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Conferences & Expos

Crowne Plaza Nice - Grand Arenas Rue Costes et Bellonte, Nice, 06200 France

## SCIENTIFIC PROGRAM

### JOINT CONFERENCE

2<sup>nd</sup> International Congress and Expo on

# Optics, Photonics and Lasers &

2<sup>nd</sup> International Congress and Expo on

# Materials Science & Nanoscience

**June 13-14, 2024 | Nice, France**

CONTACT US:

☐ +91 8520092691

☐ [contact@signatureconferences.com](mailto:contact@signatureconferences.com)

## Conference Day-1

### Thursday, JUNE 13th, 2024

<b>08:30-09:00</b>	<b>Registrations</b>	
<b>09:00-09:15</b>	<b>Opening Ceremony</b>	<b>Conference Chair: Dieter Bimberg, Founding Director “Center of NanoPhotonics”, TU Berlin, Germany</b>
<b>09:30-10:05</b>	<b>Plenary Speaker</b>	Dieter Bimberg, Executive Director “Bimberg Chinese-German Center For Green Photonics”, CIOMP, CAS, China
	<b>Title</b>	Green Data Communication: Intelligent Physics And Engineering Will Contribute To A Sustainable Society
<b>10:05-10:40</b>	<b>Plenary Speaker</b>	Roel Baets, Ghent University, Belgium
	<b>Title</b>	Silicon Photonics, today and tomorrow
<b>10:40-11:15</b>	<b>Plenary Speaker</b>	Volker Sorger, University Of Florida, USA
	<b>Title</b>	Optoelectronic Devices for AI Chips
<b>11:15-11:30</b>		<b>Coffee Break</b>
<b>11:30-12:05</b>	<b>Plenary Speaker</b>	Arseniy Kuznetsov, Institute Of Materials Research And Engineering, A*STAR, Singapore
	<b>Title</b>	Metaoptics and nanoantenna spatial light modulators
<b>12:05-12:40</b>	<b>Plenary Speaker</b>	Shigemasa Suga, SANKEN, Osaka University, Japan
	<b>Title</b>	Frontiers of 3D photoelectron momentum microscopy (PMM) and Soft X-ray resonant inelastic scattering (SX-RIXS) down to sub micrometer scale
<b>12:40-13:15</b>	<b>Plenary Speaker</b>	Wei Li, Lab Director Of GPL Photonics Laboratory, CIOMP, China
	<b>Title</b>	Dispersion-assisted high-dimensional photodetection
<b>13:15-14:00</b>		<b>Lunch and Networking</b>
<b>14:00-14:35</b>	<b>Plenary Speaker</b>	Alexander Lvovsky, University Of Oxford, UK
	<b>Title</b>	Optics And Neural Networks: A Natural Symbiosis
<b>14:35-15:10</b>	<b>Plenary Speaker</b>	Iam Choon Khoo, The Pennsylvania State University, USA
	<b>Title</b>	Chiral soft-matter photonic crystals for advanced reconfigurable photonic applications
<b>15:10-15:35</b>	<b>Keynote Speaker</b>	Yashaiahu (Shaya) Fainman, University Of California Dan Diego, USA
	<b>Title</b>	Chip-Scale Nanophotonic Technologies And Applications
<b>15:35-16:00</b>	<b>Keynote Speaker</b>	John Ballato, Clemson University, USA
	<b>Title</b>	A Materials Approach to the Thermal Management of Fiber Amplifiers and Lasers
<b>16:00-16:15</b>		<b>Coffee Break</b>
<b>16:15-16:40</b>	<b>Keynote Speaker</b>	Mihaela C. Stefan, University Of Texas At Dallas, USA
	<b>Title</b>	Fused-ring pyrrole organic semiconductors for organic field effect transistors
<b>16:40-17:05</b>	<b>Keynote Speaker</b>	Heinz-S. Kitzerow, Center For Optoelectronics And Photonics Paderborn (CeOPP) And Faculty Of Science, Paderborn University, Germany
	<b>Title</b>	Liquid Crystals And Nanostructures – Recent Examples Of A Liaison With Mutual Benefits
<b>17:05-17:30</b>	<b>Keynote Speaker</b>	Benfeng Bai, Tsinghua University, China
	<b>Title</b>	Light-modulated van der Waals Force Microscopy

<b>17:30-17:55</b>	<b>Keynote Speaker</b>	Katia Gallo, KTH Royal Institute Of Technology, Sweden
	<b>Title</b>	Ferroelectric photonic devices in lithium niobate and tantalate
<b>17:55-18:20</b>	<b>Keynote Speaker</b>	Caiming Sun, IRIM, The Chinese University Of Hong Kong (CUHK), China
	<b>Title</b>	Broadband Integrated Optical Phased Arrays for Optical Wireless Communication

