

The Annual Conference of the
IEEE Photonics Society

IPC

12-16 November 2023 · Orlando, Florida, USA

www.ieee-ipc.org



General Chair:

Dominique Dagenais
National Science Foundation,
USA

Program Chair:

Di Liang
University of Michigan,
USA

Program Vice-Chair:

Gabriella Bosco
Politecnico di Torino,
Italy

Member-at-Large:

Michael Brodsky
U.S. Army Research Laboratory,
USA





2023 IEEE Photonics Conference (IPC) Welcome Message

On behalf of the 2023 IEEE Photonics Conference (IPC) organizing committee, it is my pleasure to welcome you to the IEEE Photonics Society flagship conference taking place 12-16 November 2023 in Orlando, Florida. This year's program brings together the most recent advances in the areas of photonic sciences, technologies, and applications. The conference includes twelve topic areas including photonic materials and devices, integrated photonics, nonlinear optics, nano-photonics, as well as bio-photonics, quantum photonics, optical AI, etc. Additionally, we have numerous workshops, events, and forums to offer. We hope that you will be inspired and find this year's IPC a rewarding one.

It is our honor to have 5 distinguished speakers for our Plenary Sessions that will take place during the conference. The first Plenary Session will start with Prof. Kei May Lau from Hong Kong University of Science & Technology, with a presentation on "Photonic Integration on SOI by Epitaxy". Followed by Prof. Ming Wu from University of California, Berkeley, who will present on "Large-Scale Silicon Photonic Switches for AI/ML Computing and 3D Sensing". In the second Plenary Session we have Prof. Laura Lechuga from Catalan Institute of Nanoscience and Nanotechnology with a presentation on "Nanophotonic Biosensors for Ultrasensitive and Decentralised Diagnostics at the Point-of-Need" and Prof. Dirk Englund from Massachusetts Institute of Technology presenting on "Full-stack Design of Scalable Quantum Links". Lastly on Thursday during the IPC 2023 Plenary Session, Post-Deadline Presentations and Closing Ceremony, Prof. Tobias Kippenberg from the Swiss Federal Institute of Technology will present on the topic of "Next Generation Integrated Photonics: From Chipscale Frequency Combs, Erbium Amplifiers to Cryogenic Quantum Interconnects".

This year's IPC technical program offers over 380 oral and poster presentations of which over 80 are Invited and Tutorial presentations by some of the most respected researchers in our community. We include two Special Symposia to complement the regular technical sessions targeting special topics on "neurophotonics" and "quantum photonic materials".

To kick-off the conference week, IPC has year-over-year put together an innovative and comprehensive Sunday Program to introduce new forums and panels to the IEEE Photonics Conference. Join us on Sunday to learn how to promote your research and how to interact with government labs and agencies, to discuss modern lab automation and to get insights into short and long term goals for quantum technologies.

On Sunday afternoon, we are also excited to offer a hands-on workshop titled 'Photonic Design Automation: From Devices to Systems', which is sponsored and facilitated by VPIphotonics. This workshop will be offered with limited space.

We continue to offer our popular Industry Day programming, which is now called the "Photonics Industry Focus", with invited presentations by outstanding speakers and panels on various topics. In addition to a career fair, luncheons and the CREOL Lab Tours, this programming strives to increase engagement between industry and the photonics community, provides opportunities for future collaborations and showcases the photonic technologies transfer to the market.

Finally, the conference will conclude on Thursday morning with our final Plenary Speaker, Post-Deadline Presentations and Closing Ceremony, where the Best Student Paper and Best Student Poster selection results will also be announced.

We believe we have an exciting program for IPC 2023! This comprehensive program is a result of the teamwork of many dedicated volunteers constituting the conference's organizing, technical and industry committees, and the IEEE Photonics Society staff. I extend my most sincere thanks to all.

On behalf of the entire team, I appreciate your participation and sincerely hope you have a rewarding conference experience. Look forward to meeting you all in Orlando, Florida!

Dominique Dagenais
General Chair, 2023 IEEE Photonics Conference (IPC)
National Science Foundation, USA

**2023 IEEE Photonics Conference (IPC)
Technical Program Committee**

General Chair:

Dominique Dagenais, *National Science Foundation, USA*

Program Chair:

Di Liang, *University of Michigan, USA*

Program Vice-Chair:

Gabriella Bosco, *Politecnico di Torino, Italy*

Member-at-Large:

Michael Brodsky, *U.S. Army Research Laboratory, USA*

Biophotonics and Medical Optics

Topic Chair:

Peter Munro, *University College London, United Kingdom*

Topic Co-Chair:

Srivallesha Mallidi, *Tufts University, USA*

Committee Members:

Balpreet Sing Ahluwalia, *University of Tromso (UiT), Norway*

Liang Gao, *University of California, Los Angeles, USA*

Jamie Guggenheim, *University of Birmingham, United Kingdom*

Myeong Jin Ju, *University of British Columbia, Canada*

Yang Liu, *University of Pittsburgh Hillman, USA*

Nisan Ozana, *Bar Ilan University, Israel*

Jung-Hoon Park, *Ulsan National Institute of Science and Technology, South Korea*

Francisco (Paco) Robles, *Georgia Institute of Technology, USA*

Judy Su, *University of Arizona, USA*

Lei Tian, *Boston University, USA*

Detection, Sensing, and Energy

Topic Chair:

Ganesh Balakrishnan, *University of New Mexico, USA*

Topic Co-Chairs:

Nicola D'Ascenzo, *Huazhong University of Science and Technology, China*

Stephanie Tomasulo, *Naval Research Laboratory, USA*

Committee Members:

Sadhvikas Addamane, *Sandia National Laboratory, USA*

Seth Bank, *University of Texas at Austin, USA*

Andreas Beling, *University of Virginia, USA*

Sanjay Krishna, *Ohio State University, USA*

Andrej Lenert, *University of Michigan, USA*

Paul Simmonds, *Boise State University, USA*

Jun Tatebayashi, *University of Osaka, Japan*

Light Sources

Topic Chair:

Nelson Tansu, *The University of Adelaide, Australia*

Topic Co-Chairs:

Paul Crump, *Leibniz-Institut für Höchstfrequenztechnik, Germany*

Boon S.Ooi, *KAUST, Saudi Arabia*

Committee Members:

Menaka De Zoysa, *Kyoto University*, Japan
William Fenwick, *Lawrence Livermore National Lab*, USA
Lan Fu, *Australian National University*, Australia
Qing Gu, *North Carolina State University*, USA
Changmin Lee, *Kyocera SLD Laser*, USA
Davide Priante, *Coherent*, USA
Haiding Sun, *University of Science and Technology of China*, China
Ying Xue, *Hong Kong University of Science and Technology*, Hong Kong

Materials, Foundries and Fabrication**Topic Chair:**

Shamsul Arafin, *The Ohio State University*, USA

Topic Co-Chair:

Sarvagya Dwivedi, *Rockley Photonics*, USA

Committee Members:

Andy Boes, *University of Adelaide*, Australia
Naresh Emani, *Indian Institute of Technology Hyderabad*, India
Tatsuro Hiraki, *NTT*, Japan
Shankar Kumar Selvaraja, *Indian Institute of Science*, India
Bart Kuyken, *University Gent-imec*, Belgium
Wayesh Qarony, *University of California at Berkeley*, USA
Hoe Tan, *Australian National University*, Australia
Qifan Yang, *Peking University*, China
Linjie Zhou, *Shanghai Jiao Tong University*, China

Microwave Photonics and Vehicular Optics**Topic Chair:**

Charles Middleton, *Critical Frequency*, USA

Topic Co-Chair:

David Moilanen, *Lockheed Martin*, USA

Committee Members:

Lawrence Chen, *McGill University*, Canada
Ivana Gasulla, *Universitat Politecnica de Valencia*, Spain
Yang Liu, *EPFL*, Switzerland
Elaine Wong, *University of Melbourne*, Australia
Siva Yegnanarayanan, *MIT Lincoln Lab*, USA
Xiaoke Yi, *University of Sydney*, Australia
Justin Zobel, *Johns Hopkins University Applied Physics Laboratory*, USA

Nano Photonics, Plasmonics, and Metamaterials**Topic Chair:**

Jennifer Choy, *University of Wisconsin, Madison*, USA

Topic Co-Chair:

Parag Deotare, *University of Michigan, Ann Arbor*, USA

Committee Members:

Meryem Benelajla, *Ghent University – IMEC*, Belgium
Sathwik Bharadwaj, *Purdue University*, USA
Shanying Cui, *HRL*, USA
Kejie Fang, *University of Illinois Urbana-Champaign*, USA
Jaime Gomez Rivas, *Eindhoven University of Technology*, Netherlands

Sushil Mujumdar, *Tata Institute of Fundamental Research*, India
Moussa N’Gom, *Rensselaer Polytechnic Institute*, USA

Nonlinear Photonics and Novel Optical Phenomena

Topic Chair:

Alireza Marandi, *California Institute of Technology*, USA

Topic Co-Chair:

Hanieh Fattahi, *Max-Planck Institute for Science of Light (MPL)*, Germany

Committee Members:

Andrea Blanco-Redondo, *CREOL, University of Central Florida*, USA

Wenshan Cai, *Georgia Institute of Technology*, USA

Avik Dutt, *University of Maryland*, USA

Rachel Grange, *ETH Zurich*, Switzerland

Md Selim Habib, *Florida Polytechnic University*, USA

Mohammed Hassan, *University of Arizona*, USA

Kirk Ingold, *USMA at West Point*, USA

Kambiz Jamshidi, *Technische Universität Dresden*, Germany

Matthias Kling, *Stanford University*, USA

Francois Leo, *Universite Libre de Bruxelles*, Belgium

Mohammad-Ali Miri, *City University of New York*, USA

Yoshitomo Okawachi, *Columbia University*, USA

Mohsen Rahmani, *Nottingham Trent University*, United Kingdom

Kartik Srinivasan, *NIST*, USA

Kenta Takata, *NTT Basic Research Laboratories*, Japan

Logan Wright, *Yale University*, USA

Optical AI and Computational Photonics

Topic Chair:

Volker Sorger, *University of Florida*, USA

Topic Co-Chair:

Giovanni Volpe, *University of Gothenburg*, Sweden

Committee Members:

Wim Bogaerts, *University of Gent*, Belgium

Daniel Brunner, *CNRS*, France

Hamed Dalir, *University of Florida*, USA

Philip Feng, *University of Florida*, USA

Elham Heidari, *University of Maryland*, USA

Chaoran Huang, *University of Hong Kong*, Hong Kong

Emanuel Peinke, *3E8 Inc.*, Canada

Thomas Van Vaerenbergh, *Hewlett Packard Enterprise*, Belgium

Ben Yoo, *University of California, Davis*, USA

Optical Communication and Networks

Topic Chair:

Deepa Venkitesh, *IIT Madras*, India

Topic Co-Chair:

Darli Mello, *Unicamp*, Brazil

Committee Members:

Youichi Akasaka, *Fujitsu*, USA

Xun Guan, *Tsinghua University*, China

Fotini Karinou, *Microsoft*, United Kingdom

Hai-Han Lu, *National Taipei University of Technology*, Taiwan
Nicola Sambo, *Sant'Anna School of Advanced Studies*, Italy
Takehiro, *Tsuritani KDDI*, Japan
Metodi Yankov, *Denmark Technical University*, Denmark

Optical Communication: Devices, Interconnects and Subsystems

Topic Chair:

Giovanni Milione, *NEC Labs America*, USA

Topic Co-Chairs:

Daoxin Dai, *Zhejiang University*, China

Tingyi Gu, *University of Delaware*, USA

Committee Members:

Kyle Bottrill, *University of Southampton*, United Kingdom

Sang Yeon Cho, *U.S. Army Research Laboratory*, USA

Martijn Heck, *Eindhoven University of Technology*, Netherlands

Xingchen Ji, *Shanghai Jiaotong University*, China

Dun Mao, *University of Delaware*, USA

Yiwei Peng, *Hewlett Packard Enterprise*, USA

Brian Stern, *Nokia Bell Labs*, USA

Honki Tsang, *Chinese University of Hong Kong*, China

Ting Wang, *Institute of Physics, Chinese Academy of Sciences*, China

Yujie Xia, *University of California Santa Barbara*, USA

Propagation, Spectroscopy, and Imaging

Topic Chair:

Kevin Tsia, *University of Hong Kong*, Hong Kong

Topic Co-Chair:

Zhaowei Liu, *University of California San Diego*, USA

Committee Members:

Lingze Duan, *The University of Alabama in Huntsville*, USA

Jessica Houston, *New Mexico State University*, USA

Takuro Ideguchi, *University of Tokyo*, Japan

Puxiang Lai, *Hong Kong Polytechnic University*, Hong Kong

Arka Majumdar, *Washington University*, USA

Aydogan Ozcan, *University of California Los Angeles*, USA

Junsuk Rho, *Pohang University of Science and Technology*, South Korea

Liangyan Shi, *University of California San Diego*, USA

Quantum Photonics

Topic Chair:

Mahdi Hosseini, *Northwestern University*, USA

Topic Co-Chair:

Hadiseh Alaeian, *Purdue University*, USA

Committee Members:

Markus Allagaier, *University of Oregon*, USA

Boulat Bash, *Arizona University*, USA

Michael Fanto, *Air Force Research Laboratory*, USA

Geza Giedke, *Donostia International Physics Center*, Spain

Xiongfeng Ma, *Tsinghua University*, China

Robert McConnell, *MIT Lincoln Lab*, USA

David Meyer, *ARL Army*, USA

Daniel Oblak, *University of Calgary, Canada*
Sarah Sharif, *The University of Oklahoma, USA*

Special Symposium on Advances in Neurophotonics

Topic Chair:

Nisan Ozana, *Bar Ilan University, USA*

Topic Co-Chair:

Peter Munro, *University College London, United Kingdom*

Committee Members:

Ikbal Şencan-Eğilmez, *Washington University in St. Louis, USA*

Meryem Yucel, *Boston University, USA*

Special Symposium on Quantum Photonic Materials and Devices for Quantum Computing

Topic Chair:

Mahdi Hosseini, *Northwestern University, USA*

Topic Co-Chair:

Daniel Oblak, *University of Calgary, Canada*

Committee Members:

Simeon Bogdanov, *University of Illinois Urbana-Champaign, USA*

Michael Stefszky, *University of Paderborn, Germany*

Feihu Xu, *University of Science and Technology of China, China*

Photonics Industry Focus:

Topic Chair:

Daniel Renner, *Atacama Optics & Electronics, USA*

2023 IEEE Photonics Conference (IPC) 12 - 16 Nov 2023 All times in EST

Sunday, 12 November

9am

Sunday Program I - Su1: Share Your Excitement! Promoting Your Personal Brand Effectively.

