmission in the relativistically-induced transparency regime for high performance proton acceleration at PW laser systems

26 April 2023 • 15:20 - 15:40 CEST | Tycho



Conference Presentation

50 MeV electron beams from a scalable kHz laser

26 April 2023 • 16:00 - 16:30 CEST | Tycho



Conference Presentation

Experimental investigations of Trojan horse injection in a hybrid LWFA-driven PWFA platform

26 April 2023 • 16:30 - 16:50 CEST | Tycho



Conference Presentation

Beam-driven wakefield probed by femtosecond shadowgraphy

26 April 2023 • 16:50 - 17:10 CEST | Tycho



Conference Presentation

Dynamics of monoenergetic asymmetric injection of laser wakefield accelerator

26 April 2023 • 17:10 - 17:30 CEST | Tycho



Conference Presentation

Development of gas targets for stable laser wakefield electron acceleration

26 April 2023 • 17:30 - 17:50 CEST | Tycho



Conference Presentation

New capabilities of the IP2 beamline for laser-solid interaction studies at the BELLA PW facility

27 April 2023 • 09:10 - 09:30 CEST | Tycho



Conference Presentation

Calibration of a Thomson spectrometer for laser plasma proton beams with super-low emittance

27 April 2023 • 09:30 - 09:50 CEST | Tycho



Conference Presentation

Deuteron acceleration and fast neutron generation with few-cycle, relativistic laser pulses at 1 Hz repetition rate

27 April 2023 • 09:50 - 10:10 CEST | Tycho



Conference Presentation

Real-time characterization of laser-accelerated protons using a scintillator stack

27 April 2023 • 10:10 - 10:30 CEST | Tycho



Conference Presentation

Enhanced ion acceleration from transparency-driven foils demonstrated at two ultraintense laser facilities

27 April 2023 • 11:00 - 11:30 CEST | Tycho



Conference Presentation

Development of an ultrathin liquid leaf target system for deuteron acceleration at 10 Hz repetition rate

27 April 2023 • 11:30 - 11:50 CEST | Tycho



Conference Presentation

Commissioning experiments at the ELIMAIA user beamline

27 April 2023 • 11:50 - 12:10 CEST | Tycho



Conference Presentation

Perspectives for application of sub 10-MeV laser-driven proton beams: PIXE and medical radioisotopes production

27 April 2023 • 13:30 - 14:00 CEST | Tycho



Conference Presentation

Transient laser-induced breakdown of dielectrics in ultra-relativistic laser-solid interactions

27 April 2023 • 14:00 - 14:20 CEST | Tycho



Conference Presentation

Transverse instabilities induced periodic modulation in laser driven proton beams

27 April 2023 • 14:20 - 14:40 CEST | Tycho



Conference Presentation

Investigation of the transient dynamics of cavitation bubble produced during pulsed laser ablation of a solid immersed in liquid by shadowgraphic imaging

27 April 2023 • 14:40 - 15:00 CEST | Tycho



Conference Presentation

High-brightness self-seeded hard X-ray free-electron laser at PAL-XFEL

25 April 2023 • 12:20 - 12:50 CEST | Stella



Conference Presentation

The modified equation of motion for an extended charged particle in strong electromagnetic fields

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



Conference Presentation

Evaluation of the possibility of determining fluctuations which could demonstrate the presence of particles interacting with photons

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



Conference Presentation

Liquid jet target system for laser-plasma interaction at kHz repetition rate

On demand | Presented live 25 April 2023



Conference Presentation

Numerical modelling of electron acceleration in the preplasma of thin foils

On demand | Presented live 25 April 2023



Conference Presentation

Transition of electron beams between vacuum and plasma in the external injection into a laser wakefield accelerator

On demand | Presented live 25 April 2023



Conference Presentation

Laser plasma accelerators

24 April 2023 • 17:15 - 18:00 CEST | Nadir



Conference Presentation

Extreme field physics with ultra-intense laser pulses

24 April 2023 • 08:30 - 09:05 CEST | Tycho



Conference Presentation

All-optical nonlinear Breit-Wheeler pair production with gamma-flash photons

24 April 2023 • 09:05 - 09:35 CEST | Tycho



Conference Presentation

Nonlinear Compton scattering and nonlinear Breit-Wheeler pair production including the damping of particle states

24 April 2023 • 09:35 - 09:55 CEST | Tycho



Conference Presentation

ELI-ELBA all-optical GeV electron-PW laser collider

24 April 2023 • 09:55 - 10:15 CEST | Tycho



Conference Presentation

High-order modes of intense second harmonic light produced from a plasma aperture