**End of Day-1 Conference**

**Conference Day-2  
Friday, JUNE 14, 2024  
Meeting Room -1**

<b>09:00-09:25</b>	<b>Keynote Speaker</b>	Andrew Wing On Poon, Hong Kong Univ of Science And Technology, Hong Kong
	<b>Title</b>	Integrated Quantum Light Sources in Silicon Photonic Platforms
<b>09:25-09:50</b>	<b>Keynote Speaker</b>	Kam Sing Wong, Hong Kong Univ of Science And Technology, Hong Kong
	<b>Title</b>	Bound States In The Continuum: From Photoluminescence To Second Harmonic Enhancement
<b>09:50-10:15</b>	<b>Keynote Speaker</b>	Muhammad Nadeem Akram, University Of South-Eastern Norway, Norway
	<b>Title</b>	Fourier-ptychographic microscopy: achievements and applications
<b>10:15-10:40</b>	<b>Keynote Speaker</b>	Salman Noach, Jerusalem College of Technology , Israel
	<b>Title</b>	High energy Tm based/ KGW SWIR Raman laser

**10:40-10:55** **Coffee Break**

**Session 1: Photonics**

<b>11:00-11:20</b>	<b>Invited Speaker</b>	Binhao Wang, Xi'an Institute of Optics and Precision Mechanics, CAS, China
	<b>Title</b>	High-Speed Silicon Photonic DWDM Transceivers
<b>11:20-11:40</b>	<b>Invited Speaker</b>	Ottavia Jedrkiewicz, Institute for Photonics and Nanotechnologies - CNR, Italy)
	<b>Title</b>	Generation and tailoring of graphitic microelectrodes fabricated in diamond by pulsed Bessel beams
<b>11:40-12:00</b>	<b>Invited Speaker</b>	Christos Tsokos, National Technical University of Athens, Greece
	<b>Title</b>	Fully-Integrated FMCW THz Spectrometers For Non-Destructive Thickness Measurements
<b>12:00-12:20</b>	<b>Invited Speaker</b>	Yu-Hsun Chou, National Cheng Kung University, Taiwan
	<b>Title</b>	Fabrication Control and Challenges in Surface Plasmon Polariton (SPP) Lasers
<b>12:20-12:40</b>	<b>Invited Speaker</b>	Congwu Du, State University of New York at Stony Brook, USA
	<b>Title</b>	Optical Imaging of drug-induced brain dysfunction
<b>12:40-13:00</b>	<b>Invited Speaker</b>	Sean Hooten, Hewlett Packard Labs, USA
	<b>Title</b>	Automatic Differentiation Accelerated Feature Mapping Methods for Photonic Inverse Design

**13:00-13:40** **Lunch and Networking**

<b>13:40-14:00</b>	<b>Invited Speaker</b>	Xiaochuan Xu, Harbin Institute of Technology (Shenzhen), China
	<b>Title</b>	Evanescient field engineering enabled silicon photonic devices

<b>14:00-14:20</b>	<b>Invited Speaker</b>	Mikhail Portnoi, University of Exeter, UK
	<b>Title</b>	Terahertz photonics of carbon-based nanostructures
<b>14:20-14:40</b>	<b>Invited Speaker</b>	Koichi Takiguchi, Ritsumeikan University, Japan
	<b>Title</b>	Spectrally efficient THz-wave communication using optical-domain or direct THz-domain reception signal processing
<b>14:40-15:00</b>	<b>Invited Speaker</b>	Anhui Liang, Ningbo Micro-color Optical Communication Limited, China
	<b>Title</b>	Optimal Form of Uncertainty Principle and Their Applications
<b>15:00-15:20</b>	<b>Invited Speaker</b>	Virgilijus Vaičaitis, Vilnius University Laser Research Center, Lithuania
	<b>Title</b>	Generation of broadband terahertz radiation in laser-created air plasma and its applications
<b>15:20-15:40</b>	<b>Invited Speaker</b>	Vasileios E. Lembessis, King Saud University, Saudi Arabia
	<b>Title</b>	Spin-to-orbit conversion mechanism in optical vortices creating miniature atom traps
<b>15:40-16:00</b>	<b>Invited Speaker</b>	Ulrich Jentschura, Missouri S&T University, USA
	<b>Title</b>	Dirac-Volkov Propagator: When Matter Perturbs Light and Relativistic Perturbation Theory is Not Enough
<b>16:00-16:15</b>		<b>Coffee Break</b>
<b>16:15-16:35</b>	<b>Invited Speaker</b>	Ambali Alade Odebowale, The University of New South Wales, Australia
	<b>Title</b>	Machine Learning Assisted Selective Emitter Design for Solar Thermophotovoltaic System
<b>16:35-16:55</b>	<b>Invited Speaker</b>	Sanjida Akter, The University of New South Wales, Australia
	<b>Title</b>	High Responsivity of Zirconium boride/Chromium Alloy heterostructure for deep and near UV photodetector
<b>16:55-17:15</b>	<b>Invited Speaker</b>	Rand Ismaeel, University of Southampton, UK
	<b>Title</b>	Photonics sensors for Ocean Monitoring
<b>17:15-17:35</b>	<b>Invited Speaker</b>	Yang Liu, Donghua University, China
	<b>Title</b>	To be Confirmed