Palm Event Center AB

10am

Coffee Break

Palm Event Center

11am

Sunday Program II - Su2: Lab Automation and Experimental Techniques Hackathon

Palm Event Center CD

1pm

Sunday Program III - Su3: Practical Edge and Long-Term Perspectives of Quantum Technologies

Palm Event Center AB

VPI Photonics Workshop: Photonic Design Automation: From Devices to Systems

Palm Event Center E

3:30pm

Coffee Break

Palm Event Center

4pm

Sunday Program IV - Su4: Shedding Light on Government Partnerships

Palm Event Center AB

6pm

Welcome Reception, Poster Session & Career Fair

Palm Event Center

Monday, 13 November

8:30am

Special Symposium on Quantum Photonic Materials and Devices for Quantum Computing I - MA1: Quantum Sources for Optical Quantum Computing

Palm Event Center AB

Optical Communication: Devices, Interconnects and Subsystems I - MB1: Space and Mode Division Multiplexing over Free Space and Optical Fibers

Palm Event Center CD

Optical Communication and Networks I - MC1: Digital Signal Processing

Palm Event Center E

Detection, Sensing, and Energy I - MD1: III-V Compound Semiconductor Based Detectors

Palm Event Center FG

Biophotonics and Medical Optics I - MF1: Progress in Diffuse Optics

Palm Event Center MN

Optical AI and Computational Photonics I - MG1: Photonic Neural Networks

Palm Event Center O

MH1: PHOTONICS INDUSTRY FOCUS: Photonic Products Showcase

Palm Event Center P

9am

IEEE Member Appreciation Lounge

Meyer

10am

Coffee Break & Exhibits

Palm Event Center

10:30am

Special Symposium on Quantum Photonic Materials and Devices for Quantum Computing II - MA2: Heterogeneous Quantum Photonics

Palm Event Center AB

Optical Communication: Devices, Interconnects and Subsystems II - MB2: Mode Division Multiplexing with Integrated Photonics

Palm Event Center CD

Optical Communication and Networks II - MC2: Optical Network Modelling

Palm Event Center E

Light Sources I - MD2: Surface Emitting Lasers (VCSEL, PCSEL & Topological)

Palm Event Center FG

Nano Photonics, Plasmonics and Metamaterials II - ME2: Metamaterials for Bio-sensing and Microscopy

Palm Event Center KL

Propagation, Spectroscopy, and Imaging I - MF2: Advanced Computational Imaging

Palm Event Center MN

Optical AI and Computational Photonics II - MG2: Photonic Hardware Accelerators and Processors

Palm Event Center O

MH2: PHOTONICS INDUSTRY FOCUS: Photonics Business and Markets

Palm Event Center P

12pm

Lunch Break (on own)

1:30pm

Nonlinear Photonics and Novel Optical Phenomena I - MA3: Integrated Nonlinear Optics I

Palm Event Center AB

Optical Communication: Devices, Interconnects and Subsystems III - MB3: Novel Optical Receivers and Signal Monitoring

Palm Event Center CD

Optical Communication and Networks III - MC3: Optical Networking and Parameter Monitoring

Palm Event Center E

Light Sources II - MD3: Micro and Nano I

Palm Event Center FG

Continued from **Monday, 13 November**

Detection, Sensing, and Energy II - ME3:
Detector Design and Fabrication
Palm Event Center KL

Biophotonics and Medical Optics II - MF3:
Novel Imaging Techniques
Palm Event Center MN

Microwave Photonics and Vehicular Optics
I - MG3: Advanced Components for
Microwave Photonics
Palm Event Center O

Materials, Foundries, and Fabrication I -
MH3: Heterogeneous Integration for
Silicon Photonics
Palm Event Center P

3pm

Coffee Break & Exhibits
Palm Event Center

3:30pm

Nonlinear Photonics and Novel Optical
Phenomena II - MA4: Integrated Nonlinear
Optics II
Palm Event Center AB

Optical Communication: Devices,
Interconnects and Subsystems IV - MB4:
Novel Optical Modulation Subsystems and
Devices
Palm Event Center CD

Light Sources III - MD4: Micro and Nano II
Palm Event Center FG

Detection, Sensing, and Energy III - ME4:
Sensors
Palm Event Center KL

Biophotonics and Medical Optics III - MF4:
Applications of Machine Learning
Palm Event Center MN

Microwave Photonics and Vehicular Optics
II - MG4: Advanced Devices for Microwave
Photonics
Palm Event Center O

Materials, Foundries, and Fabrication II -
MH4: Novel Concept for Photonic
Integration
Palm Event Center P

6pm

*OPEN TO ALL REGISTERED ATTENDEES -
IEEE Photonics Society Awards Banquet
(Reception)
Pavilion

7pm

OPEN TO ALL REGISTERED ATTENDEES -
IEEE Photonics Society Awards Banquet
(Seated Dinner)
Pavilion

Tuesday, 14 November

8:30am

Nonlinear Photonics and Novel Optical
Phenomena III - TuA1: Frequency Combs
Palm Event Center AB

Optical Communication: Devices,
Interconnects and Subsystems V - TuB1:
State of the Art Photonic Integrated
Platforms
Palm Event Center CD

Optical Communication and Networks IV -
TuC1: Radio-over-fiber and Free-space
Optical Systems
Palm Event Center E

Detection, Sensing, and Energy IV - TuD1:
Novel Materials for Detectors
Palm Event Center FG

Optical AI and Computational Photonics III
- TuE1: Photonic Algorithm-Hardware
Homomorphism and Inverse Design
Palm Event Center KL

Biophotonics and Medical Optics IV - TuF1:
Advances in Optical Coherence
Tomography
Palm Event Center MN

Nano Photonics, Plasmonics and
Metamaterials III - TuG1: Optimization of
Nanophotonic Designs
Palm Event Center O

TuH1: PHOTONICS INDUSTRY FOCUS:
Government Photonic Opportunities
Palm Event Center P

10am

Coffee Break & Exhibits
Palm Event Center

10:30am

Quantum Photonics I - TuA2: Engineering
Quantum Emitters I
Palm Event Center AB

Optical Communication: Devices,
Interconnects and Subsystems VI - TuB2:
Lasers and Amplifier Subsystems and
Devices
Palm Event Center CD

Optical Communication and Networks V -
TuC2: Optical Signal Processing
Palm Event Center E

Light Sources IV - TuD2: Heterogeneous
Integration
Palm Event Center FG

Materials, Foundries, and Fabrication III -
TuE2: PIC Technologies for Emerging
Applications
Palm Event Center KL

Propagation, Spectroscopy, and Imaging II -
TuF2: Novel Methods and Devices in
Spectroscopy
Palm Event Center MN

Nano Photonics, Plasmonics and
Metamaterials IV - TuG2: Near-field and
Subwavelength Interactions in
Nanostructures
Palm Event Center O

TuH2: PHOTONICS INDUSTRY FOCUS:
Photonic Opportunities - Commercial and
Educational
Palm Event Center P

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Continued from Tuesday, 14 November

12pm

PHOTONICS INDUSTRY FOCUS: Standards / Industry Connections Luncheon
Meyer

Lunch Break (on own)

1:30pm

Quantum Photonics II - TuA3: Engineering Quantum Emitters II
Palm Event Center AB

Optical Communication: Devices, Interconnects and Subsystems VII - TuB3: Photonic Integrated Modulators
Palm Event Center CD

Optical Communication and Networks VI - TuC3: SDM and Multiband Transmission
Palm Event Center E

Light Sources V - TuD3: High Power Lasers
Palm Event Center FG

Materials, Foundries, and Fabrication IV - TuE3: Novel Materials and Advanced Fabrication
Palm Event Center KL

Biophotonics and Medical Optics V - TuF3: Resonance Based Methods
Palm Event Center MN

Microwave Photonics and Vehicular Optics III - TuG3: Microwave Photonic Systems
Palm Event Center O

3pm

Coffee Break & Exhibits
Palm Event Center

3:30pm

TuI4: Plenary Session & IEEE Photonics Society Awards Recipients
Citron East/West

Wednesday, 15 November

8:30am

Quantum Photonics III - WA1: Hyper-Entanglement and Multiplexing Optical States
Palm Event Center AB

Optical Communication: Devices, Interconnects and Subsystems VIII - WB1: Novel Optical Fiber Designs
Palm Event Center CD

Special Symposium on Advances in Neurophotonics I - WC1: Advances in Neurophotonics I
Palm Event Center E

Detection, Sensing, and Energy V - WD1: Integrated Photodetection System
Palm Event Center FG

Materials, Foundries, and Fabrication V - WE1: Photonic Components for Silicon Photonics
Palm Event Center KL

Nano Photonics, Plasmonics and Metamaterials V - WF1: Topological Control of Nanostructures and their Application
Palm Event Center MN

Nonlinear Photonics and Novel Optical Phenomena IV - WG1: Novel Phenomena I
Palm Event Center O

WH1: PHOTONICS INDUSTRY FOCUS: Photonic Products Showcase
Palm Event Center P

10am

Coffee Break & Exhibits
Palm Event Center

10:30am

Quantum Photonics IV - WA2: Integrated Quantum Photonics
Palm Event Center AB

Optical Communication: Devices, Interconnects and Subsystems IX - WB2: Photonic Integrated Couplers and Switches
Palm Event Center CD

Special Symposium on Advances in Neurophotonics II - WC2: Advances in Neurophotonics II
Palm Event Center E

Detection, Sensing, and Energy VI - WD2: Advances in Photodetection I
Palm Event Center FG

Optical AI and Computational Photonics IV - WE2: Photonic Reservoir Computing and Processors
Palm Event Center KL

Nano Photonics, Plasmonics and Metamaterials VI - WF2: Color and Polarization Control in Nanostructures
Palm Event Center MN

Nonlinear Photonics and Novel Optical Phenomena V - WG2: Novel Phenomena II
Palm Event Center O

WH2: PHOTONICS INDUSTRY FOCUS: Entrepreneurship – Best Practices
Palm Event Center P

12pm

PHOTONICS INDUSTRY FOCUS: Young Professionals Luncheon
Meyer

Lunch Break (on own)

1:30pm

Biophotonics and Medical Optics VI - WB3: Characterization of Tissues and Cells
Palm Event Center CD

Microwave Photonics and Vehicular Optics IV - WC3: Photonic Signal Processing
Palm Event Center E

Detection, Sensing, and Energy VII - WD3: Advances in Photodetection II
Palm Event Center FG

Materials, Foundries, and Fabrication VI - WE3: Novel Photonic Components
Palm Event Center KL

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Continued from **Wednesday, 15 November**

Nano Photonics, Plasmonics and Metamaterials VII - WF3: Integrated Photonics for On-chip Modulation
Palm Event Center MN

Light Sources VI - WG3: Optimizing at Extreme Wavelengths (UV, QCL, MIR)
Palm Event Center O

3pm

Coffee Break & Exhibits
Palm Event Center

3:30pm

WI4: Plenary Session & IEEE Photonics Society Awards Recipients
Citron East/West

5:30pm

PHOTONICS INDUSTRY FOCUS: Industry Reception and CREOL Lab Tours
CREOL, The College of Optics and Photonics at UCF

Thursday, 16 November

8:30am

Propagation, Spectroscopy, and Imaging III - ThA1: Advanced Imaging Techniques
Palm Event Center AB

Light Sources VII - ThB1: Communication and Comb Sources
Palm Event Center CD

Microwave Photonics and Vehicular Optics V - ThC1: Integrated Microwave Photonics
Palm Event Center E

Optical AI and Computational Photonics V - ThD1: Reconfigurable Photonic Systems
Palm Event Center FG

Nonlinear Photonics and Novel Optical Phenomena VI - ThE1: Ultrafast Photonics
Palm Event Center KL

Nano Photonics, Plasmonics and Metamaterials VIII - ThF1: Nanoscale Light-matter Interactions in Quantum Materials
Palm Event Center MN

10am

Coffee Break & Exhibits
Palm Event Center

10:30am

IPC 2023 Post-Deadline Presentations and Closing Ceremony
Citron East/West



Sunday, 12 November

| | |
|--------|--|
| 9am | <p>Sunday Program I - Su1: Share Your Excitement! Promoting Your Personal Brand Effectively. <i>Palm Event Center AB</i> Chaired by: Hannah Pierson (United States) and Linda Harris (United States) and Kimberly Clifton (United States)</p> |
| 10am | <p>Coffee Break <i>Palm Event Center</i></p> |
| 11am | <p>Sunday Program II - Su2: Lab Automation and Experimental Techniques Hackathon <i>Palm Event Center CD</i> Chaired by: Nicolas Fontaine (United States) and Dr. Mohamad Hossein Idjadi (United States)</p> |
| 1pm | <p>Sunday Program III - Su3: Practical Edge and Long-Term Perspectives of Quantum Technologies <i>Palm Event Center AB</i> Chaired by: Michael Brodsky (United States)</p> |
| 1pm | <p>VPI Photonics Workshop: Photonic Design Automation: From Devices to Systems <i>Palm Event Center E</i> Chaired by: Chris Maloney (United States)</p> |
| 3:30pm | <p>Coffee Break <i>Palm Event Center</i></p> |

4pm **Sunday Program IV -**
Su4: Shedding Light on Government Partnerships
Palm Event Center AB
 Chaired by: James Cahill (United States)

6pm **Welcome Reception, Poster Session & Career Fair**
Palm Event Center

P1 - Experimental demonstration of online learning in deep photonic neural networks

» [Dr. Xi Li](#) (United States)¹, Ms. Disha Biswas (United States)², Mr. Peng Zhou (United States)², Mr. Wesley Brigner (United States)², Prof. Joseph Friedman (United States)², Prof. Qing Gu (United States)¹ (1. North Carolina State University, 2. The University of Texas at Dallas)

P2 - Inverse Design of Silicon Photonics Components: A Study from Deep Learning Perspective

» Dr. Mohammad Jobayer Hossain (United States)¹, [Mr. David Reitano](#) (United States)², Dr. Adnan Siraj Rakin (United States)² (1. American Institute for Manufacturing Integrated Photonics (AIM Photonics), Albany, NY 12203, USA, 2. Computer Science Department, Binghamton University, Binghamton, NY 13902, USA)

P3 - Bilayer Silicon Nitride Based On-chip Polarization Rotator for O-band Photonic Applications

» [Dr. Mohammad Jobayer Hossain](#) (United States)¹, Dr. M Rakib Uddin (United States)¹, Dr. Lewis G. Carpenter (United States)¹, Dr. Amit Dikshit (United States)¹, Dr. Jin Wallner (United States)¹, Mr. Javery Mann (United States)¹, Dr. Nicholas M Fahrenkopf (United States)¹, Dr. David L. Hame (United States)¹ (1. American Institute for Manufacturing Integrated Photonics (AIM Photonics), Albany, NY 12203, USA)



Continued from **Sunday, 12 November**

P4 - Compact Modeling of Key Passive Silicon Photonic Components for a Process Design Kit

» [Dr. Mohammad Jobayer Hossain](#) (United States)¹, Dr. Amit Dikshit (United States)¹, Dr. Jin Wallner (United States)¹, Dr. M Rakib Uddin (United States)¹, Dr. Yukta Timalina (United States)¹, Dr. Lewis G. Carpenter (United States)¹, Mr. Javery Mann (United States)¹, Dr. Nicholas M Fahrenkopf (United States)¹, Dr. David L. Hareme (United States)¹ (1. American Institute for Manufacturing Integrated Photonics (AIM Photonics), Albany, NY 12203, USA)

P5 - Effect of the forming gas annealing on the Zinc Gallium Oxide based Deep UV photodetector characteristics grown by metalorganic chemical vapor deposition

» [Mr. Siddharth Rana](#) (India)¹, Dr. Fu-Gow Tarntair (Taiwan)², Prof. Jitendra Pratap Singh (India)¹, Prof. Ray-Hua Horng (Taiwan)² (1. Indian Institute of Technology Delhi, 2. National Yang-Ming Chiao-Tung University)

P6 - Design of Frequency Diverse Array using two Coherent Electro-Optic Frequency Combs

» [Dr. Youngseok Bae](#) (Korea, Republic of)¹, Dr. Sungjun Yoo (Korea, Republic of)¹, Dr. Seungbae Ahn (Korea, Republic of)¹, Mr. Sanghoon Jin (Korea, Republic of)¹, Dr. Ingeun Lee (Korea, Republic of)¹, Dr. Yoonsun Choi (Korea, Republic of)¹, Dr. Jinwoo Shin (Korea, Republic of)¹ (1. Agency for Defense Development)

P7 - Spectropolarimetric Characterization of Vortex Optics

» [Ms. Ella James](#) (United States)¹, Dr. Don Gregory (United States)¹ (1. University of Alabama in Huntsville)

P8 - Estimation of Spectral Spacing in Gridless Nyquist-WDM systems using Fuzzy Clustering and Deep Learning

» Mr. César Montoya Ocampo (Colombia)¹, [Dr. Jhon Granada Torres](#) (Colombia)¹ (1. Universidad de Antioquia)

P9 - Manufacturing of cylindrical-shaped CVD-SiC Mold Material for High-resolution Glass Lens

» [Mr. Taiki Kumagai](#) (Japan)¹, Dr. Tatsuya Furuki (Japan)², Dr. Hirofumi Suzuki (Japan)², Mr. Tatsuya Fukuda (Japan)³, Mr. Katsuji Fujii (Japan)⁴, Mr. Yosuke Ito (Japan)⁴ (1. Gifu University, 2. Chubu University, 3. Tokai Engineering Service Co., Ltd., 4. NS Tool Co., Ltd.)