24 April 2023 • 10:40 - 11:00 CEST | Tycho



Conference Presentation

Relativistic flying mirror for strong-field quantum electrodynamics

24 April 2023 • 11:00 - 11:20 CEST | Tycho



Conference Presentation

Strong field QED studies at PW-class laser facilities and beyond

24 April 2023 • 11:20 - 11:40 CEST | Tycho



Conference Presentation

Intense long-lived magnetic wakes driven by relativistic laser pulses

24 April 2023 • 11:40 - 12:00 CEST | Tycho



Conference Presentation

Decay of a strong electromagnetic wave in near-critical plasmas due to the radiation loss effects: elementary process underlying the gamma flash generation

24 April 2023 • 12:00 - 12:20 CEST | Tycho



Conference Presentation

Demonstration of all optical nonlinear Compton scattering between a multi-GeV electron beam and an ultrahigh intensity laser

24 April 2023 • 13:30 - 14:00 CEST | Tycho



Conference Presentation

10 PW laser systems facility at ELI-NP

24 April 2023 • 14:00 - 14:20 CEST | Tycho



Conference Presentation

On the electron beam loading in radiation-friction dominated regime of direct laser acceleration

24 April 2023 • 14:20 - 14:40 CEST | Tycho



Conference Presentation

New avenues and opportunities for research at multi-PW laser facilities

24 April 2023 • 14:40 - 15:10 CEST | Tycho



Conference Presentation

Direct laser acceleration of electrons and positrons at high intensities

24 April 2023 • 15:10 - 15:30 CEST | Tycho



Conference Presentation

Deflection of positrons from the Breit-Wheeler pair creation by a multi-PW laser pulse

24 April 2023 • 15:30 - 15:50 CEST | Tycho



Conference Presentation

Science at ELI-ALPS using extreme light: past, present and future

25 April 2023 • 10:50 - 11:20 CEST | Tycho



Conference Presentation

Status of ELI-Beamlines laser systems, development of new PW and high-repetition rate capabilities

25 April 2023 • 11:20 - 11:50 CEST | Tycho



Conference Presentation

Extreme Light Infrastructure - Nuclear Physics: overview and perspectives

25 April 2023 • 11:50 - 12:20 CEST | Tycho



Conference Presentation

Nuclear fusion using ultrafast high intensity lasers

25 April 2023 • 13:30 - 14:00 CEST | Tycho



Conference Presentation

User research opportunities at the ELI Beamlines facility

25 April 2023 • 14:00 - 14:30 CEST | Tycho



Conference Presentation

Status and challenges of high power laser physics applications in the Petawatt era

25 April 2023 • 14:30 - 15:00 CEST | Tycho



Conference Presentation

Efficient acceleration of bulk target ions with PW-class lasers

25 April 2023 • 15:20 - 15:50 CEST | Tycho



Conference Presentation

Picosecond ramp of ultrashort laser pulse: its effect on laser-driven ion acceleration or plasma shutter

25 April 2023 • 15:50 - 16:10 CEST | Tycho



Conference Presentation

Latest results from the commissioning of the 1 PW and 10 PW laser system of ELI-NP via laser-driven acceleration of particles

25 April 2023 • 16:10 - 16:30 CEST | Tycho



Conference Presentation

Spiral pulse generation and subsequent ion acceleration via ultra-thin foil and circularly polarized laser pulse

25 April 2023 • 16:30 - 16:50 CEST | Tycho



Conference Presentation

Efficient acceleration of highly ionized heavy ions via ultra-relativistic high fields with PW laser systems

25 April 2023 • 16:50 - 17:20 CEST | Tycho



Conference Presentation

Photon-photon scattering in Born-Infeld electrodynamics

25 April 2023 • 17:20 - 17:40 CEST | Tycho



Conference Presentation

Radiation generation during laser and particle beam interactions in particle-in-cell codes

On demand | Presented live 25 April 2023



Conference Presentation

LCLS-II commissioning, first light, and future prospects

26 April 2023 • 10:50 - 11:20 CEST | Zenit



Conference Presentation

Current status of PAL-XFEL

26 April 2023 • 11:20 - 11:40 CEST | Zenit



Conference Presentation

Externally seeded free electron laser invading the X-ray region

26 April 2023 • 11:40 - 12:00 CEST | Zenit



Conference Presentation

Status of the Shanghai soft X-ray free-electron laser

26 April 2023 • 12:00 - 12:20 CEST | Zenit



Conference Presentation

Generation and measurement of ultrashort free electron laser pulse in ultraviolet (EUV) to the soft-X-ray region