**Friday, JUNE 14, 2024**

**Meeting Room -2**

**Session 2: Optics**

<b>11:00-11:20</b>	<b>Invited Speaker</b>	Theodore Goodson III, University of Michigan, USA
	<b>Title</b>	Nonlinear Optical and Time-Resolved Properties of Novel Organic Materials
<b>11:20-11:40</b>	<b>Invited Speaker</b>	Yosuke Aragane, Head of IOWN Development Office, NTT
	<b>Title</b>	Innovative Optical and Wireless Network (IOWN) for the next generation communication and computing infrastructure
<b>11:40-12:00</b>	<b>Invited Speaker</b>	Belén Ferrer , University of Alicante, Spain
	<b>Title</b>	Concrete as image texture target for movement measurement with subpixel precision
<b>12:00-12:20</b>	<b>Invited Speaker</b>	Dingchen Wang, The University of Hong Kong (HKU), Hong Kong
	<b>Title</b>	Stretchable Optical Memristor Design, Fabrication, and Characterization

<b>12:20-12:40</b>	<b>Invited Speaker</b>	Yingwen Zhang, University of Ottawa, Canada
	<b>Title</b>	Utilization of multi-dimensional quantum entanglement in sensing and imaging
<b>12:40-13:00</b>	<b>Invited Speaker</b>	Cherrie Lee, KTH Royal Institute Of Technology, Sweden
	<b>Title</b>	Engineering Coercive Fields via Ion-Exchange for Periodic Poling of RKTP

**13:00-13:40 Lunch and Networking**

<b>13:40-14:00</b>	<b>Invited Speaker</b>	Yoichi Ogata, Department of Research and Development, Choi-Ogas Platform
	<b>Title</b>	Double aerial images assisted-ejection device
<b>14:00-14:20</b>	<b>Invited Speaker</b>	Angelo Angelini, Italian National Institute of Metrological Research (INRIM) , Italy
	<b>Title</b>	High-Q Fano resonances in all-dielectric metasurfaces
<b>14:20-14:40</b>	<b>Invited Speaker</b>	Rohit K Ramakrishnan, Centre for High Energy Physics, Indian Institute of Science, India
	<b>Title</b>	The Quantum Internet: A Photonic Approach
<b>14:40-15:00</b>	<b>Invited Speaker</b>	I-Jan Chen, Soutport co. Ltd., Taiwan
	<b>Title</b>	Potential and opportunities of software defined optics in optical inspection and metrology
<b>15:00-15:20</b>	<b>Invited Speaker</b>	Ioannis Roudas, Montana State University, USA
	<b>Title</b>	From Stokes to Mode Vector Modulation: Multidimensional Constellations and Polarimetric Detection for Energy Efficiency

**Session 3: Lasers**

<b>15:20-15:40</b>	<b>Invited Speaker</b>	Jun-Ho Choi, Gwangju Institute of Science and Technology, South Korea
	<b>Title</b>	Computational Spectroscopy and Molecular Aggregation in Aqueous Solutions
<b>15:40-16:00</b>	<b>Invited Speaker</b>	Daiki Okazaki, Institute for Chemical Research, Kyoto University, Japan
	<b>Title</b>	Cr:ZnS mid-infrared mode-locked laser with carbon nanotube films

**16:00-16:15 Coffee Break**

<b>16:15-16:35</b>	<b>Invited Speaker</b>	Mark Lee, University of Texas at Dallas, USA
	<b>Title</b>	Millimeter Wave Spectroscopy of Materials for the 6G Telecomm Spectrum
<b>16:35-16:55</b>	<b>Invited Speaker</b>	SuHui Yang , Beijing Institute of Technology, China
	<b>Title</b>	Suppression of Scattering Clutters in an Underwater lidar system
<b>16:55-17:15</b>	<b>Invited Speaker</b>	Zuoye LIU, Lanzhou University, China
	<b>Title</b>	The spectral reshaping of XUV pulse in macroscopic systems
<b>17:15-17:35</b>	<b>Invited Speaker</b>	Boris Barmashenko, Ben-Gurion University of the Negev, Israel
	<b>Title</b>	Diode pumped alkali lasers (DPALs): High power gas lasers using hybrid technology
<b>17:35-17:55</b>	<b>Invited Speaker</b>	Sergio Pellegrino, Laserpoint srl, Italy
	<b>Title</b>	Fast Broadband Optical Energy Laser Meters: State of the Art
<b>17:55-18:15</b>	<b>Invited Speaker</b>	Andri Abdurrochman, Universitas Padjadjaran, Indonesia
	<b>Title</b>	A Review on the Research Paths of Photonic Jet Etching and Microsphere Assisted Microscopy