P10 - All-optical high performance microwave oscillator with enhanced modulation efficiency based on SOAs

» [Dr. Huang Yali](#) (China)¹, Dr. Zhu Xiang (China)¹, Dr. Yu Xianbin (China)² (1. Zhejiang Lab, 2. Zhejiang University)

P11 - Rational Selection of Metal Subwavelength Apertures for Sensing Aerosol Nanoparticles

» [Ms. Sophia Judge](#) (United States)¹, Dr. Hao Jiang (United States)¹ (1. Lawrence Technological University)

P12 - Wide-Bandwidth Photonic Assisted-RF Signal Measurement System for High-Power RF sources

» [Dr. Ingeun Lee](#) (Korea, Republic of)¹, Dr. Yoonsun Choi (Korea, Republic of)¹, Dr. Sungjun Yoo (Korea, Republic of)¹, Dr. Jinwoo Shin (Korea, Republic of)¹, Dr. Youngseok Bae (Korea, Republic of)¹ (1. Agency for Defense Development)

P13 - Enhancing Low Light Images with VEVid Algorithm using Optical Systems Acceleration (ENVICE)

» [Mr. Zibo Hu](#) (United States)¹, Dr. Haoyan Kang (United States)², Mr. Yiming Zhou (United States)³, Mr. Jiachi Ye (United States)², Prof. Hamed Dalir (United States)², Prof. Bahram Jalali (United States)³, Prof. Volker Sorger (United States)² (1. Fluctuology Inc., 2. University of Florida, 3. University of California, Los Angeles)

P14 - Experimental Generation of Concentric Vortex Beams With Independent Topological Charges

» [Prof. walter furlan](#) (Spain)¹, Dr. F.M. Muñoz (Spain)², Dr. V Ferrando (Spain)², Dr. J. Castro (Spain)², Dr. J.R. Arias-Gonzalez (Spain)³, Dr. J.A. Monsoriu (Spain)² (1. Universitat de València, 2. Centro de Tecnologías Físicas, Universitat Politècnica de València, E- 46022, València, Spain, 3. Centro de Tecnologías Físicas, Universitat Politècnica de València, E-46022, València)



Continued from **Sunday, 12 November**

P15 - Optimization of UV LED design using evolutionary algorithms

» Mrs. Lucie Leguay (Germany)¹, Dr. Herbert Mączko (Germany)², Dr. Andrei Schliwa (Germany)¹, Dr. Stefan Birner (Germany)² (1. Technische Universität Berlin, 2. nextnano GmbH)

P16 - Enhanced Photon Absorption in Subwavelength Mercury Cadmium Telluride Layer for Infrared Detectors Operating at Higher Temperature

» Mr. Md. Ariful Hoque Sojib (United States)¹, Mr. Rezwan Mohammad Sayeed (United States)¹, Dr. Vitaliy Avrutin (United States)¹, Dr. Umit Ozgur (United States)¹, Dr. Nibir Dhar (United States)¹ (1. Virginia Commonwealth University)

P17 - Multi-Step Pulse Conversion for Temporal Mode (De)Multiplexing

» Ms. Shiva Behzadfar (United States)¹, Dr. Alireza Fardoost (United States)¹, Dr. Seth Smith-Dryden (United States)², Dr. Guifang Li (United States)³ (1. College of Optics and Photonics, University of Central Florida, 2. CREOL, The college of Optics and Photonics, University of Central Florida, 4304 Scorpis Street, 32816, Orlando, USA, 3. University of Central Florida)

P19 - Imaging Window Optimization for Reflection-mode Continuous-Wave Terahertz Imaging

» Mr. Nathan Arduino (United States)¹, Ms. Mia Raley (United States)¹, Mr. Patrick Maguire (United States)¹, Dr. Allison Marn (United States)¹ (1. Roger Williams University)

P20 - Synthesis and Properties of Ge-Based Metal Halide Perovskites for Sustainable Optoelectronic Devices

» Mr. Yang Yue (United States)¹, Dr. Hongyang Zhu (United States)², Dr. Saroj Thapa (United States)², Mr. Deverneton Saint Paul (United States)¹, Dr. Peifen Zhu (United States)¹ (1. University of Missouri at Columbia, 2. The University of Tulsa)

P21 - Impact of Epitaxial Oxygen on High Power Diode Performance

» Dr. Elaine McVay (United States)¹, Dr. Robert Deri (United States)¹, Dr. William Fenwick (United States)¹, Dr. Salmaan Baxamusa (United States)¹, Mr. Matthew Boiselle (United States)¹, Dr. Jiang Li (United States)¹, Dr. Joel Varley (United States)¹, Ms. Rebecca Swertfeger (United States)¹, Ms. Laina Gilmore (United States)¹, Dr. Mark Crowley (United States)², Dr. Prabhuram Thiagarajan (United States)², Dr. Jiyon Song (United States)², Dr. Gerald Thaler (United States)² (1. Lawrence Livermore National Lab, 2. Leonardo Electronics US Inc.)

P22 - Plug and Play Measurement Device Independent quantum secure communication

» Mr. Anuj Sethia (Canada)¹, Mr. Jordan Smith (Canada)¹, Mr. Amir Ahadi (Canada)¹, Dr. Hanen Chenini (Canada)¹, Dr. Ashutosh Singh (Canada)¹, Mr. Nick Kuzmin (Canada)¹, Dr. Daniel Oblak (Canada)¹ (1. University of Calgary)

P23 - On the Characterization of PDL Distribution in Wavelength Selective Switches

» Mr. Giacomo Borraccini (Italy)¹, Mr. Andrea D'Amico (Italy)¹, Dr. Stefano Straullu (Italy)², Mr. Francesco Aquilino (Italy)², Dr. Stefano Piciaccia (Italy)³, Dr. Alberto Tanzi (Italy)³, Dr. Gabriele Galimberti (Italy)⁴, Prof. Vittorio Curri (Italy)¹ (1. Department of Electronics and Communications, Politecnico di Torino, 2. LINKS Foundation, 10129, Torino, 3. CISCO Photonics, Vimercate (MB),, 4. Internet Engineering Task Force)

P24 - Rapid Quantification of Nitrate in Murashige-Skoog (MS) media using Spontaneous Raman Spectroscopy

» Mr. Dipankar Sen (United States)¹, Mr. Ze-Tian Fang (United States)¹, Dr. Alma Fernández (United States)¹, Mr. Brian Henrich (United States)¹, Prof. Alexei Sokolov (United States)¹, Prof. Sakiko Okumoto (United States)¹, Dr. Aart Verhoef (United States)¹ (1. Texas A&M University)



Continued from **Sunday, 12 November**

P25 - High-order Harmonic Generation from the van der Waals Layered Heterostructure Copper Indium Thiophosphate

» [Dr. Aamir Mushtaq](#) (United States)¹, Ms. Troie Journigan (United States)¹, Mr. Ryan Siebenaller (United States)², Ms. Chau Truong (United States)³, Mr. Mohamed Yaseen Noor (United States)², Mr. Dipendra Khatri (United States)³, Dr. Michael Susner (United States)⁴, Dr. Enam Chowdhury (United States)², Prof. Michael Chini (United States)³ (1. Department of Physics, University of Central Florida, Orlando, Florida 32816, USA, 2. Department of Materials Science and Engineering, 140W 19th Ave, Columbus, OH 43210, USA, 3. University of Central Florida, 4. Materials and Manufacturing Directorate, Air Force Research Laboratory, 2179 12th Street, Wright-Patterson Air Force Base, Ohio 45433, USA)

P26 - Investigation on étendue expansion property of the lenslet array with converging axes

» [Mr. Minseok Chae](#) (Korea, Republic of)¹, Mr. Chun Chen (Korea, Republic of)¹, Ms. Eunbi Lee (Korea, Republic of)¹, Prof. Yoonchan Jeong (Korea, Republic of)¹, Prof. ByoungHo Lee (Korea, Republic of)¹ (1. Seoul National University)

P27 - Novel Lambert W-kink solitons in ac-driven non-centrosymmetric waveguides

» [Ms. Sanjana Bhatia](#) (India)¹, Prof. C N Kumar (India)² (1. Department of Physics, Panjab University, Chandigarh, 2. Department of Physics, Panjab University, Chandigarh, India)

P28 - An All-Optical Neuron for Scaling Integrated Photonic Neural Networks

» Mr. Md Saiful Islam Sumon (United States)¹, Mr. Mihai Crisan (United States)¹, Mr. Weicheng You (United States)¹, Mr. Shrivatch Sankar (United States)¹, Dr. Imad Faruque (United Kingdom)², Dr. Sarvagya Dwivedi (United States)³, [Prof. Shamsul Arafin](#) (United States)¹ (1. The Ohio State University, 2. University of Bristol, 3. Rockley Photonics)

P29 - Speckle Reduced Multi-Depth Hologram Generation Using an Optimized Rotating Mask

» [Ms. Eunbi Lee](#) (Korea, Republic of)¹, Mr. Youngjin Jo (Korea, Republic of)¹, Mr. Siwoo Lee (Korea, Republic of)¹, Prof. Yoonchan Jeong (Korea, Republic of)¹, Prof. ByoungHo Lee (Korea, Republic of)¹ (1. Seoul National University)

P30 - Programmable Multiband Microwave Photonic Filters based on Optical Frequency Comb with Varying the Gaussian window

» [Ms. Youngjin Jung](#) (Korea, Republic of)¹, Dr. Minje Song (Korea, Republic of)¹, Mr. Hyunjong Choi (Korea, Republic of)¹, Mr. Taehyun Lee (Korea, Republic of)¹, Mr. Gyudong Choi (Korea, Republic of)¹, Dr. Minhyup Song (Korea, Republic of)¹ (1. Photonic/Wireless Devices Research Division, Electronics and Telecommunications Research Institute)

P31 - Localized Vortex Solitons in Nonlinear Multicore Fiber with Two Opposite Polarizations

» [Ms. Shamaem Khushhali](#) (India)¹, Prof. Samudra Roy (India)², Mr. Andrea Marini (Italy)³ (1. Indian Institute of Technology Kharagpur, 2. Department of Physics, Indian Institute of Technology Kharagpur, West Bengal 721302, 3. Department of Physical and Chemical Sciences, University of L'Aquila, Via Vetoio, L'Aquila 67100)

Monday, 13 November

8:30am

Special Symposium on Quantum Photonic Materials and Devices for Quantum Computing I -

MA1: Quantum Sources for Optical Quantum Computing

Palm Event Center AB

Chaired by: Dr. Daniel Oblak (Canada) and Prof. Mahdi Hosseini (United States)

8:30am

MA1.1 (Invited) - Fields of dream: quantum computing over the rainbow

» [Prof. Olivier Pfister](#) (United States)¹ (1. University of Virginia)



Continued from **Monday, 13 November**

9am **MA1.2 (Invited) - Squeezed light generation using Lithium Niobate Waveguides for photonic quantum computing**

» [Prof. Tobias Gehring](#) (Denmark)¹ (1. Technical University of Denmark)

9:30am **MA1.3 (Invited) - Pulse Shape Engineering for Laser-Triggered Single Photon Sources**

» [Prof. Kimberley Hall](#) (Canada)¹, [Mr. Grant Wilbur](#) (Canada)¹, [Mr. Ali Binai-Motlagh](#) (Canada)¹, [Ms. Alison Clarke](#) (Canada)¹, [Dr. Ajan Ramachandran](#) (Canada)¹, [Mr. Nick Milson](#) (Canada)¹, [Mr. John Healey](#) (Canada)¹, [Dr. Sabine O'Neal](#) (United States)², [Prof. Dennis Deppe](#) (United States)², [Dr. Dan Dalacu](#) (Canada)³, [Dr. Angela Gamouras](#) (Canada)³, [Dr. Philip Poole](#) (Canada)³ (1. Dalhousie University, 2. University of Central Florida, 3. National Research Council Canada)

8:30am **Optical Communication: Devices, Interconnects and Subsystems I - MB1: Space and Mode Division Multiplexing over Free Space and Optical Fibers**

Palm Event Center CD

Chaired by: [Dr. Giovanni Milione](#) (United States) and [Dr. Wataru Kohno](#) (United States)

8:30am **MB1.2 - Experimental demonstration of a non-mode selective MPLC (de)multiplexer**

» [Mr. Shree Ram Thapa](#) (United States)¹, [Dr. Seth Smith-Dryden](#) (United States)², [Dr. Zheyuan Zhu](#) (United States)¹, [Dr. Sean Pang](#) (United States)¹, [Dr. Guifang Li](#) (United States)¹ (1. University of Central Florida, 2. CREOL, The college of Optics and Photonics, University of Central Florida, 4304 Scorpius Street, 32816, Orlando, USA)

8:45am **MB1.3 - Mode Group Division Multiplexing Communication Using Graded-index Plastic Optical Fiber**

» [Mr. Yuichiro Takimoto](#) (Japan)¹, [Prof. Koichi Takiguchi](#) (Japan)¹ (1. Ritsumeikan University)

9am **MB1.4 - Enhanced Mode-coupling: A Multi-mode Hollow-core Anti-resonant Fiber Design**

» [Dr. Md Selim Habib](#) (United States)¹ (1. Florida Institute of Technology)

9:15am **MB1.5 - Polarization-Mode Dispersion of Different Core Types in Heterogeneous Multi-Core Fibers**

» [Mr. Gustavo Ocampo](#) (Japan)¹, [Prof. Takanori Sato](#) (Japan)¹, [Mr. Yoshimichi Amma](#) (Japan)², [Prof. Kunimasa Saitoh](#) (Japan)¹ (1. Hokkaido University, 2. Fujikura Ltd.)

8:30am **Optical Communication and Networks I - MC1: Digital Signal Processing**

Palm Event Center E

Chaired by: [Prof. Darli Mello](#) (Brazil)

8:30am **MC1.1 (Invited) - Digital Signal Processing for 1.6 Tb/s+ Intra-Data Center Networks**

» [Prof. Stephan Pachnicke](#) (Germany)¹, [Mr. Silas Oettinghaus](#) (Germany)¹, [Dr. Stefano Calabro](#) (Germany)², [Mr. Tom Wettlin](#) (Germany)², [Mr. Nebojsa Stojanovic](#) (Germany)², [Dr. Talha Rahman](#) (Germany)² (1. Kiel University, 2. Huawei Technologies Düsseldorf GmbH)

9am **MC1.2 - Nonlinear Fourier Transform for Continuous Signal Processing: Novel Windowing Approach**

» [Mr. Egor Sedov](#) (United Kingdom)¹, [Dr. Igor Chekhovskoy](#) (Russian Federation)² (1. Aston Institute of Photonic Technologies, Aston University, Birmingham, B4 7ET, UK, 2. Novosibirsk State University, Novosibirsk, 630090, Russia)

9:15am **MC1.3 - Detection of a 624 GHz, QPSK, 1.2 Tbit/s rectangular bandwidth channel with 4 GHz electronics**

» [Mr. Abhinand Venugopalan](#) (Germany)¹, [Dr. Paulomi Mandal](#) (Germany)¹, [Mr. Janosch Meier](#) (Germany)¹, [Mr. Karanveer Singh](#) (Germany)¹, [Prof. Thomas Schneider](#) (Germany)¹ (1. Technische Universität Braunschweig)

9:30am **MC1.4 - Enhanced Physical-Layer Security in Visible Light Communications - A Joint Waveform Approach**

» [Dr. Jan Mietzner](#) (Germany)¹, [Dr. Lutz Lampe](#) (Canada)², [Dr. Robert Schober](#) (Germany)³ (1. Hamburg University of Applied Sciences (HAW), 2. University of British Columbia (UBC), 3. Friedrich-Alexander-University Erlangen-Nurnberg (FAU))



Continued from **Monday, 13 November**

9:45am

MC1.5 - Decision Trees-based Demodulation in Gridless Nyquist-WDM Systems to Minimize ICI Effects

» Mr. Kevin Martinez Zapata (Colombia)¹, Dr. Jhon Granada Torres (Colombia)¹ (1. Universidad de Antioquia)

8:30am

Detection, Sensing, and Energy I - MD1: III-V Compound Semiconductor Based Detectors

Palm Event Center FG

Chaired by: Prof. Daniel Wasserman (United States) and Dr. Richard Mirin (United States)

8:30am

MD1.1 (Invited) - New directions in III-V light absorbers: from night vision to photovoltaics

» Dr. Minjoo Lawrence Lee (United States)¹ (1. University of Illinois)

9am

MD1.2 - Staircase Avalanche Photodiode with a Mid-wave Infrared Absorber

» Mr. Adam Dadey (United States)¹, Dr. Andrew Jones (United States)¹, Dr. Stephen March (United States)², Dr. Seth Bank (United States)², Dr. Joe Campbell (United States)¹ (1. University of Virginia, 2. University of Texas at Austin)

9:15am

MD1.3 - Defect Spectroscopy of MBE-grown GaAs_{0.51}Sb_{0.49} pin Infrared Detectors on InP Substrates