26 April 2023 • 12:20 - 12:40 CEST | Zenit



Conference Presentation

Generation of isolated terawatt attosecond X-ray pulses from a free-electron laser

26 April 2023 • 13:40 - 14:10 CEST | Zenit



Conference Presentation

Seeding at SwissFEL

26 April 2023 • 14:10 - 14:40 CEST | Zenit



Conference Presentation

A method to generate short pulses at X-ray FELs

26 April 2023 • 14:40 - 15:00 CEST | Zenit



Conference Presentation

Numerical simulation studies of superconducting afterburner operation at SASE2 beamline of European XFEL

26 April 2023 • 15:00 - 15:20 CEST | Zenit



Conference Presentation

An active Q-switched X-ray regenerative amplifier free-electron laser

26 April 2023 • 15:20 - 15:40 CEST | Zenit



Conference Presentation

Single-shot ptychography at free-electron lasers for imaging and beam characterization

26 April 2023 • 16:00 - 16:30 CEST | Zenit



Conference Presentation

Post-undulator beam measurements with PolariX TDS in SwissFEL

26 April 2023 • 16:30 - 16:50 CEST | Zenit



Conference Presentation

Short-pulse diagnostics at the attosecond frontier for EuXFEL and FLASH

26 April 2023 • 16:50 - 17:10 CEST | Zenit



Conference Presentation

Angle resolved photo electron spectrometer for hard x-ray photon diagnostics at the European XFEL

26 April 2023 • 17:10 - 17:30 CEST | Zenit



Conference Presentation

Fast absolute pulse energy measurements at SwissFEL

26 April 2023 • 17:30 - 17:50 CEST | Zenit



Conference Presentation

Fabrication of atomically precise, super smooth, and damage-free x-ray optics

27 April 2023 • 08:30 - 09:00 CEST | Zenit



Conference Presentation

SwissFEL KB-optics at-wavelength wavefront characterisation

27 April 2023 • 09:00 - 09:20 CEST | Zenit



Conference Presentation

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

27 April 2023 • 09:20 - 09:40 CEST | Zenit



Conference Presentation

Splitting and delaying fully coherent FELs pulses for advancing ultrafast x-ray science: the AC/DC optical device at the FERMI FEL

27 April 2023 • 09:40 - 10:00 CEST | Zenit



Conference Presentation

Design of a compact time-delay-compensated monochromator for femtosecond pulses in the extreme-ultraviolet

27 April 2023 • 10:00 - 10:20 CEST | Zenit



Conference Presentation

Ultrafast dynamics in quantum matter at SwissFEL: capabilities of Furka endstation

27 April 2023 • 10:50 - 11:20 CEST | Zenit



Conference Presentation

Small bandwidth and short FEL pulses: the new pulse-length preserving double monochromator beamline at FLASH

27 April 2023 • 11:20 - 11:50 CEST | Zenit



Conference Presentation

Time-resolved resonant X-ray scattering at PAL-XFEL

27 April 2023 • 11:50 - 12:10 CEST | Zenit



Conference Presentation

Exposed interfaces and fast mixing in XFEL-friendly liquid sheets

27 April 2023 • 12:10 - 12:30 CEST | Zenit



Conference Presentation

Liquids jets standardization at EuXFEL

27 April 2023 • 12:30 - 12:50 CEST | Zenit



Conference Presentation

Large-area detector performance for hard X-ray solution scattering at the LCLS

27 April 2023 • 14:10 - 14:30 CEST | Zenit



Conference Presentation

Detector calibration software infrastructure at the European XFEL

27 April 2023 • 14:30 - 14:50 CEST | Zenit



Conference Presentation

Computer vision approaches for the absolute energy calibration of Bragg crystal setups

27 April 2023 • 14:50 - 15:10 CEST | Zenit



Conference Presentation

X-ray induced Coulomb explosion imaging of complex molecules

27 April 2023 • 15:40 - 16:10 CEST | Zenit



Conference Presentation

Low-density matter explored with a seeded free electron laser

27 April 2023 • 16:10 - 16:40 CEST | Zenit



Conference Presentation

New insights into correlated materials in the time domain: combining far-infrared excitation with x-ray probes at cryogenic temperatures

