SYNERGIA SUMMITS
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GPOLC2024

# FINAL PROGRAM

# Global Photonics, Optics and Lasers Conference

**September 19 - 20, 2024 | Dubai, UAE**

# DAY 1

**September 19, 2024 | Dubai, UAE**

**@ Meeting Room 1**

09:00-09:15 Onsite Registrations

09:15-09:30 Opening Remarks and Introduction

Conference Chair: Prof. Dieter Bimberg, TU Berlin, Germany

Moderator:

09:30-10:10 Title: Energy efficiency of optical communication in data centers

Dieter Bimberg, CIOMP of CAS, Changchun and TU Berlin, Germany

10:10-10:50 Title: New Horizon for Photonic Devices of Ultrawide-Bandgap Semiconductors

Koide Yasuo, National Institute for Materials Science (NIMS), Japan

10:50-11:05 **Coffee Break**

11:05-11:45 Title: III-V quantum dot materials and lasers grown on Si platform

Huiyun Liu, University College London, UK

11:45-12:25 Title: Exploitation of the whole Information Content of the Light Field for the Inspection of Micro- and Nano-Components

Osten Wolfgang, University of Stuttgart, Germany

12:25-13:05 Title: Exploiting Hot Carriers in Micro- and Nano-Photonics

Wenshan Cai, Georgia Institute of Technology, USA

13:05-13:10 **Group Photo**

13:10-14:00 **Lunch Break**

14:10-14:45 Title: Optical Manufacturing with Far-Field Nano Super Resolution

Hong-Bo Sun, Tsinghua University, China

## Keynote Talks

14:45-15:15 Title: Light-modulated van der Waals force microscopy

Benfeng Bai, Tsinghua University, China

15:15-15:45 Title: How AI technology transforms the design and manufacturing of photonic chips

Serge Bidnyk, Enablence Technologies, Canada

15:45-16:00 **Coffee Break**

16:00-16:30 Title: Integrated Optical Neural Network

Hongwei Chen, Tsinghua University, China

16:30-17:00 Title: High performance quantum dot lasers

Kouichi Akahane, National Institute of Information and Communications Technology, Japan

16:30-17:00 Title: Risk assessment of the possible risk of lead consumption in pasta

Abdollahi Jahdi, Amirkabir University of Technology, Iran

**End of Day-1**

# DAY 2

**Sept 20, 2024 | Dubai, UAE**

**@ Meeting Room 1**

## Keynote Talks

Moderator: Will be announced

09:30-10:00 Title: High-Speed Optical Interconnects for Future Intelligent Computing

Binhao Wang, Xi'an Institute of Optics and Precision Mechanics, CAS, China

10:00-10:30 Title: Combining photonics and artificial intelligence for early prediction of Alzheimer's disease

Jonghwan Lee, Brown University, USA

## Invited Talks

10:30-10:55 Title: Hypodermic needles as hollow waveguides for photo identification and therapy delivery

Alexander H Slocum, Massachusetts Institute of Technology, USA

10:55-11:10 **Coffee Break**

11:10-11:35 Title: Band gap trapping of acoustic phonons in the forward Brillouin scattering

Sigang Yang, Tsinghua University, China

11:35-12:00 Title: Europium doped functional core-shell nanophosphor as fluorescent materials for various types of applications

Sanjay Kumar Srivastava, Banaras Hindu University, India

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| 12:00-12:25 | Title: Beating Pixel Resolution: Towards Ultra-High Laser Frequency Metrology<br>Lipeng Wang, Nanchang University and Leiden University |
| 12:25-12:50 | Title: Lidar for Observations of the Atmosphere<br>Detlef Mueller, Wuhan University, China |
| 12:50-13:45 | **Lunch Break** |
| 13:45-14:10 | Title: Trends in thin film coatings and metrology for high-end optical applications<br>Sven Schröder, Fraunhofer IOF, Germany |
| 14:10-14:35 | Carbon Quantum Dots based Fluorescent Sensor for Rapid Detection of $H_2O_2$ and $Hg^{2+}$ Ions in Aqueous Media<br>Chandra Shekhar Pati, Banaras Hindu University, India |
| 14:35-15:00 | Title: Reflective Metalens with Enhanced Off-axis Focusing Performance<br>Zahrah Alnakhli, King Abdullah University For Science and Technology, Saudi Arabia |
| 15:00-15:25 | Title: Applications of graphene based perfect absorption in optics and optoelectronics<br>Chucai Guo, National University of Defense Technology, China |
| 15:25-15:50 | Title: Machine learning with on-chip diffractive optics<br>Tingzhao Fu, National University of Defense Technology, China |
| 15:25-15:50 | Title: Design and Fabrication of High-Performance Metalenses for Optoelectronic Devices using Nanoimprint Lithography<br>Zahrah Alnakhli, King Abdullah University For Science and Technology, Saudi Arabia |
| 15:50-16:30 | **Poster Presentations** |
| P01 | Title: Multi-Approach Investigation of the Itinerary to Chaos of Semiconductor Lasers under External Perturbations from Different Physical Origins<br>Qin Zou, Télécom SudParis, Institut Polytechnique de Paris, France |
| P02 | Title: Generation of reconfigurable attractive optical trajectories in space controlled in its shapes and velocities<br>Amir Guessoum, Ferhat Abbas University, Algeria |
| P03 | Title: UV-Assisted Nanoimprint Lithography: The Impact of Loading Effect in Silicon on Nanoscale Pattern of Metalens<br>Zahrah Alnakhli, KAUST, Saudi Arabia |
| **Coffee Break & End of Conference** | |