» Ms. Rachel Adams (United States)¹, Ms. Hyemin Jung (United States)¹, Mr. Nathan Gajowski (United States)¹, Dr. Seunghyun Lee (United States)¹, Prof. Sanjay Krishna (United States)¹, Prof. Steven Ringel (United States)¹ (1. The Ohio State University)

9:30am

MD1.4 - Low-Noise InGaAs/AlInAsSb Avalanche Photodiodes on InP Substrates

» Mr. Bingtian Guo (United States)¹, Ms. Mariah Schwartz (United States)², Mr. Sri Kodati (United States)², Dr. Kyle McNicholas (United States)³, Ms. Hyemin Jung (United States)², Dr. Seunghyun Lee (United States)², Mr. Jason Konowitch (United States)³, Dr. Dekang Chen (United States)¹, Mr. Junwu Bai (United States)¹, Ms. Xiangwen Guo (United States)¹, Dr. Theodore Ronningen (United States)², Prof. Christoph Grein (United States)⁴, Dr. Joe Campbell (United States)¹, Prof. Sanjay Krishna (United States)² (1. University of Virginia, 2. The Ohio State University, 3. MIT Lincoln Lab, 4. University of Illinois Chicago)

9:45am

MD1.5- Precise Control of Charge Carriers in Gallium Nitride Nanowires for Emerging Photodetectors

» Dr. Shi Fang (China)¹, Dr. Danhao Wang (China)², Mr. Yang Kang (China)³, Dr. Wei Chen (China)⁴, Prof. Haiding Sun (China)⁵ (1. School of Microelectronics, University of Science and Technology of China, 2. Department of Electrical Engineering and Computer Science University of Michigan, 3. School of Microelectronics University of Science and Technology of China, 4. USTC, 5. University of Science and Technology of China)

8:30am

Biophotonics and Medical Optics I - MF1: Progress in Diffuse Optics

Palm Event Center MN

Chaired by: Nisan Ozana (Israel) and Prof. Peter Munro (United Kingdom)

8:30am

MF1.1 (Tutorial) - Diffuse optics meets photonics

» Dr. Vivek Srinivasan (United States)¹ (1. NYU Langone Health)

8:30am

Optical AI and Computational Photonics I - MG1: Photonic Neural Networks

Palm Event Center O

Chaired by: Prof. Volker Sorger (United States) and Prof. Nicola Peserico (United States)



Continued from **Monday, 13 November**

8:30am **MG1.1 (Invited) - Fully Integrated Photonic Tensor Core for Neural Network Applications**

» Mr. Russell Schwartz (United States)¹, Dr. Xiaoxuan Ma (United States)², Mr. Behrouz Movahhed Nouri (United States)², Prof. Hamed Dalir (United States)¹, Prof. Bhavin Shastri (Canada)³, Prof. Volker Sorger (United States)¹, Prof. Nicola Peserico (United States)¹ (1. University of Florida, 2. George Washington University, 3. Queen's University)

9am **MG1.2 - Online training and pruning of photonic neural networks**

» Mr. Weipeng Zhang (United States)¹, Mr. Tengji Xu (Hong Kong)², Mr. Jiawei Zhang (United States)¹, Prof. Bhavin Shastri (Canada)³, Prof. Chaoran Huang (Hong Kong)², Prof. Paul Prucnal (United States)¹ (1. Princeton University, 2. The Chinese University of Hong Kong, 3. Queen's University)

9:15am **MG1.3 - Physics-informed mode decomposition neural network for structured light in multimode fibers**

» Mr. Qian Zhang (Germany)¹, Ms. Yuan Sui (Germany)¹, Dr. Stefan Rothe (Germany)¹, Prof. Jürgen Czarske (Germany)¹ (1. Chair of Measurement and Sensor System Technique, Faculty of Electrical and Computer Engineering, TU Dresden)

9:30am **MG1.4 - Noise Aware Design Enables Robust Diffractive Deep Neural Network Designs in Visible Wavelengths**

» Mr. Ramith Hettiarachchi (United States)¹, Mr. Hasindu Kariyawasam (United States)¹, Dr. Dushan Wadduwage (United States)¹ (1. Center for Advanced Imaging, Faculty of Arts and Sciences, Harvard University)

9:45am **MG1.5 - Complex-valued Optical Neural Networks Enabled by Multimode Interferometers and Phase Shifters**

» Mr. Weiwei Pan (China)¹, Mrs. Wanshu Xiong (China)², Ms. Zhangwan Peng (China)¹, Ms. Ruoyun Yao (China)¹, Ms. Jinhua Chen (China)¹, Prof. Chen Ji (China)¹ (1. Zhejiang University, 2. Zhejiang Lab)

8:30am **MH1: PHOTONICS INDUSTRY FOCUS: Photonic Products Showcase**

Palm Event Center P

Chaired by: Daniel Renner (United States)

9am **IEEE Member Appreciation Lounge**

Meyer

10am **Coffee Break & Exhibits**

Palm Event Center

10:30am **Special Symposium on Quantum Photonic Materials and Devices for Quantum Computing II -**

MA2: Heterogeneous Quantum Photonics

Palm Event Center AB

Chaired by: Prof. Mahdi Hosseini (United States) and Dr. Daniel Oblak (Canada)

10:30am **MA2.1 (Invited) - Control of spin and light-matter interactions in semiconductors**

» Prof. Edo Waks (United States)¹, Dr. Changmin Lee (United States)¹, Mrs. Fariba Islam (United States)¹, Mr. Yuxi Jiang (United States)¹, Mr. Samuel Harper (United States)¹, Dr. Mustafa Buyukkaya (United States)¹, Dr. Nils Driesch (Germany)², Dr. Alex Pawlis (Germany)² (1. University of Maryland, 2. Peter-Grünberg-Institute)

11am **MA2.2 (Invited) - Direct-bonded diamond membranes for heterogeneous quantum photonics**

» Prof. Alexander High (United States)¹ (1. University of Chicago)

11:30am **MA2.3 - Ultra-bright Source of Coherent Single Photons**

» Prof. Alisa Javadi (United States)¹, Dr. Natasha Tomm (Switzerland)², Dr. Nadia Antoniadis (Switzerland)², Dr. Alexander Korsch (Germany)³, Dr. Daniel Najer (Switzerland)², Dr. Matthias Loebel (Switzerland)⁴, Dr. Ruediger Schott (Germany)³, Dr. Sascha Valentin (Germany)³, Prof. Andreas Wieck (Germany)³, Dr. Arne Ludwig (Germany)³, Prof. Richard Warburton (Switzerland)² (1. The University of Oklahoma, 2. University of Basel, 3. ruhr-uni-bochum, 4. unibas.ch)

10:30am **Optical Communication: Devices, Interconnects and Subsystems II - MB2: Mode Division Multiplexing with Integrated Photonics**

Palm Event Center CD

Chaired by: Mr. Brian Vyhnaek (United States) and Dr. Giovanni Milione (United States)



Continued from **Monday, 13 November**

10:30am **MB2.1 - Towards Mode-Division-Multiplexed Optical Fiber Communications using Silicon Photonics**
 » Ms. Dan Yi (Hong Kong)¹, Mr. Xuetong Zhou (Hong Kong)¹, Prof. Honki Tsang (Hong Kong)¹ (1. The Chinese University of Hong Kong)

10:45am **MB2.2 - Topology Optimized Integrated SiN Mode Converters**
 » Mr. Michael Probst (United States)¹, Dr. Stephen Ralph (United States)¹, Dr. Alec Hammond (United States)² (1. Georgia Institute of Technology, 2. Reality Labs)

11am **MB2.4 - Machine learning enabled the design of compact and efficient wavelength demultiplexing photonic devices**
 » Prof. Mirbek Turduev (Kyrgyzstan)¹, Mr. Emre Bor (Turkey)², Dr. Onur Aparslan (Japan)³, Dr. Yusuf Sinan Hanay (Turkey)⁴, Prof. Hamza Kurt (Korea, Republic of)⁵, Prof. Masayuki Murata (Japan)³, Prof. Shin'ichi Arakawa (Japan)³ (1. Electrical and Electronics Engineering, Kyrgyz-Turkish Manas University, 2. Department of Electrical and Electronics Engineering, TOBB University of Economics and Technology, Ankara 06560, Turkey, 3. Graduate School of Information Science and Technology, Osaka University, Osaka 565-0871, Japan, 4. Department of Computer Engineering, Akdeniz University, Antalya 07070, Turkey, 5. School of Electrical Engineering, Korea Advanced Institute of Science and Technology, Daejeon, 34141, Republic of Korea)

11:15am **MB2.5 - Ultra-broadband Four-mode Waveguide Crossing via Inverse Design Method**
 » Ms. Jinhua Chen (China)¹, Mr. Weiwei Pan (China)¹, Prof. Chen Ji (China)¹ (1. Zhejiang University)

10:30am **Optical Communication and Networks II - MC2: Optical Network Modelling**
Palm Event Center E
 Chaired by: Dr. Metodi Plamenov Yankov (Denmark) and Dr. Joao Pedro (Portugal)

10:30am **MC2.1 (Tutorial) - Synergistic use of AI and physics models in planning and controlling multi-band optical networks**
 » Prof. VITTORIO CURRI (Italy)¹ (1. Politecnico di Torino)

11:30am **MC2.2 - Experimental Test of a UWB Closed-Form EGN Model**
 » Dr. Yanchao Jiang (Italy)¹, Prof. Gabriella Bosco (Italy)², Dr. Antonino Nespola (Italy)³, Mr. Alberto Tanzi (Italy)⁴, Dr. Stefano Piciaccia (Italy)⁵, Dr. Mahdi Ranjbarzefreh (Italy)⁴, Dr. Fabrizio Forghieri (Italy)⁵, Prof. PIERLUIGI POGGIOLINI (Italy)¹ (1. OptCom, DET, Politecnico di Torino, 10129, Torino, 2. Politecnico di Torino, 3. LINKS Foundation, 10129, Torino, 4. CISCO Photonics, Vimercate (MB), 5. CISCO Photonics, Vimercate (MB),)

11:45am **MC2.3 - DNN-based QoT Estimation Using Topological Inputs and Training with Synthetic-Physical Data**
 » Dr. Kayol Mayer (Brazil)¹, Mr. Luan Dos Santos (Brazil)¹, Mr. Rossano Pinto (Brazil)¹, Mr. Marcos Dal Maso (Brazil)¹, Prof. Christian Rothenberg (Brazil)¹, Prof. Dalton Arantes (Brazil)¹, Prof. Darli Mello (Brazil)¹ (1. Unicamp)

10:30am **Light Sources I - MD2: Surface Emitting Lasers (VCSEL, PCSEL & Topological)**
Palm Event Center FG
 Chaired by: Dr. William Fenwick (United States) and Prof. Boon S. Ooi (Saudi Arabia)

10:30am **MD2.1 - High-wall-plug-efficiency InP-based photonic-crystal surface-emitting lasers with reflective metal mirror**
 » Dr. Yuhki Itoh (Japan)¹, Dr. Takeshi Aoki (Japan)¹, Dr. Kenshi Takada (Japan)¹, Mr. Kosuke Fujii (Japan)¹, Mr. Hiroyuki Yoshinaga (Japan)¹, Dr. Naoki Fujiwara (Japan)¹, Mr. Makoto Ogasawara (Japan)¹, Mr. Rei Tanaka (Japan)¹, Dr. Hideki Yagi (Japan)¹, Dr. Masaki Yanagisawa (Japan)¹, Dr. Masahiro Yoshida (Japan)², Dr. Takuya Inoue (Japan)², Dr. Menaka De Zoysa (Japan)², Dr. Kenji Ishizaki (Japan)², Prof. Susumu Noda (Japan)² (1. Sumitomo Electric Industries, Ltd., 2. Kyoto University)

10:45am **MD2.2 - Free Space Emission Spectra and Bandwidths of Vertical Cavity Surface Emitting Lasers (VCSELs) for Optical Wireless Communication**
 » Dr. Nasibeh Haghighi (Germany)¹, Mr. Pouria Emtenani (Germany)¹, Dr. Martin Zorn (Germany)², Prof. James Lott (Germany)¹ (1. Technical University Berlin, 2. JENOPTIK Optical Systems GmbH)



Continued from Monday, 13 November

11am **MD2.3 - Frequency Response Characteristics of High-Power Photonic Crystal Surface-Emitting Lasers**
 » Dr. Mingsen Pan (United States)¹, Mr. Chhabindra Gautam (United States)¹, Dr. Akhil Kalapala (United States)¹, Mr. Yudong Chen (United States)¹, Dr. Thomas Rotter (United States)², Dr. Ming Zhou (United States)³, Mr. Ricky Gibson (United States)⁴, Mr. Robert Bedford (United States)⁴, Prof. Shanhui Fan (United States)³, Prof. Ganesh Balakrishnan (United States)², Prof. Weidong Zhou (United States)¹ (1. University of Texas at Arlington, 2. University of New Mexico, 3. Stanford University, 4. Air Force Research Laboratory)

11:15am **MD2.4 - Edge-mode Lasing from A non-Hermitian Topological Bulk**
 » Mr. Dayang Lin (United States)¹, Dr. Zhitong Li (United States)², Dr. Xi-Wang Luo (United States)², Dr. Abouzar Gharajeh (United States)², Dr. Jiyoung Moon (United States)², Dr. Junpeng Hou (United States)², Prof. Chuanwei Zhang (United States)², Prof. Qing Gu (United States)¹ (1. North Carolina State University, 2. The University of Texas at Dallas)

11:30am **High-Speed VCSELs in the 650-nm Transmission Window of Polymer Optical Fibers**
 » Mrs. Nawal Almaymoni (Saudi Arabia)¹, Dr. Omar Alkhazragi (Saudi Arabia)¹, Mr. Fabian Finkbeiner (Saudi Arabia)², Dr. Tien Khee Ng (Saudi Arabia)³, Prof. Boon S. Ooi (Saudi Arabia)⁴ (1. Photonics Laboratory, King Abdullah University of Science and Technology (KAUST), 2. King Abdullah University of Science and Technology, 3. Photonics Laboratory King Abdullah University of Science and Technology, 4. Photonics Laboratory, King Abdullah University of Science (KAUST))

10:30am **Nano Photonics, Plasmonics and Metamaterials II - ME2: Metamaterials for Bio-sensing and Microscopy**
Palm Event Center KL
 Chaired by: Jennifer Choy (United States) and Prof. Jaime Gomez Rivas (Netherlands)

10:30am **ME2.1 (Invited) - Photonic Metasurfaces for Advanced Biosensing and Biospectroscopy**
 » Prof. Filiz Yesilkoy (United States)¹ (1. University of Wisconsin, Madison)

11am **ME2.2 - Plasmonic Rainbow Chip for Super-Resolution Displacement Spectrometer and Surface Biosensor**
 » Prof. Qiaoqiang Gan (Saudi Arabia)¹ (1. King Abdullah University of Science and Technology)

11:15am **ME2.3 - Intersubband Cavity Polaritons in Single Quantum Well Systems on Flexible Substrate**
 » Ms. Puspita Paul (United States)¹, Dr. Sadhvikas Addamane (United States)², Prof. Peter Qiang Liu (United States)¹ (1. University at Buffalo, 2. Sandia National Laboratories)

11:30am **ME2.5 - Metacrystal Structured Illumination Microscopy**
 » Dr. John Haug (United States)¹, Dr. Milan Palei (United States)¹, Prof. Josh Shrout (United States)¹, Prof. Evgenii Narimanov (United States)², Prof. Paul Bohn (United States)¹, Prof. Anthony Hoffman (United States)¹ (1. University of Notre Dame, 2. Purdue University)

11:45am **ME2.5 - Highly sensitive terahertz metamaterial refractive index sensor for glucose detection**
 » Dr. Raj Kumar (India)¹, Dr. Bipin K Singh (India)², Prof. Praveen Pandey (India)¹ (1. Indian Institute of Technology BHU Varanasi, 2. University of Mumbai)

12pm **ME2.6 - Sensing with Metamaterial Perfect Absorber at Terahertz Frequency**
 » Ms. Ruchi Bhati (India)¹, Prof. Anil K Malik (India)¹ (1. Chaudhary Charan Singh University, Meerut, India)

10:30am **Propagation, Spectroscopy, and Imaging I - MF2: Advanced Computational Imaging**
Palm Event Center MN
 Chaired by: Prof. Kevin Tsia (Hong Kong) and Prof. Zhaowei Liu (United States)