## Meeting Room -3

## Coffee Break

## Session 1: Materials

11:00-11:30	<b>Keynote Speaker</b>	Julia W.P. Hsu, University of Texas at Dallas, USA
	<b>Title</b>	Room-temperature Fabrication of Flexible Transparent Conducting Electrodes for Perovskite Solar Cells Using Light
11:30-12:00	<b>Keynote Speaker</b>	Douglas H Werner, The Pennsylvania State University, USA
	<b>Title</b>	Multi-Objective Inverse-Design Tools for Optical Metadevices
12:00-12:25	<b>Invited Speaker</b>	Cosimo Carfagna, CRdC Tecnologie Scarl, Italy
	<b>Title</b>	Mediterranean Diet and Polymer Technology
12:25-12:50	<b>Invited Speaker</b>	Ramon Alberto Paredes Camacho, National University of Singapore Chongqing Research Institute
	<b>Title</b>	Effective Doping Engineering Of Na <sub>3</sub> V <sub>2</sub> (PO <sub>4</sub> ) <sub>2</sub> F <sub>3</sub> As A High-Performance Cathode Material For Sodium-Ion Batteries

12:50-13:30

Lunch and Networking

13:30-13:55	<b>Invited Speaker</b>	Alexandros Sarantopoulos, Peter Grünberg Institute, Germany
	<b>Title</b>	Tailored ionic and thermal properties in memristive device
13:55-14:20	<b>Invited Speaker</b>	Zeno Gaburro, University of Trento, Italy
	<b>Title</b>	Teaching generalized refraction with Kadidak startup
14:20-14:45	<b>Invited Speaker</b>	Tkach Olena, Johannes Gutenberg University of Mainz, Germany
	<b>Title</b>	Investigation of the Electronic Structure of Materials using Photoelectron Momentum Microscopy
14:45-15:10	<b>Invited Speaker</b>	Hartmut Yersin, University of Regensburg, Germany
	<b>Title</b>	Thermally activated delayed fluorescence (TADF) of OLED emitters. Photophysics and design of breakthrough materials
15:10-15:35	<b>Invited Speaker</b>	Yuya Yamaguchi, National Institute of Information and Communications Technology, Japan
	<b>Title</b>	High-Speed Lithium Niobate Modulators for Optical Fiber and Radio-Over-Fiber Links
15:35-16:00	<b>Invited Speaker</b>	Mark S. Goorsky, University of California, Los Angeles, United States
	<b>Title</b>	Advances in Materials Integration for Photonic Structures

16:00-16:15

Coffee Break

16:15-16:40	<b>Invited Speaker</b>	Wen Lee, A*STAR, Singapore
	<b>Title</b>	Development of Photonic Interposer for HPC Presentation
16:40-17:05	<b>Invited Speaker</b>	Lisa John, Homi Bhabha National Institute, India
	<b>Title</b>	Phase Pure PdCoO <sub>2</sub> from Molten chlorides: Synthesis and characterization
17:05-17:25	<b>Invited Speaker</b>	Galestan Mackertich, The Pennsylvania State University, USA
	<b>Title</b>	Future Advancements in Additively Manufactured Compliant Mechanisms for Electromagnetic and Optical Applications

## Poster Presentations

PST-1	<b>Poster Presenter</b>	David Mas, University of Alicante, Spain
	<b>Title</b>	Experimental limits for subpixel movement detection

<b>PST-2</b>	<b>Poster Presenter</b>	Sang-Chul Jung, Sunchon National University, South Korea
	<b>Title</b>	Preparation of nano-sized PrFeO <sub>3</sub> -based perovskite complex and their assessment of hydrogen generation by liquid phase plasma method
<b>PST-3</b>	<b>Poster Presenter</b>	Nikolay Solodovchenko , ITMO University, Russia
	<b>Title</b>	Quadruplets of photonic resonances in non-Hermitian dielectric objects
<b>PST-4</b>	<b>Poster Presenter</b>	Anna Ermina, Ioffe Institute, Russia
	<b>Title</b>	SERS Substrate based on Ag Endotaxial Nanopyramids and Silicon
<b>PST-5</b>	<b>Poster Presenter</b>	Jong-Hyun Lee, Seoul National University of Science and Technology, South Korea
	<b>Title</b>	Sinter-bondability improvement of Ag-coated Cu particles through self-heating of sheet formulation