27 April 2023 • 16:40 - 17:00 CEST | Zenit



Conference Presentation

Progress on fresh-slice multi-stage amplification at SwissFEL

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



Conference Presentation

EuPRAXIA@SPARC_LAB status update

On demand | Presented live 25 April 2023



Conference Presentation

Demonstration of two-color x-ray FEL by laser emittance spoiler

On demand | Presented live 25 April 2023



Conference Presentation

Improvement of reverse-taper enhanced echo-enabled harmonic lasing at SXFEL

On demand | Presented live 25 April 2023



Conference Presentation

Prototype development of soft x-ray online beam position monitoring detector for PAL-XFEL

On demand | Presented live 25 April 2023



Conference Presentation

High resolution, soft X-ray spectrometer at SwissFEL

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



Conference Presentation

Bendable grating for monochromatization in the extreme-ultraviolet

On demand | Presented live 25 April 2023



Conference Presentation

Performance simulation of a diamond channel cut monochromator operating under high heat load at the European X-Ray Free-Electron Laser Facility

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

Conference Presentation

CANCELED: A compact numerical representation of MHz XFEL pulse instability

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



Conference Presentation

Towards automated analysis of serial crystallography data at European XFEL

 On demand | Presented live 25 April 2023



Conference Presentation

Simulation of generating ultrafast pulses using an LPA at SXFEL

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



Conference Presentation

Time-resolved photoemission with a momentum microscope at LCLS II

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



Conference Presentation

Multi-pass cell-based nonlinear pulse compression of Yb:YAG pump-probe lasers at FLASH

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



Conference Presentation

Enabling time-resolved experiments with ultrashort FEL pulses via the split-and-delay unit for FLASH2

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



Conference Presentation

Five years operation experience with the AGIPD detectors at the European XFEL

 On demand | Presented live 25 April 2023



Conference Presentation

Recent advances in laser-plasma-based soft x-ray lasers

25 April 2023 • 13:45 - 14:15 CEST | Kepler



Conference Presentation

Amplification of HOH carrying orbital angular momentum in plasma-based amplifiers

25 April 2023 • 14:15 - 14:30 CEST | Kepler



Conference Presentation

Single shot coherence studies of plasma based X-ray laser

25 April 2023 • 14:30 - 14:45 CEST | Kepler



Conference Presentation

Technical design report of EMPULSE

25 April 2023 • 14:45 - 15:15 CEST | Kepler



Conference Presentation

Ptychographic imaging and wavefront sensing at extreme-ultraviolet wavelengths

25 April 2023 • 15:45 - 16:15 CEST | Kepler



Conference Presentation

Upgraded XUV source at ELI Beamlines facility and current experimental results

25 April 2023 • 16:15 - 16:30 CEST | Kepler



Conference Presentation

A multipurpose end-station MAC for applications with intense HHG-based EUV source at ELI Beamlines

25 April 2023 • 16:30 - 16:45 CEST | Kepler



Conference Presentation

Multiscale modeling of HHG and its applications

25 April 2023 • 16:45 - 17:00 CEST | Kepler



Conference Presentation

Quantitative nanoscale coherence tomography driven by high harmonic generation

25 April 2023 • 17:00 - 17:30 CEST | Kepler



Conference Presentation

Recent experiments and advances at the high-repetition-rate attosecond beamlines of ELI ALPS

26 April 2023 • 10:50 - 11:20 CEST | Kepler



Conference Presentation

Attosecond pulse generation using incommensurate two-colour fields

26 April 2023 • 11:20 - 11:35 CEST | Kepler



Conference Presentation

Continuously-tunable monochromatic HHG source for applications

26 April 2023 • 11:35 - 11:50 CEST | Kepler



Conference Presentation

Extreme ultraviolet vector-vortex beams from laser high order harmonic generation

26 April 2023 • 11:50 - 12:20 CEST | Kepler



Conference Presentation

LWFA-based X-ray machine to respond to strategic challenges

26 April 2023 • 13:30 - 14:00 CEST | Kepler



Conference Presentation

Towards high-sensitivity and low-dose medical imaging with laser x-ray sources

26 April 2023 • 14:00 - 14:30 CEST | Kepler



Conference Presentation

Development of the multidisciplinary x-ray sources at the ELI Beamlines facility

26 April 2023 • 14:30 - 14:45 CEST | Kepler



Conference Presentation

Compact undulator-based soft x-ray radiation source at ELI Beamlines: user-oriented program