10:30am **MF2.1 (Invited) - Speckle Structured Illumination of Dynamic Samples with a Neural Space-time Model**
 » Prof. Laura Waller (United States)¹ (1. University of California at Berkeley)



Continued from **Monday, 13 November**

- 11am **MF2.2 - High speed single pixel imaging with advanced microLED digital light projector**
 » [Dr. Graeme Johnstone](#) (United Kingdom)¹, Dr. Stuart Bennett (United Kingdom)¹, Dr. Paul Murray (United Kingdom)¹, Dr. Fahimeh Dehkoda (United Kingdom)², Prof. Robert Henderson (United Kingdom)², Dr. Steven Johnson (United Kingdom)³, Dr. Catherine Higham (United Kingdom)³, Prof. Roderick Murray-Smith (United Kingdom)³, Prof. Miles Padgett (United Kingdom)³, Dr. Johannes Herrnsdorf (United Kingdom)¹, Prof. Martin D. Dawson (United Kingdom)¹, Prof. Michael Strain (United Kingdom)¹ (1. University of Strathclyde, 2. University of Edinburgh, 3. University of Glasgow)
- 11:15am **MF2.3 - Voronoi Weighting for Optical Diffraction Tomography using Nonuniform Illumination Angles**
 » [Mr. John Aziz](#) (United States)¹, Dr. Seth Smith-Dryden (United States)¹, Dr. Guifang Li (United States)¹, Prof. Bahaa Saleh (United States)¹ (1. University of Central Florida)
- 11:30am **MF2.4 - Binary Grating and Deep Learning for Phase Reconstruction: Enhancing Normal Camera Imaging**
 » [Mr. Redha Al Ibrahim](#) (Saudi Arabia)¹, Dr. Shuiqin Zheng (China)², Dr. Tien Khee Ng (Saudi Arabia)¹, Prof. Boon S. Ooi (Saudi Arabia)³ (1. King Abdullah University of Science and Technology, 2. Great bay, 3. KAUST)
- 10:30am **Optical AI and Computational Photonics II - MG2: Photonic Hardware Accelerators and Processors**
Palm Event Center O
 Chaired by: Prof. Volker Sorger (United States) and Prof. Nicola Peserico (United States)
- 10:30am **MG2.1 (Invited) - Photonic Fourier Convolutional Neural Network Acceleration**
 » [Prof. Puneet Gupta](#) (United States)¹ (1. University of California, Los Angeles)

- 11am **MG2.2 - Loss-Induced Transparency Based ITO Monolithic Modulator in Integrated Photonics**
 » [Mr. Chandraman Patil](#) (United States)¹, Prof. Volker Sorger (United States)¹, Prof. Hamed Dalir (United States)¹ (1. University of Florida)
- 11:15am **MG2.3 - Compact and Low-Loss PCM-based Silicon Photonic MZIs for Photonic Neural Networks**
 » [Mr. Amin Shafiee](#) (United States)¹, Dr. Sanmitra Banerjee (United States)², Dr. Benoit Charbonnier (France)³, Prof. Sudeep Pasricha (United States)¹, Prof. Mahdi Nikdast (United States)¹ (1. Department of Electrical and Computer Engineering, Colorado State University, 2. NVIDIA Corporation, 3. CEA-LETI)
- 11:30am **MG2.4 - On-chip Nonlinear Activation and Gradient Functions for Photonic Backpropagation Training and Inference**
 » [Dr. Farshid Ashtiani](#) (United States)¹, Dr. Mohamad Hossein Idjadi (United States)¹ (1. Nokia Bell Labs)
- 11:45am **MG2.5 - Dual-Functional Intelligent Spectrometer Using a Plasmonic Rainbow Chip**
 » [Prof. Qiaoqiang Gan](#) (Saudi Arabia)¹ (1. King Abdullah University of Science and Technology)
- 10:30am **MH2: PHOTONICS INDUSTRY FOCUS: Photonics Business and Markets**
Palm Event Center P
 Chaired by: Matthew Weed (United States)
- 12pm **Lunch Break (on own)**
- 1:30pm **Nonlinear Photonics and Novel Optical Phenomena I - MA3: Integrated Nonlinear Optics I**
Palm Event Center AB
 Chaired by: Alireza Marandi (United States) and Md Selim Habib (United States)
- 1:30pm **MA3.1 (Invited) - Photo-induced cascaded nonlinear effects in silicon nitride microresonators**
 » [Prof. Camille-Sophie Bres](#) (Switzerland)¹ (1. EPFL)



Continued from Monday, 13 November

- 2pm **MA3.2 - Spanning the green gap through on-chip Kerr optical parametric oscillation**
 » Dr. Yi Sun (United States)¹, [Dr. Jordan Stone](#) (United States)¹, Dr. Xiyuan Lu (United States)¹, Dr. Kartik Srinivasan (United States)² (1. Joint Quantum Institute, University of Maryland, 2. NIST)
- 2:15pm **MA3.3 - Singly-Resonant Four-Wave Mixing Based on an On-Chip Fabry-Perot Bragg Grating Cavity**
 » [Mr. Chaochao Ye](#) (Denmark)¹, Mr. Yang Liu (Denmark)¹, Dr. Chanju Kim (Denmark)¹, Prof. Kresten Yvind (Denmark)¹, Prof. Minhao Pu (Denmark)¹ (1. Technical University of Denmark)
- 2:30pm **MA3.4 - Theoretical design for broadband parametric amplification in thin film lithium niobate**
 » [Dr. Pragati Aashna](#) (Singapore)¹, Mr. Hong-Lin Lin (Singapore)¹, Dr. El Hadj Dogheche (France)², Dr. Giacomo Benvenuti (France)³, Ms. Thanh NK Bui Kim (France)³, Prof. Aaron Danner (Singapore)¹ (1. National University of Singapore, 2. Institut d'Electronique, de Microélectronique et de Nanotechnologie, IEMN CNRS UMR 8520, Université Polytechnique Hauts de France, Valenciennes, 59309, France, 3. 3D-Oxides, 130 rue Gustave Eiffel, F-01630 Saint-Genis-Pouilly, France)
- 2:45pm **MA3.5 - Widely Tunable Frequency Conversion with Self-Pumped Bragg Reflection Photonic Crystal Lasers**
 » Dr. Bilal Janjua (Canada)¹, [Mr. Zacharie Léger](#) (Canada)¹, Mr. Meng Lon Lu (Canada)¹, Mr. Arsalan Khan (Canada)¹, Prof. Amr Helmy (Canada)¹ (1. University of Toronto)
- 1:30pm **Optical Communication: Devices, Interconnects and Subsystems III - MB3: Novel Optical Receivers and Signal Monitoring**
Palm Event Center CD
 Chaired by: Mr. Brian Vyhnaek (United States) and Brian Stern (United States)
- 1:30pm **MB3.1 (Invited) - Carrier-Less Phase Retrieval Receiver: Principle, Implementation and Integration**
 » [Prof. Haoshuo Chen](#) (United States)¹ (1. Nokia Bell lab)

- 2pm **MB3.2 - A 56Gb/s PAM4 Optical Receiver Integrated with Si-Ge APD**
 » [Mr. Ruida Liu](#) (United States)¹, Prof. Samuel Palermo (United States)¹, Mr. Ankur Kumar (United States)¹, Dr. Yuanming Zhu (United States)¹, Mr. Tong Liu (United States)¹, Mr. Hyungryul Kang (United States)¹, Mr. Inhyun Kim (United States)¹, Mr. Peng Yan (United States)¹, Dr. Yiwei Peng (United States)², Dr. Yuan Yuan (United States)², Dr. Zhihong Huang (United States)², Dr. Marco Fiorentino (United States)², Dr. Raymond Beausoleil (United States)² (1. Texas A&M University, 2. Hewlett Packard Enterprise)
- 2:15pm **MB3.3 - Real-time Optical Monitoring of Telecom Data Signals Utilizing Dispersive Fourier Transformation**
 » Ms. Afsaneh Shoeib (Canada)¹, Dr. Manuel P. Fernández (Canada)¹, Mr. Connor Rowe (Canada)¹, Dr. Reza Maram (Canada)², Mr. Pasquale Ricciardi (Canada)², [Prof. José Azaña](#) (Canada)¹ (1. Institut national de la recherche scientifique, 2. Fonex Data Systems Inc.)
- 2:30pm **MB3.4 - Spurious-Free Spectral Identification Using Clock-Scanned Sampling Heterodyne Spectroscopy**
 » Mr. Hideto Takayasu (Japan)¹, Mr. Shuhei Otsuka (Japan)¹, Mr. Zheqing Sun (Japan)¹, Mr. Tomoya Suzuki (Japan)¹, [Dr. Takahide Sakamoto](#) (Japan)¹ (1. Tokyo Metropolitan University)
- 2:45pm **MB3.5 - Adaptive Optimization of Analog-circuit FIR filters for High-Bandwidth Arbitrary Optical Spectrum Measurement**
 » [Mr. Zheqing Sun](#) (Japan)¹, Mr. Shuhei Otsuka (Japan)¹, Mr. Takahide Sakamoto (Japan)¹ (1. Tokyo Metropolitan University)
- 1:30pm **Optical Communication and Networks III - MC3: Optical Networking and Parameter Monitoring**
Palm Event Center E
 Chaired by: Prof. Vittorio Curri (Italy) and Dr. Metodi Plamenov Yankov (Denmark)
- 1:30pm **MC3.1 (Invited) - Optimal Node Design in Filterless Horseshoe Networks with Point-to-Multipoint Transceivers**
 » [Dr. Joao Pedro](#) (Portugal)¹ (1. Infinera corporation)



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- 2pm **MC3.2 (BEST STUDENT PAPER FINALIST) - Estimation Accuracy of Polarization State from Coherent Receivers for Sensing Applications**
 » [Mr. Saverio Pellegrini](#) (Italy)¹, [Mr. Lorenzo Andrenacci](#) (Italy)¹, [Mr. Leonardo Minelli](#) (Italy)¹, [Dr. Dario Pileri](#) (Italy)¹, [Prof. Gabriella Bosco](#) (Italy)¹, [Mr. Luca Della Chiesa](#) (Italy)², [Prof. Roberto Gaudino](#) (Italy)¹ (1. Politecnico di Torino, 2. CISCO Photonics, Vimercate (MB),)
- 2:15pm **MC3.3 - Experimental Comparison of Single-Sided and Double-Sided Filtering in ROADM Networks**
 » [Mr. Steven Searcy](#) (United States)¹, [Dr. Thomas Richter](#) (United States)¹, [Dr. Sorin Tibuleac](#) (United States)¹ (1. Adtran)
- 2:30pm **MC3.4 - Longitudinal Power Monitoring Performance with Subcarrier Multiplexing Transmission**
 » [Mr. Lorenzo Andrenacci](#) (Italy)¹, [Prof. Gabriella Bosco](#) (Italy)¹, [Dr. Dario Pileri](#) (Italy)¹ (1. Politecnico di Torino)
- 2:45pm **MC3.5 - Coexistence of 50 G TWDM with current PON infrastructures**
 » [Mr. miquel masanas](#) (Spain)¹, [Ms. Ana Tavares](#) (Portugal)², [Mr. Claudio Rodrigues](#) (Portugal)³, [Mr. João Santos](#) (Portugal)², [Prof. Josep Prat](#) (Spain)¹, [Prof. António Teixeira](#) (Portugal)⁴ (1. Universitat Politècnica de Catalunya, 2. PIC Advanced S.A, 3. Altice Labs, 4. Universidade de Aveiro)

1:30pm **Light Sources II - MD3: Micro and Nano I**
Palm Event Center FG
 Chaired by: [Prof. Zhaowei Liu](#) (United States) and [Dr. Yuhki Itoh](#) (Japan)

1:30pm **MD3.1 (Tutorial) - Physics and Applications of Semiconductor Nanolasers**
 » [Prof. Stephan Reitzenstein](#) (Germany)¹ (1. Technische Universität Berlin)

2pm **MD3.2 - Ion implantation effect on the performance of micro-light emitting diodes array**
 » [Ms. Yu-Hsuan Hsu](#) (Taiwan)¹, [Ms. Xin-Dai Lin](#) (Taiwan)², [Prof. Yi-Hsin Lin](#) (Taiwan)¹, [Prof. Ray-Hua Horng](#) (Taiwan)² (1. Department of Photonics, National Yang Ming Chiao Tung University, 2. Institute of Electronics Engineering, National Yang Ming Chiao Tung University)

2:15pm **MD3.3 - Micro-LED Nanosecond Pulsed Structured Light Sources with 405 nm – 510 nm Wavelength**
 » [Mr. Johnathan Gray](#) (United Kingdom)¹, [Dr. Jonathan McKendry](#) (United Kingdom)¹, [Dr. Johannes Herrnsdorf](#) (United Kingdom)¹, [Prof. Robert Henderson](#) (United Kingdom)², [Prof. Michael Strain](#) (United Kingdom)¹, [Prof. Martin D. Dawson](#) (United Kingdom)¹ (1. University of Strathclyde, 2. University of Edinburgh)

2:30pm **MD3.4 - Efficient DUV microLED and arrays for various applications**
 » [Mr. Huabin Yu](#) (China)¹, [Mr. Muhammad Hunain Memon](#) (China)¹, [Ms. Shudan Xiao](#) (China)¹, [Prof. Haiding Sun](#) (China)¹ (1. University of Science and Technology of China)

2:45pm **MD3.5 (BEST STUDENT PAPER FINALIST) - Tunable dual wavelength laser on thin film lithium niobate**
 » [Mr. Isaac Luntadila Lufungula](#) (Belgium)¹, [Mr. Felix Mayor](#) (United States)², [Mr. Jason Herrmann](#) (United States)², [Mr. Taewon Park](#) (United States)², [Mr. Hubert S. Stokowski](#) (Poland)², [Mr. Alexander Hwang](#) (United States)², [Dr. Camiel Op de Beeck](#) (Belgium)³, [Mr. Okan Atalar](#) (United States)², [Mr. Wentao Jiang](#) (United States)², [Prof. Bart Kuyken](#) (Belgium)¹, [Prof. Amir Safavi-Naeini](#) (United States)² (1. University Ghent - imec, 2. Stanford University, 3. Ghent University - IMEC)

1:30pm **Detection, Sensing, and Energy II - ME3: Detector Design and Fabrication**
Palm Event Center KL
 Chaired by: [Dr. Minjoo Lawrence Lee](#) (United States) and [Prof. Ganesh Balakrishnan](#) (United States)

1:30pm **ME3.1 (Invited) - All-Epitaxial Enhanced Mid-Infrared Photodetectors**
 » [Prof. Daniel Wasserman](#) (United States)¹ (1. The University of Texas at Austin)



Continued from Monday, 13 November

2pm **ME3.2 - 4H-SiC PIN Photodiode for VUV Detection Using an Enhanced Emitter Doping Design**
 » [Mr. Michael Schraml](#) (Germany)¹, Dr. Niklas Papathanasiou (Germany)², Mr. Alexander May (Germany)¹, Dr. Mathias Rommel (Germany)¹, Dr. Tobias Erlbacher (Germany)³ (1. Fraunhofer Institute for Integrated Systems and Device Technology IISB, 2. sglux GmbH, 3. Nexperia Germany GmbH)

2:15pm **ME3.3 - Evaluation of requirements for phase-shift cavity ring-down spectroscopy biosensing using integrated microring resonators**
 » Mr. MohammadHossein Motavas (Canada)¹, [Mr. Timothy Perrier](#) (Canada)¹, Prof. Andrew G Kirk (Canada)¹ (1. McGill University)

2:30pm **ME3.4 - Two-Dimensional Material Based Optoelectronic Devices Rapid Prototyping using 2D Material Transfer System (2DMTS)**
 » [Mr. Qian Cai](#) (United States)¹, Prof. Elham Heidari (United States)², Prof. Navid Asadizanjani (United States)², Prof. Volker Sorger (United States)², Prof. Hamed Dalir (United States)², Mr. Chandraman Patil (United States)² (1. Electrical and Computer Engineering, University of Florida, 2. University of Florida)

2:45pm **ME3.5 - A Gold-Coated FBG Sensor for Heat-Flux Measurement in Harsh Environment**
 » Ms. Rebekah Burgess (United States)¹, Mr. Sy Hulgán (United States)¹, Ms. Sara Mog (United States)¹, Ms. Ashley Mazingo (United States)¹, Mr. Owen Thome (United States)¹, Ms. Autumn Bruncz (United States)¹, [Dr. Lingze Duan](#) (United States)¹ (1. University of Alabama in Huntsville)

1:30pm **Biophotonics and Medical Optics II - MF3: Novel Imaging Techniques**
Palm Event Center MN
 Chaired by: Prof. Myeong Jin Ju (Canada) and Prof. Yang Liu (United States)

1:30pm **MF3.1 (Invited) - Reflection matrix microscopy and computational adaptive optics**

» [Prof. Seokchan Yoon](#) (Korea, Republic of)¹, Dr. Sungsam Kang (Korea, Republic of)², Mr. Yongwoo Kwon (Korea, Republic of)², Dr. Jin Hee Hong (Korea, Republic of)², Prof. Wonshik Choi (Korea, Republic of)² (1. School of Biomedical Convergence Engineering, Pusan National University, 2. Center for Molecular Spectroscopy and Dynamics, Institute for Basic Science)

2pm **MF3.2 - Electrowetting lens for focus-tunable three-photon excitation microscopy**

» [Mr. Samuel Gilinsky](#) (United States)¹, Ms. Diane Jung (United States)², Mr. Gregory Futia (United States)³, Dr. Mo Zohrabi (United States)¹, Ms. Tarah Welton (United States)³, Prof. Emily Gibson (United States)³, Prof. Diego Restrepo (United States)⁴, Dr. Victor Bright (United States)², Dr. Juliet Gopinath (United States)¹ (1. Electrical, Computer and Energy Engineering, University of Colorado Boulder, 2. Mechanical Engineering, University of Colorado Boulder, 3. Bioengineering, University of Colorado Anschutz Medical Campus, 4. Cell and Developmental Biology, University of Colorado Anschutz Medical Campus)

2:15pm **MF3.3 - An integrated platform for mesoscale quantitative phase imaging and hyperplex fluorescence microscopy**

» [Dr. Maomao Chen](#) (United States)¹, Dr. Hongqiang Ma (United States)¹, Dr. Jianquan Xu (United States)¹, Dr. Xuejiao Sun (United States)¹, Prof. Yang Liu (United States)¹ (1. Departments of Medicine and Bioengineering, University of Pittsburgh)

2:30pm **MF3.4 - Artificial Iris on Smart Contact Lens using Twisted Nematic Cell for Photophobia Alleviation**

» Dr. Chayanjit Ghosh (United States)¹, [Mr. Adwait Deshpande](#) (United States)¹, Dr. Mohit U. Karkhanis (United States)¹, Dr. Aishwaryadev Banerjee (United States)¹, Dr. Erfan Pourshaban (United States)¹, Mr. Md. Rabiul Hasan (United States)¹, Mr. Amirali Nikeghbal (United States)¹, Mr. Md. Golam Dastgir (United States)¹, Dr. Hanseup Kim (United States)¹, Dr. Carlos H. Mastrangelo (United States)¹ (1. The University of Utah)



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1:30pm **Microwave Photonics and Vehicular Optics I - MG3: Advanced Components for Microwave Photonics**
Palm Event Center O
 Chaired by: Elaine Wong (Australia) and Charles Middleton (United States)

1:30pm **MG3.1 (Tutorial) - Plasmonics for Microwave Photonics**
 » Prof. Juerg Leuthold (Switzerland)¹, Dr. Jasmin Smajic (Switzerland)¹, Mr. Michael Baumann (Switzerland)¹, Mrs. Hande Ibili (Switzerland)¹, Mr. Boris Vukovic (Switzerland)¹, Mr. Laurenz Kulmer (Switzerland)¹, Mr. Tobias Blatter (Switzerland)¹, Mr. Yannik Horst (Switzerland)¹, Mr. Stefan M. Koepfli (Switzerland)¹, Dr. Yuriy Fedoryshyn (Switzerland)¹, Dr. Yannick Salamin (United States)², Prof. Maurizio Burla (Germany)³ (1. ETH Zurich, 2. MIT, 3. TU Berlin)

2:15pm **MG3.2 - Near-Ballistic Uni-Traveling-Carrier Photodiodes with Undercut Collector for Enhancements in THz Output Power and Responsivity**
 » Mr. Yu-Cyuan Huang (Taiwan)¹, Prof. Nan-Wei Chen (Taiwan)², Mr. Ye-Kun Wu (Taiwan)³, Dr. none Naseem (Taiwan)³, Prof. Jin-Wei Shi (Taiwan)³ (1. National Central Univesity, 2. Yuan Ze University, 3. National Central University)

2:30pm **MG3.3 - Generation of 10.2 dBm millimeter-wave power at 100 GHz using soliton microcomb and modified uni-traveling carrier photodiode**
 » Ms. Fatemehsadat Tabatabaei (United States)¹, Dr. Jesse S. Morgan (United States)¹, Ms. SHUMAN SUN (United States)¹, Ms. Samin Hanifi (United States)¹, Ms. Ruxuan Liu (United States)¹, Dr. Steven Estrella (United States)², Dr. Madison Woodson (United States)², Prof. Steven M. Bowers (United States)¹, Prof. Xu Yi (United States)¹, Prof. Andreas Beling (United States)¹ (1. University of Virginia, 2. Freedom Photonics LLC)

1:30pm **Materials, Foundries, and Fabrication I - MH3: Heterogeneous Integration for Silicon Photonics**
Palm Event Center P
 Chaired by: Prof. Shamsul Arafin (United States) and Dr. Yuta Ueda (Japan)

1:30pm **MH3.1 (Invited) - Heterogeneous Integration of Membrane DMLs on Si Platform using Micro-transfer Printing**
 » Mr. Yoshiho Maeda (Japan)¹, Dr. Tatsuro Hiraki (Japan)¹, Dr. Takuma Aihara (Japan)¹, Mr. Takuro Fujii (Japan)¹, Dr. Koji Takeda (Japan)¹, Dr. Tai Tsuchizawa (Japan)¹, Dr. Hiroki Sugiyama (Japan)¹, Dr. Tomonari Sato (Japan)¹, Dr. Toru Segawa (Japan)¹, Dr. Yasutomo Ota (Japan)², Dr. Satoshi Iwamoto (Japan)³, Dr. Yasuhiko Arakawa (Japan)³, Dr. Shinji Matsuo (Japan)¹ (1. NTT Device Technology Labs., 2. Keio University, 3. University of Tokyo)

2pm **MH3.2 - Fabrication of Si/GaAs0.51Sb0.49 Heterostructure Diodes via Transfer Printing**
 » Mr. Yongkang Xia (United States)¹, Mr. Sk Shafaat Saud Nikor (United States)¹, Ms. Naga Swetha Nallamothe (United States)¹, Ms. Rachel Adams (United States)¹, Ms. Hyemin Jung (United States)¹, Mr. Nathan Gajowski (United States)¹, Dr. Seunghyun Lee (United States)¹, Prof. Ronald M. Reano (United States)¹, Prof. Sanjay Krishna (United States)¹, Prof. Steven Ringel (United States)¹, Prof. Shamsul Arafin (United States)¹ (1. The Ohio State University)

2:15pm **MH3.3 - a-Si:H Layer Enabling a sub-1.2 dB Loss SiN-III/V-SiN Transition for Evanescently Coupled Lasers at 920 nm**
 » Mr. Konstantinos Akritidis (Belgium)¹, Dr. Maximilien Billet (Belgium)¹, Dr. Sandeep Seema Saseendran (Belgium)², Mr. Stijn Poelman (Belgium)¹, Prof. Gunther Roelkens (Belgium)¹, Dr. Pieter Neutens (Belgium)², Dr. Joost Brouckaert (Belgium)², Prof. Pol Van Dorpe (Belgium)², Prof. Bart Kuyken (Belgium)³ (1. UGent – IMEC, 2. IMEC, 3. University Gent-imec)

2:30pm **MH3.4 (Invited) - Transfer Printing Integration for Chip-scale Photonic Devices**
 » Prof. Michael Strain (United Kingdom)¹, Prof. Martin D. Dawson (United Kingdom)¹ (1. University of Strathclyde)

3pm **Coffee Break & Exhibits**
Palm Event Center



Continued from **Monday, 13 November**

3:30pm **Nonlinear Photonics and Novel Optical Phenomena II - MA4: Integrated Nonlinear Optics II**

Palm Event Center AB

Chaired by: Alireza Marandi (United States) and Prof. Camille-Sophie Bres (Switzerland)

3:30pm **MA4.1 - Single-photon downconversion in GaAs, AlGaAs and InGaP-on-Insulator**

» [Mr. Emil Ulsig](#) (Denmark)¹, [Mr. Magnus Madsen](#) (Denmark)¹, [Dr. Eric Stanton](#) (United States)², [Dr. Dileep Reddy](#) (United States)², [Dr. Iterio Degli-Eredi](#) (Belgium)³, [Dr. Richard Mirin](#) (United States)², [Prof. Nicolas Volet](#) (Denmark)¹ (1. Aarhus University, Department of Electrical and Computer Engineering, 2. National Institute of Standards and Technology, 3. Luceda Photonics)

3:45pm **MA4.2 - Saturable absorption in the C-Band employing 2D 1T'-MoTe2**

» [Mrs. Maria Volpato](#) (Brazil)¹, [Dr. Henrique Rosa](#) (Brazil)², [Dr. Pierre-Louis de Assis](#) (Brazil)¹, [Dr. Newton Frateschi](#) (Brazil)¹ (1. Unicamp, 2. Mackenzie Presbyterian University)

4pm **MA4.3 - Coupled Resonators Optical Waveguide Based on Taiji Microresonators**

» [Dr. Bulent Aslan](#) (Italy)¹, [Dr. Riccardo Franchi](#) (Italy)¹, [Dr. Stefano Biasi](#) (Italy)¹, [Mr. Salamat Ali](#) (Italy)¹, [Prof. Lorenzo Pavesi](#) (Italy)¹ (1. University of Trento)

4:15pm **MA4.4 - Nonvolatile switching in a ring resonator with saturable absorption**

» [Mr. Isaac Luntadila Lufungula](#) (Belgium)¹, [Prof. Bart Kuyken](#) (Belgium)² (1. Ghent University – IMEC, 2. University Ghent - imec)

3:30pm **Optical Communication: Devices, Interconnects and Subsystems IV - MB4: Novel Optical Modulation Subsystems and Devices**

Palm Event Center CD

Chaired by: Brian Stern (United States)

3:30pm **MB4.1 (Invited) - Low-loss midex waveguides and Soliton microcombs**

» [Prof. Wenfu Zhang](#) (China)¹ (1. State Key Laboratory of Transient Optics and Photonics, Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences)

4pm **MB4.2 (BEST STUDENT PAPER FINALIST) - Free-Space Gigabit Data Transmission with a Directly Modulated Interband Cascade Laser Epitaxially Grown on Silicon**

» [Ms. Sara Zaminga](#) (France)¹, [Mr. Pierre Didier](#) (France)¹, [Ms. Hyunah Kim](#) (France)¹, [Dr. Daniel Andres Diaz Thomas](#) (France)², [Prof. Alexei Baranov](#) (France)², [Mr. Jean Baptiste Rodriguez](#) (France)², [Prof. Eric Tournié](#) (France)², [Ms. Hedwig Knoetig](#) (Austria)³, [Dr. Olivier Spitz](#) (United States)⁴, [Prof. Benedikt Schwarz](#) (Austria)³, [Prof. Laurent Cerutti](#) (France)², [Prof. Frederic Grillot](#) (France)¹ (1. Telecom Paris, 2. University of Montpellier, 3. Technische Universität Wien, 4. CREOL, The College of Optics and Photonics, University of Central Florida, Orlando, FL 32816, USA)

4:15pm **MB4.3 - OFDM Signal Transmission Using Distributed Fiber-Optic Acoustic Sensing**

» [Dr. Wataru Kohno](#) (United States)¹, [Dr. Jian Fang](#) (United States)¹, [Mr. Shuji Murakami](#) (United States)¹, [Dr. Giovanni Milione](#) (United States)¹, [Dr. Ting Wang](#) (United States)¹ (1. NEC Labs America)

4:30pm **MB4.4 - Gigabit Per Second UV-C LEDs for Communications**

» [Mr. Hichem Zimi](#) (United Kingdom)¹, [Mr. Daniel Maclure](#) (United Kingdom)¹, [Dr. Cheng Chen](#) (United Kingdom)¹, [Dr. Jonathan McKendry](#) (United Kingdom)¹, [Dr. David Stothard](#) (United Kingdom)², [Dr. Johannes Herrnsdorf](#) (United Kingdom)¹, [Prof. Harald Haas](#) (United Kingdom)¹, [Prof. Martin D. Dawson](#) (United Kingdom)¹ (1. University of Strathclyde, 2. fraunhofer centre for applied photonics)

4:45pm **MB4.5 - Underwater Wireless Optical Communications Using Integrated Optical Phased Arrays**

» [Mr. Daniel DeSantis](#) (United States)¹, [Ms. Milica Notaros](#) (United States)¹, [Mr. Michael Torres](#) (United States)¹, [Prof. Jelena Notaros](#) (United States)¹ (1. Massachusetts Institute of Technology)



Continued from **Monday, 13 November**

3:30pm **Light Sources III - MD4: Micro and Nano II**
Palm Event Center FG
 Chaired by: Prof. Stephan Reitzenstein (Germany) and Dr. Yating Wan (Saudi Arabia)

3:30pm **MD4.1 - Nanoparticle-doped Polymer Hybrid Material as Color Conversion Layer for Micro-LED Displays Technology**
 » Mr. Chen-Hsun Wu (Taiwan)¹, Mr. Chih-Yuan Tsai (Taiwan)¹, Mr. Jian-Hong Lin (Taiwan)¹, Mr. Yen-Chia Cheng (Taiwan)¹, Ms. Shan-Yu Chen (Taiwan)¹, Mr. Chi-Shiang Chen (Taiwan)¹, Prof. Ching-Fuh Lin (Taiwan)¹ (1. National Taiwan University)

3:45pm **MD4.2 - (Invited) Structured Light and Engineered Nanostructures**
 » Prof. Natalia Litchinitser (United States)¹, Mr. Jiannan Gao (United States)¹, Mr. Hooman Barati Sedeh (United States)¹, Ms. Renee George (United States)¹, Dr. Wenhao Li (United States)¹, Mr. Dmitrii Tsvetkov (United States)¹, Dr. Danilo Gomes Pires (United States)¹ (1. Duke University)

4:15pm **MD4.3 - Dual-Wavelength Visible Light Communication through Perovskite-Integrated InGaN Micro-LEDs**
 » Mr. Tae-Yong Park (Saudi Arabia)¹, Ms. Yue wang (Saudi Arabia)¹, Dr. Omar Alkhazragi (Saudi Arabia)¹, Dr. Jung-Hong Min (Korea, Republic of)², Dr. Tien Khee Ng (Saudi Arabia)³, Prof. Osman M. Bakr (Saudi Arabia)⁴, Prof. Omar F. Mohammad (Saudi Arabia)⁴, Prof. Boon S. Ooi (Saudi Arabia)¹ (1. Photonics Laboratory, King Abdullah University of Science and Technology (KAUST), 2. Light Source Research Division Korea Photonics Technology Institute, 3. King Abdullah University of Science and Technology, 4. King Abdullah University of Science and Technology (KAUST))

4:30pm **MD4.4 (Invited) - Nanoscale light source enabled by inelastic electron tunneling**
 » Prof. Zhaowei Liu (United States)¹ (1. University of California San Diego)

3:30pm **Detection, Sensing, and Energy III - ME4: Sensors**
Palm Event Center KL
 Chaired by: Dr. Minjoo Lawrence Lee (United States)

3:30pm **ME4.1 - Temperature and Strain Fiber Sensing Using Orbital Angular Momentum**
 » Ms. Katelynn Wootten (United States)¹, Dr. Mo Zohrabi (United States)², Dr. Mark Siemens (United States)³, Dr. Juliet Gopinath (United States)² (1. Department of Physics, University of Colorado Boulder, 2. Electrical, Computer and Energy Engineering, University of Colorado Boulder, 3. Department of Physics and Astronomy, University of Denver)

3:45pm **ME4.2 - Lumped Element Model for an Optomechanical Ultrasound sensor**
 » Mr. Cedric Pieters (Belgium)¹, Mr. Rachid Haouari (Belgium)¹, Dr. Fabrice-Roland Lamberti (Belgium)¹, Dr. Grim Keulemans (Belgium)¹, Dr. Jon Kjellman (Belgium)¹, Dr. Xavier Rottenberg (Belgium)¹ (1. IMEC)