26 April 2023 • 14:45 - 15:00 CEST | Kepler



Conference Presentation

Femtosecond structural probing of warm dense matter with Betatron x-ray source

26 April 2023 • 15:00 - 15:30 CEST | Kepler



Conference Presentation

Ultrabright laser-driven BISER coherent x-ray source

26 April 2023 • 16:00 - 16:30 CEST | Kepler



Conference Presentation

Ultrafast X-ray absorption spectroscopy using laser-plasma accelerators

26 April 2023 • 16:30 - 17:00 CEST | Kepler



Conference Presentation

Development of the MeV Thomson-scattered gamma ray source using laser plasma accelerators at the BELLA Center

26 April 2023 • 17:00 - 17:15 CEST | Kepler



Conference Presentation

Laser Plasma accelerated ultra-intense electron beam for efficiently exciting nuclear isomers

27 April 2023 • 09:00 - 09:30 CEST | Kepler



Conference Presentation

Advanced laser-driven betatron X-ray generation

27 April 2023 • 09:30 - 10:00 CEST | Kepler



Conference Presentation

Mass spectrometry of ion emission from covalent and molecular solids ablated by nanosecond EUV laser pulses used for focused-beam characterization

27 April 2023 • 10:30 - 11:00 CEST | Kepler



Conference Presentation

EUV laser ablation mass spectrometry for probing chemical information down to the nanoscale

27 April 2023 • 11:30 - 12:00 CEST | Kepler



Conference Presentation

Recent advances in the development and application of laser plasma X-ray and extreme ultraviolet (EUV) sources based on a gas puff target

27 April 2023 • 13:10 - 13:40 CEST | Kepler



Conference Presentation

Laser driven cu-tape-based PXS for pump-probe spectroscopy and imaging

27 April 2023 • 13:40 - 13:55 CEST | Kepler



Conference Presentation

Generation of MeV X-rays with 3-mJ, picosecond laser pulses

27 April 2023 • 13:55 - 14:10 CEST | Kepler



Conference Presentation

Laser plasma imaging for soft X-ray source development

27 April 2023 • 14:10 - 14:25 CEST | Kepler



Conference Presentation

Interaction of structured laser pulses and nanoparticles for efficient k-alpha X-ray production

27 April 2023 • 14:25 - 14:40 CEST | Kepler



Conference Presentation

Tabletop soft X-ray source for high-resolution NEXAFS spectroscopy

27 April 2023 • 14:40 - 14:55 CEST | Kepler



Conference Presentation

Soft X-ray absorption spectroscopy in the lab using laser-based sources and novel reflection zone-plate optics

27 April 2023 • 14:55 - 15:25 CEST | Kepler



Conference Presentation

Surface high-harmonic generation on a relativistic plasma mirror for generating intense isolated attosecond field transients

27 April 2023 • 15:50 - 16:20 CEST | Kepler



Conference Presentation

Noncollinear gating of laser-plasma-driven attosecond pulses without spectral filtering

27 April 2023 • 16:20 - 16:35 CEST | Kepler



Conference Presentation

Relativistic high harmonic generation using a PW level short-pulse laser

27 April 2023 • 16:35 - 16:50 CEST | Kepler



Conference Presentation

Highly efficient relativistic high-order harmonic generation by controlling plasma density

27 April 2023 • 16:50 - 17:20 CEST | Kepler



Conference Presentation

Shining light on solids: a TDDFT study of solid-state HHG

On demand | Presented live 25 April 2023



Conference Presentation

Instruments for best target position determination in the high-intensity laser-solid interaction experiment

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



Conference Presentation

Recent advances in gaseous target designs for high harmonic generation at ELI Beamlines

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



Conference Presentation

Röntgen materials for x-ray lasers-on-a-chip

On demand | Presented live 25 April 2023



Conference Presentation

Two-color resonant betatron X-ray generation

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



Conference Presentation

Study and control of the effects of numerical dispersion on plasma simulations of relativistic high harmonic generation

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



Conference Presentation

Advanced measurement of gas jet density using a wavefront sensor

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



Conference Presentation

Powerful isolated attosecond pulse generation from Hermite-Gaussian laser-plasma interaction

On demand | Presented live 25 April 2023



Conference Presentation

Gauge-invariant picture of ionization dynamics

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



Conference Presentation

Correlative soft X-ray and fluorescence microscopy in the water window region in an integrated laboratory-based setup

On demand | Presented live 25 April 2023



Conference Presentation

Quantitative imaging with laser-driven X-ray sources

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



Conference Presentation

Soft X-ray zone plates fabricated using 3D laser lithography

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



Conference Presentation

Ultrafast nanodosimetry: investigating the role of nanoscale structure and dynamics during radiation interactions in matter

24 April 2023 • 09:00 - 09:35 CEST | Quadrant



Conference Presentation

Transient absorption measurement of laser-accelerated ion bunch radiolysis on sub-ps timescales

24 April 2023 • 09:35 - 10:00 CEST | Quadrant



Conference Presentation

Laser-driven particle acceleration for multipurpose elemental analysis of materials

24 April 2023 • 10:00 - 10:25 CEST | Quadrant



Conference Presentation

Defect engineering of silicon with ion pulses from laser-accelerators

24 April 2023 • 10:55 - 11:20 CEST | Quadrant



Conference Presentation

Absolute timing of laser-driven radiation sources interacting in matter

24 April 2023 • 11:20 - 11:45 CEST | Quadrant



Conference Presentation

Simulation and optimization of an X-ray source for nondestructive testing

24 April 2023 • 11:45 - 12:10 CEST | Quadrant



Conference Presentation

Demonstration of nondestructive material characterization at a laser-based neutron source

24 April 2023 • 12:10 - 12:35 CEST | Quadrant



Conference Presentation

Systematic in vivo experiments at the Dresden platform for ultrahigh dose rate radiobiology

24 April 2023 • 13:50 - 14:25 CEST | Quadrant



Conference Presentation

Laser-FLASH: high dose, ultrahigh dose rate, single-pulse radiobiology with a laser-driven proton source

24 April 2023 • 14:25 - 14:50 CEST | Quadrant



Conference Presentation

A simulation study of focused very highly energetic electron beams for radiotherapy

24 April 2023 • 14:50 - 15:15 CEST | Quadrant



Conference Presentation

LhARA; a step on the way to precision, personalised particle-beam therapy

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Radiobiology experiments exploring the ultra-high proton dose rate regime at the BELLA PW

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Tumor irradiation in mice with a laser-accelerated proton beam

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The COXINEL seeded free electron laser driven by the HZDR laser plasma acceleration

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Cryogenic hydrogen jet platform for quasi-continuous laser proton acceleration from tailored near-critical density targets

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Towards the fission-fusion reaction mechanism

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Machine learning-driven optimization of laser-plasma sources for applications

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CANCELED: Ion acceleration by laser-matter interaction: status and perspective with the upcoming I-LUCE facility at INFN-LNS

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PRAGUE (Proton Range Measurement Using Silicon Carbide): a detector to measure online the proton beam range with laser-driven proton beams

25 April 2023 • 17:45 - 18:10 CEST | Meridian Hall



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Spectroscopic real-time temperature diagnostic for laser-heated thin gold foils

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Spin-orbit optical phenomena and their applications

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Mechanochromic luminescent derivatives based on xanthenone and thioxanthenone for the fabrication of OLED devices as emitter layer

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A light-driven light valve for metal additive manufacturing

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Efficiency roll-off in TADF OLEDs: don't just maximise the RISC

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Mass-customised optical metasurfaces

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Photonic materials and technologies for the brain

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CANCELED: Plasmonic nanomaterials for solar-to-chemical conversion technologies

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Defect engineering in photoactive semiconductors

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Widely tunable long period gratings using 3D printed periodic grooved plates

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Programmable unitary gates for photonic quantum information processing

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Self-organized quantum dots in marginally twisted bilayers of transition metal dichalcogenides

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Surface lattice resonances and bound states in nanoparticle arrays for opto-electronic applications

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Smart integration of organic optoelectronic and photonic components for a miniaturized fluorescence sensing device

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New liquid crystal systems for photochemical energy storage

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Pump-push-probe spectroscopy unveils hot electrons injection effects on ultrafast exciton dynamics at a van der Waals/metal interface

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Heliconical cholesteric liquid crystals as advanced optoelectronic materials

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Optimization of PMP films' preparation and mechanical properties using ZnO nanoparticles as dopant

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ZnO nanowires based piezoelectric energy transducers: the role of size and semiconducting properties

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New range of light driven actuation devices

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ZnO nanorods as a piezoelectric energy harvester from light induced flexions

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Photo-mobile polymers in energy harvesting applications under simulated solar light

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Printed ZnO nanoparticle seed layers to grow ZnO nanowires on flexible substrates

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Visible photomobile response of azobenzene-based polymer/carbon black films

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Gold nanorods for integration in hybrid devices for biomedical applications

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Light active plastic glides in the air

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