4pm **ME4.3 - Liquid-Metal-Based SERS Sensors for Trace Analyte Detection**
 » Mr. Shreyan Datta (United States)¹, Dr. Xianglong Miao (United States)¹, Prof. Peter Qiang Liu (United States)¹ (1. University at Buffalo)

4:15pm **ME4.4 - An Optofluidic Nanoplasmonic Sensor for Aerosols**
 » Dr. Hao Jiang (United States)¹, Ms. Sophia Judge (United States)¹ (1. Lawrence Technological University)

4:30pm **ME4.5 - Phase-shifted two-wire waveguide Bragg gratings for high sensitivity gas detection in the terahertz spectral range.**
 » Prof. Yang Cao (China)¹, Dr. Kathirvel Nallappan (Canada)², Dr. Guofu Xu (Canada)², Prof. Maksim Skorobogatiy (Canada)³ (1. Hebei University of Technology, 2. Polytechnique Montréal, 3. Polytechnique Montréal)

3:30pm **Biophotonics and Medical Optics III - MF4: Applications of Machine Learning**
Palm Event Center MN
 Chaired by: Prof. Peter Munro (United Kingdom) and Nisan Ozana (Israel)



Continued from **Monday, 13 November**

3:30pm **MF4.1 (Invited) - Redesigning the optical microscope with physics inspired machine learning**

» [Dr. Dushan Wadduwage](#) (United States)¹, Mr. Udith Haputhanthri (United States)¹ (1. Center for Advanced Imaging, Faculty of Arts and Sciences, Harvard University,)

4pm **MF4.2 - Large-scale label-free morphological profiling for drug screening by high-throughput spinning imaging**

» [Dr. Dickson Siu](#) (Hong Kong)¹, Mr. Victor Wong (Hong Kong)¹, Prof. Kenneth Wong (Hong Kong)¹, Prof. Kevin Tsia (Hong Kong)¹ (1. University of Hong Kong)

4:15pm **MF4.3 - All-in-one multimodal imaging platform for information-rich spatial biology**

» [Dr. Hongqiang Ma](#) (United States)¹, Prof. Yang Liu (United States)² (1. University of Pittsburgh, 2. Departments of Medicine and Bioengineering, University of Pittsburgh)

3:30pm **Microwave Photonics and Vehicular Optics II - MG4: Advanced Devices for Microwave Photonics**

Palm Event Center O
Chaired by: Elaine Wong (Australia) and Justin Zobel (United States)

3:30pm **MG4.1 (Invited) - Acoustoelectric Photonic and Microwave Phononic Devices**

» [Prof. Matt Eichenfield](#) (United States)¹ (1. University of Arizona and Sandia National Labs)

4pm **MG4.2 - Noise Filtering of Narrowband Temporal Optical Waveforms by All-Fiber Talbot Processing**

» Mr. Majid Goodarzi (Canada)¹, Dr. Manuel P. Fernandez (Canada)¹, Prof. José Azaña (Canada)², [Mr. Benjamin Crockett](#) (Canada)² (1. Institut National de la Recherche Scientifique-Centre Énergie, Matériaux et Télécommunications (INRS-EMT), 2. Institut national de la recherche scientifique)

4:15pm **MG4.3 - Thermal-noise-limited, compact optical reference cavity operated without a vacuum enclosure**

» [Ms. Yifan Liu](#) (United States)¹, Mr. Charles McLemore (United States)¹, Ms. Megan Kelleher (United States)¹, Mr. Dahyeon Lee (United States)¹, Dr. Takuma Nakamura (United States)², Mr. Naijun Jin (United States)³, Dr. Susan Schima (United States)², Dr. Peter Rakich (United States)³, Dr. Scott Diddams (United States)⁴, Dr. Franklyn Quinlan (United States)² (1. Department of Physics, University of Colorado Boulder, 2. Time and Frequency Division, National Institute of Standards and Technology, 3. Department of Applied Physics, Yale University, 4. Electrical, Computer and Energy Engineering, University of Colorado Boulder)

4:30pm **MG4.4 - High-speed electro-absorption modulator integrated DFB laser using traveling-wave electrodes**

» [Dr. Yi-jen Chiu](#) (Taiwan)¹, Mr. Chen-Yu Yeh (Taiwan)², Mr. Bo-Hong Chen (Taiwan)² (1. National Sun Yat-sen University, 2. National Sun Yat-sen University)

3:30pm **Materials, Foundries, and Fabrication II - MH4: Novel Concept for Photonic Integration**

Palm Event Center P
Chaired by: Prof. Shamsul Arafin (United States) and Dr. Sarvagya Dwivedi (United States)

3:30pm **MH4.1 (Tutorial) - Non-Hermitian Engineering of Integrated Photonics: From Topological Routing to Reconfigurable Computing**

» [Prof. Liang Feng](#) (United States)¹ (1. University of Pennsylvania)

4:30pm **MH4.2 (Invited) - Sputter deposited Al₂O₃: a low-loss integrated photonic platform for broadband operation from the UV till the mid-IR**

» [Prof. Sonia Garcia Blanco](#) (Netherlands)¹ (1. University of Twente)

5pm **Machined Aluminum Electrowetting Lens**

» [Mr. Ryan Oroke](#) (United States)¹, Mr. Eduardo Miscles (United States)¹, [Mr. Samuel Gilinsky](#) (United States)², Dr. Mo Zohrabi (United States)², Dr. Juliet Gopinath (United States)², Dr. Victor Bright (United States)¹ (1. Mechanical Engineering, University of Colorado Boulder, 2. Electrical, Computer and Energy Engineering, University of Colorado Boulder)



Continued from **Monday, 13 November**

- 6pm ***OPEN TO ALL REGISTERED ATTENDEES - IEEE Photonics Society Awards Banquet (Reception)**
Pavilion
- 7pm **OPEN TO ALL REGISTERED ATTENDEES - IEEE Photonics Society Awards Banquet (Seated Dinner)**
Pavilion

Tuesday, 14 November

- 8:30am **Nonlinear Photonics and Novel Optical Phenomena III - TuA1: Frequency Combs**
Palm Event Center AB
Chaired by: Jordan Stone (United States) and Alireza Marandi (United States)

- 8:30am **TuA1.1 (Invited) - Frequency Combs from Nano-structured Microresonators**
» Dr. Tobias Herr (Germany)¹ (1. University of Hamburg)

- 9am **TuA1.2 - Dynamic Optimization of a Cavity Soliton Dispersive Wave through Kerr-Induced Synchronization**
» Dr. Gregory Moille (United States)¹, Ms. Michal Chojnacki (United States)¹, Mr. Pradyoth Shandilya (United States)², Dr. Usman Javid (United States)¹, Prof. Curtis Menyuk (United States)², Dr. Kartik Srinivasan (United States)¹ (1. NIST, 2. University of Maryland at Baltimore County)

- 9:15am **TuA1.3 - Vernier Microcombs for Future Miniature Yb+ Clocks**
» Mr. Nathan O'Malley (United States)¹, Dr. Kaiyi Wu (United States)¹, Ms. Saleha Fatema (United States)¹, Dr. Cong Wang (United States)², Mr. Marcello Girardi (Sweden)³, Prof. Mohammed S. Alshaykh (Saudi Arabia)⁴, Dr. Zhichao Ye (Sweden)³, Dr. Daniel E. Leaird (United States)¹, Prof. Minghao Qi (United States)¹, Prof. Victor Torres-Company (Sweden)³, Prof. Andrew Weiner (United States)¹ (1. Purdue University, 2. Indiana University, 3. Chalmers University of Technology, 4. King Saud University)

- 9:30am **TuA1.4 - Non-Volatile III-V/Si Photonic Charge-Trap Flash Memory**
» Dr. Stanley Cheung (United States)¹, Dr. Yuan Yuan (United States)¹, Dr. Yiwei Peng (United States)¹, Dr. Yingtao Hu (United States)¹, Dr. Geza Kurczveil (United States)¹, Dr. Di Liang (United States)¹, Dr. Raymond Beausoleil (United States)¹ (1. Hewlett Packard Enterprise)

- 9:45am **TuA1.5 - Robust Generation of Dark Soliton Combs in AlGaAs-on-Insulator Microresonators**
» Mr. Yang Liu (Denmark)¹, Mr. Chaochao Ye (Denmark)¹, Mr. Yueguang Zhou (Denmark)¹, Dr. Yi Zheng (Denmark)¹, Dr. Yanjing Zhao (Denmark)¹, Prof. Leif Katsuo Oxenløwe (Denmark)¹, Prof. Kresten Yvind (Denmark)¹, Prof. Minhao Pu (Denmark)¹ (1. Technical University of Denmark)

- 8:30am **Optical Communication: Devices, Interconnects and Subsystems V - TuB1: State of the Art Photonic Integrated Platforms**
Palm Event Center CD
Chaired by: Dr. Giovanni Milione (United States)

- 8:30am **TuB1.1 (Tutorial) - A Tutorial on Silicon Heterogeneous Integrated Photonic Integrated Circuits: From Data Centers to Sensors**
» Prof. John Bowers (United States)¹ (1. University of California Santa Barbara)

- 9:15am **TuB1.2 (Invited) - III-V photonic membrane for dense integration and wafer-scale assembly with electronics**
» Dr. Yuqing Jiao (Netherlands)¹ (1. Eindhoven University of Technology)



Continued from **Tuesday, 14 November**

8:30am **Optical Communication and Networks IV -
TuC1: Radio-over-fiber and Free-space Optical Systems**

Palm Event Center E

Chaired by: Dr. Aneesh Sobhanan (United States)

8:30am **TuC1.1 (Invited) - InAs/InP Quantum-Dash Mode-Locked Laser For Duplex Radio Over Fiber Links**

» [Prof. Jianping Yao](#) (Canada)¹, Dr. Long Huang (Canada)¹, Dr. Zhenguo Lu (Canada)², Prof. Ke Wu (Canada)³ (1. University of Ottawa, 2. National Research Council, 3. Polytechnique Montréal)

9am **TuC1.3 - A LEAF-FSO-5G NR/6G Converged System**

» [Mr. JIA-LIANG JIN](#) (Taiwan)¹, Ms. Tsai-Man Wu (Taiwan)¹, Mr. Yan-Zhen Xu (Taiwan)¹, Mr. Chih-Hong Lin (Taiwan)¹, Mr. Wei-Xiang Chen (Taiwan)¹, Prof. Hai-Han Lu (Taiwan)¹ (1. National Taipei University of Technology)

9:15am **TuC1.4 - Power-efficient Radio-over-Fiber aided Spatial Modulation**

» Dr. Yichuan Li (China)¹, Prof. Mohammed El-Hajjar (United Kingdom)², [Mr. Arman Safarnejadian](#) (Canada)³ (1. Harbin Institute of Technology (Shenzhen), 2. University of Southampton, 3. Centre d'optique, photonique et laser (COPL), Université Laval)

9:30am **TuC1.5 - Enhanced Hybrid Asymmetrically Clipped Optical OFDM for IM/DD OWC Systems**

» Dr. Zuhang Geng (China)¹, Dr. Xinke Tang (China)², Prof. Yuhan Dong (China)¹, [Dr. Ying Xue](#) (Hong Kong)³ (1. Tsinghua University, 2. Peng Cheng Laboratory, 3. Hong Kong University of Science and Technology)

8:30am **Detection, Sensing, and Energy IV -
TuD1: Novel Materials for Detectors**

Palm Event Center FG

Chaired by: Prof. Daniel Wasserman (United States) and Prof. Ganesh Balakrishnan (United States)

8:30am **TuD1.1 (Invited) - High-efficiency, superconducting nanowire single-photon detectors from ultraviolet to infrared**

» [Dr. Richard Mirin](#) (United States)¹, Dr. Benedikt Hampel (United States)², Dr. Adriana Lita (United States)², Dr. Adam McCaughan (United States)², Dr. Bahkrom Oripov (United States)², Dr. Dileep Reddy (United States)¹, Dr. Kevin Silverman (United States)², Dr. Martin Stevens (United States)², Dr. Varun Verma (United States)², Dr. Sae Woo Nam (United States)² (1. National Institute of Standards and Technology, 2. NIST)

9am **TuD1.2 - P-doped bilayer graphene based photodetector with colloidal quantum dots absorber**

» [Mr. Md Fazle Rabbe](#) (United States)¹, Dr. Volodymyr Sheremet (United States)¹, Mr. David Pate (United States)¹, Dr. Vitaliy Avrutin (United States)¹, Dr. Umit Ozgur (United States)¹, Dr. Nibir Dhar (United States)¹ (1. Virginia Commonwealth University)

9:15am **TuD1.3 - Dynamics of light-induced charge transfer from ferroelectric crystal surfaces to metallic nanoparticles**

» [Mr. Eric Asché](#) (Germany)¹, Dr. Riccardo Zamboni (Germany)¹, Prof. Cornelia Denz (Germany)¹, Dr. Jörg Imbrock (Germany)¹ (1. Institute of Applied Physics, 48149 Muenster)

9:30am **TuD1.5 - Novel organic materials and device architectures for sensitive broadband photodetectors**

» [Prof. Guodan Wei](#) (China)¹ (1. Tsinghua University)

8:30am **Optical AI and Computational Photonics III -
TuE1: Photonic Algorithm-Hardware Homomorphism and Inverse Design**

Palm Event Center KL

Chaired by: Prof. Volker Sorger (United States) and Prof. Nicola Peserico (United States)

8:30am **TuE1.1 (Invited) - Hardware-Software Codesign for Integrated Photonic Neural Networks**

» [Prof. Mahdi Nikdast](#) (United States)¹ (1. Department of Electrical and Computer Engineering, Colorado State University)



Continued from Tuesday, 14 November

9am **TuE1.2 - Analysis of Local Optimization Behavior: Toward a Novel Inverse Design Paradigm**

» Mr. Robert Pesch (United States)¹, Mr. Arjun Khurana (United States)¹, Mr. Joel Slaby (United States)¹, Mr. Jacob Hiesener (United States)¹, Dr. Stephen Ralph (United States)¹ (1. Georgia Institute of Technology)

9:15am **TuE1.3 - Differentiable Modeling of Nonlinear Dynamics in Multimode Fibers**

» Mr. Hasindu Kariyawasam (United States)¹, Dr. Savithru Jayasinghe (United States)², Mr. Yasith Jayawardana (United States)³, Dr. Dushan Wadduwage (United States)⁴ (1. Center for Advanced Imaging, Faculty of Arts and Sciences, Harvard University, 2. Independent Researcher, 3. Old Dominion University, Norfolk, VA, 4. Center for Advanced Imaging, Faculty of Arts and Sciences, Harvard University,)

9:30am **TuE1.4 - Hardware-accelerated inverse design of a large-area CMOS-compatible grating coupler**

» Dr. Xinzhong Chen (United States)¹, Dr. Emerson Melo (United States)¹, Dr. Tyler Hughes (United States)¹, Dr. Momchil Minkov (United States)¹ (1. Flexcompute Inc)

9:45am **TuE1.5 - Accelerate Inverse Design of Photonic Devices with GPUs**

» Dr. Peng Sun (United States)¹, Dr. Andrew Michaels (United States)², Dr. Liron Gantz (Israel)¹ (1. NVIDIA Corporation, 2. Aurora Operations, Inc)

8:30am **Biophotonics and Medical Optics IV - TuF1: Advances in Optical Coherence Tomography**

Palm Event Center MN

Chaired by: Dr. Jamie Guggenheim (United Kingdom) and Prof. Myeong Jin Ju (Canada)

8:30am **TuF1.1 (Invited) - Computational extending and enhancing optical coherence tomography imaging**

» Dr. Shuichi Makita (Japan)¹ (1. Computational Optics Group, University of Tsukuba)

9am **TuF1.2 - TDMS: An open source Time Domain Maxwell Solver for simulations in biomedical optics**

» Prof. Peter Munro (United Kingdom)¹ (1. University College London)

9:15am **TuF1.3 - Polarization-diversity optical coherence tomography retinal imaging of laser-induced choroidal neovascularization in small animal models**

» Mr. Jun Song (Canada)¹, Dr. Yusi Miao (Canada)¹, Prof. Joanne Matsubara (Canada)¹, Prof. Myeong Jin Ju (Canada)² (1. University of British Columbia (UBC), 2. University of British Columbia)

9:30am **TuF1.4 - Pre-Transplantation Evaluation of Human Liver Using Polarization-Sensitive Optical Coherence Tomography**

» Mr. Feng Yan (United States)¹, Mr. Chen Wang (United States)¹, Mr. Qinghao Zhang (United States)¹, Mr. Ebenezer Raj Selvaraj Mercyshalinie (United States)¹, Dr. Zhongxin Yu (United States)², Dr. Kar-Ming A Fung (United States)², Dr. Qinggong Tang (United States)¹ (1. The University of Oklahoma, 2. The University of Oklahoma Health Sciences Center)

8:30am **Nano Photonics, Plasmonics and Metamaterials III - TuG1: Optimization of Nanophotonic Designs**

Palm Event Center O

Chaired by: Prof. Filiz Yesilkoy (United States)

8:30am **TuG1.1 - Increasing the upward radiation efficiency of optical phased arrays using asymmetric silicon horn antennas**

» Ms. Henna Farheen (Germany)¹, Mr. Suraj Joshi (Germany)¹, Prof. J. Christoph Scheytt (Germany)¹, Dr. Viktor Myroshnychenko (Germany)¹, Prof. Jens Förstner (Germany)¹ (1. University of Paderborn)

8:45am **TuG1.2 - Design and Optimization of a Thermal Emitter using Automatic Machine Learning**

» Mr. Ambali Odebowale (Australia)¹, Mr. Salah Abdo (Australia)¹, Ms. Nusrat Alim (Australia)¹, Dr. Khalil As'ham (Australia)¹, Dr. Haroldo T. Hattori (Australia)², Prof. Andrey Miroshnichenko (Australia)¹ (1. The University of New South Wales, 2. The university of New South Wales)



Continued from **Tuesday, 14 November**

9am **TuG1.3 - Optimal Design of Omni-directional Optical Cloaking by Annular Sectorized Unit-cells**
 » Prof. Mirbek Turduev (Kyrgyzstan)¹, Mr. Muratcan Ayik (Turkey)², Mr. Bumin Kaan Yildirim (Saudi Arabia)³, Prof. Oleg V. Minin (Russian Federation)⁴, Prof. Igor V. Minin (Russian Federation)⁴, Prof. Hamza Kurt (Korea, Republic of)⁵ (1. Department of Electrical and Electronics Engineering, Kyrgyz-Turkish Manas University, Bishkek 720038, Kyrgyzstan, 2. Department of Electrical and Electronics Engineering, Middle East Technical University, Ankara 06800, Turkey, 3. King Abdullah University of Science and Technology (KAUST) Solar Center, Thuwal 23955-6900, Kingdom of Saudi Arabia, 4. Nondestructive school, Tomsk Polytechnic University, 634050, Tomsk, Russia, 5. School of Electrical Engineering, Korea Advanced Institute of Science and Technology, Daejeon, 34141, Republic of Korea)

9:15am **TuG1.4 - Polarization Independent Add-Drop Filter**
 » Dr. Laaya Sabri (Canada)¹, Prof. Frederic Nabki (Canada)¹, Prof. Michaël Ménard (Canada)¹ (1. École de Technologie Supérieure)

8:30am **TuH1: PHOTONICS INDUSTRY FOCUS: Government Photonic Opportunities**
Palm Event Center P
 Chaired by: Charles Middleton (United States)

8:30am **TuH1.1 (Invited) - Not Just "Light" Infantry: The State of Photonics in US Army R&D**
 » Dr. Jason Zeibel (United States)¹ (1. US Army C5ISR Center)

9am **TuH1.2 (Invited) - Quantum Photonics at AFRL**
 » Dr. Michael Fanto (United States)¹ (1. US Air Force Research Labs (AFRL))

9:30am **TuH1.3 (Invited) - Photonics for Navy Applications**
 » Dr. Keith Williams (United States)¹ (1. US Naval Research Labs (NRL))

10am **Coffee Break & Exhibits**
Palm Event Center

10:30am **Quantum Photonics I - TuA2: Engineering Quantum Emitters I**
Palm Event Center AB
 Chaired by: Prof. Mahdi Hosseini (United States)

10:30am **TuA2.1 (Tutorial) - Deterministic Photon-emitter Interfaces**
 » Prof. Peter Lodahl (Denmark)¹ (1. Niels Bohr Institute, University of Copenhagen)

11:15am **TuA2.2 - Quantum Interference of Identical Photons from Remote GaAs Quantum Dots**
 » Prof. Alisa Javadi (United States)¹, Dr. Liang Zhai (Switzerland)², Dr. Nam Nguyen (Switzerland)², Dr. Clemens Spinnler (Switzerland)², Dr. Julian Ritzmann (Germany)³, Dr. Matthias Loebl (Switzerland)⁴, Prof. Andreas Wieck (Germany)⁵, Dr. Arne Ludwig (Germany)⁵, Prof. Richard Warburton (Switzerland)² (1. The University of Oklahoma, 2. University of Basel, 3. ruhr-uni-bochum.de, 4. unibas.ch, 5. ruhr-uni-bochum)

11:30am **TuA2.3 - Screening and deterministic integration of nanodiamond-based color centers for high-bandwidth quantum photonics**
 » Prof. Simeon Bogdanov (United States)¹, Ms. Swetapadma Sahoo (United States)¹, Mr. Junyue Jiang (United States)¹, Ms. Hana Azzouz (United States)¹, Mr. Chad Germany (United States)¹, Mr. Kieran Loeher (United States)¹, Mr. Jincheng Zhou (United States)¹, Prof. Bryan Clark (United States)¹, Prof. Viatcheslav Agafonov (France)², Prof. Valery Davydov (Russian Federation)³ (1. University of Illinois Urbana-Champaign, 2. University of Tours, 3. L.F. Vereshchagin Institute for High Pressure Physics)

11:45am **TuA2.4 - Toward Engineering 2D Atomic Arrays in Solids**
 » Mr. Trevor Kling (United States)¹, Mr. Haechan An (United States)², Prof. Mahdi Hosseini (United States)¹ (1. Northwestern University, 2. Purdue University)

10:30am **Optical Communication: Devices, Interconnects and Subsystems VI - TuB2: Lasers and Amplifier Subsystems and Devices**
Palm Event Center CD
 Chaired by: Dr. Yuqing Jiao (Netherlands)



Continued from Tuesday, 14 November

- 10:30am **TuB2.1 (Invited) - Silicon Photonics Devices and Monolithic Integration**
 » Prof. Xuhan Guo (China)¹, Prof. Haoshuo Chen (United States)² (1. Shanghai Jiao Tong University, 2. Nokia Bell lab)
- 11am **TuB2.2 - Stable CW operation of III-V/Si hybrid lasers by chip-on-wafer direct bonding technique using UV-ozone hydrophilization**
 » Mrs. Naoko Inoue (Japan)¹, Mr. Takehiko Kikuchi (Japan)¹, Dr. Naoki Fujiwara (Japan)², Mr. Munetaka Kurokawa (Japan)², Dr. Takuo Hiratani (Japan)², Mr. Toshiyuki Nitta (Japan)², Mr. Akira Furuya (Japan)², Dr. Chang-yong Lee (Japan)², Dr. Yuhki Itoh (Japan)², Prof. Nobuhiko Nishiyama (Japan)³, Dr. Hideki Yagi (Japan)² (1. Photonics Electronics Technology Research Association (PETRA) and Sumitomo Electric Industries, Ltd., 2. Photonics Electronics Technology Research Association (PETRA), 3. Tokyo Institute of Technology)
- 11:15am **TuB2.3 - Designs of Resonant-Characteristics-Monitorable Si Wavelength Filters For Heterogeneously Integrated Tunable Lasers**
 » Prof. Takanori Sato (Japan)¹, Prof. Takeshi Fujisawa (Japan)¹, Dr. Yusuke Sawada (Japan)², Dr. Takuya Mitarai (Japan)², Dr. Takuo Hiratani (Japan)², Dr. Takuya Okimoto (Japan)², Dr. Tsutomu Ishikawa (Japan)², Dr. Naoki Fujiwara (Japan)², Dr. Hideki Yagi (Japan)², Prof. Kunimasa Saitoh (Japan)¹ (1. Hokkaido University, 2. Sumitomo Electric Industries, Ltd.)
- 11:30am **TuB2.4 - Optically-Pumped Semiconductor Optical Amplifier with Low Noise Figure**
 » Mr. Dhruvkumar Desai (United States)¹, Dr. Aneesh Sobhanan (United States)¹, Dr. Inwoong Kim (United States)², Dr. Olga Vassilieva (United States)², Dr. Youichi Akasaka (United States)², Dr. Paparao Palacharla (United States)², Dr. Xun Li (Canada)³, Dr. Sethumadhavan Chandrasekhar (United States)⁴, Dr. Patrick LiKamWa (United States)¹, Dr. Guifang Li (United States)¹ (1. University of Central Florida, 2. Fujitsu, 3. McMaster University, 4. Elephint LLC)
- 11:45am **TuB2.5 - Er-doped Fiber Design for FM-SDM Amplification**
 » Mr. Pierre-Olivier Janvier (Canada)¹, Prof. Leslie Rusch (Canada)¹, Prof. Sophie LaRochelle (Canada)¹ (1. Université Laval)

- 10:30am **Optical Communication and Networks V - TuC2: Optical Signal Processing**
Palm Event Center E
 Chaired by: Prof. Stephan Pachnicke (Germany) and Prof. Alan Lau (Hong Kong)
- 10:30am **TuC2.1 (Invited) - Neuromorphic Photonics for Digital Signal Processing**
 » Dr. Lorenzo De Marinis (Italy)¹, Mr. Ioannis Roumpos (Greece)², Dr. Nicola Andriolli (Italy)³, Dr. Miltiadis Moralis-Pegios (Greece)², Prof. Nikos Pleros (Greece)², Prof. Giampiero Contestabile (Italy)¹ (1. Scuola Superiore Sant'Anna, 2. Aristotle University of Thessaloniki, 3. CNR - IEIIT)
- 11am **TuC2.2 - An All-optical delayed complex perceptron for signal equalization in IMDD fiber transmission**
 » Mr. Emiliano Staffoli (Italy)¹, Dr. Mattia Mancinelli (Switzerland)², Prof. Paolo Bettotti (Italy)¹, Prof. Lorenzo Pavesi (Italy)¹ (1. University of Trento, 2. LIGENTEC SA)
- 11:15am **TuC2.3 - Secure Optical Hashing for Information Compression in a Convolutional Neural Network**
 » Dr. Haoyan Kang (United States)¹, Mr. Jiachi Ye (United States)¹, Dr. Maria Solyanik-Gorgone (United States)², Mr. Behrouz Movahhed Nouri (United States)², Dr. Hao Wang (United States)¹, Prof. Hamed Dalir (United States)¹, Prof. Volker Sorger (United States)¹ (1. University of Florida, 2. George Washington University)
- 11:30am **TuC2.4 - All-Optical Wavelength Conversion in Optically-Pumped Semiconductor Optical Amplifiers**
 » Dr. Aneesh Sobhanan (United States)¹, Mr. Dhruvkumar Desai (United States)¹, Dr. Guifang Li (United States)¹ (1. University of Central Florida)
- 11:45am **TuC2.5 - Spread-photon architecture for quantum-secure communications**
 » Mr. Michael Bullock (United States)¹, Mr. Wesley Webb (United States)², Dr. Samuel Knarr (United States)², Dr. Timothy Burt (United States)², Dr. James Drakes (United States)², Dr. Victor Bucklew (United States)², Dr. Saikat Guha (United States)¹, Dr. Boulat Bash (United States)¹ (1. University of Arizona, 2. L3Harris Technologies)



Continued from Tuesday, 14 November

- 10:30am **Light Sources IV - TuD2: Heterogeneous Integration**
Palm Event Center FG
Chaired by: Dr. Jos Boschker (Germany) and Prof. Natalia Litchinitser (United States)
- 10:30am **TuD2.1 (Invited) - On-Chip Lasers in Silicon Photonics: Pathways to Integration and Applications**
» Mr. Xiangpeng Ou (Saudi Arabia)¹, Mr. Zhican Zhou (Saudi Arabia)¹, Mr. William He (Saudi Arabia)¹, Mr. Artem Prokoshin (Saudi Arabia)¹, Dr. Ying Shi (Saudi Arabia)¹, Dr. Yating Wan (Saudi Arabia)¹ (1. Integrated Photonics lab, King Abdullah University of Science and Technology, 23955-6900, Thuwal, Saudi Arabia)
- 11am **TuD2.2 - Comparison of InP QDs and GaAsP QW lasers grown by MOCVD**
» Mr. Wen Gu (Hong Kong)¹, Dr. Liying Lin (Hong Kong)¹, Mr. Jie Huang (Hong Kong)¹, Dr. Wei Luo (Hong Kong)¹, Prof. Kei May Lau (Hong Kong)¹ (1. Hong Kong University of Science and Technology)
- 11:15am **TuD2.3 - In-plane 1.5 μm DFB lasers laterally grown on SOI**
» Dr. Ying Xue (Hong Kong)¹, Ms. Jie Li (Hong Kong)¹, Dr. Yi Wang (Hong Kong)², Mr. Ke Xu (Hong Kong)¹, Mr. Zengshan Xing (Hong Kong)¹, Prof. Kam Sing Wong (Hong Kong)¹, Prof. Honki Tsang (Hong Kong)², Prof. Kei May Lau (Hong Kong)¹ (1. Hong Kong University of Science and Technology, 2. The Chinese University of Hong Kong)
- 11:30am **TuD2.4 - Low-loss III-V photonics and high efficiency grating couplers incorporating low-index AlOx layers**
» Ms. Fwoziah Albeladi (United Kingdom)¹, Dr. Sara Gillgrass (United Kingdom)¹, Ms. Josie Travers-Nabialek (United Kingdom)¹, Dr. Chris Hodges (United Kingdom)¹, Dr. Mingchu Tang (United Kingdom)², Dr. Huiwen Deng (United Kingdom)², Prof. Huiyun Liu (United Kingdom)², Dr. Samuel Shutts (United Kingdom)¹, Prof. Peter Smowton (United Kingdom)¹ (1. School of Physics and Astronomy, Cardiff University, 2. Department of Electrical Engineering, University College London)

- 11:45am **TuD2.5 - 980 nm QW lasers with GaAsP barriers monolithically grown on (001) Si by MOCVD**
» Mr. Jie Huang (Hong Kong)¹, Ms. Qi Lin (Hong Kong)¹, Dr. Wei Luo (Hong Kong)¹, Mr. Wen Gu (Hong Kong)¹, Dr. Liying Lin (Hong Kong)¹, Prof. Kei May Lau (Hong Kong)¹ (1. Hong Kong University of Science and Technology)
- 10:30am **Materials, Foundries, and Fabrication III - TuE2: PIC Technologies for Emerging Applications**
Palm Event Center KL
Chaired by: Dr. Wayesh Qarony (United States) and Prof. Shamsul Arafin (United States)
- 10:30am **TuE2.1 (Invited) - Low-latency processing with integrated neuromorphic photonics**
» Dr. Thomas Ferreira de Lima (United States)¹, Prof. Bhavin Shastri (Canada)², Prof. Paul Prucnal (United States)³, Mr. Eric Blow (United States)¹ (1. NEC Laboratories America, Inc., 2. Queen's University, 3. Princeton University)
- 11am **TuE2.2 - Optical Tweezing of Microspheres and Cells Using Integrated Optical Phased Arrays**
» Mr. Tal Sneh (United States)¹, Ms. Sabrina Corsetti (United States)¹, Ms. Milica Notaros (United States)¹, Ms. Kruthika Kikkeri (United States)¹, Prof. Joel Voldman (United States)¹, Prof. Jelena Notaros (United States)¹ (1. Massachusetts Institute of Technology)
- 11:15am **TuE2.3 - Real Valued Models for Verification of Silicon Photonic Systems**
» Mr. Daniel Cross (United States)¹ (1. Cadence Design Systems)
- 11:30am **TuE2.4 (Invited) - Programmable photonics for free space optics communications and computing**
» Prof. Andrea Melloni (Italy)¹, Mr. Andres Martinez (Italy)¹, Mr. Gabriele Cavicchioli (Italy)¹, Mr. Seyedmohammad Seyedinnavadeh (Italy)¹, Dr. Francesco Zanetto (Italy)¹, Prof. David A.B. Miller (United States)², Prof. Francesco Morichetti (Italy)¹ (1. Politecnico di Milano, 2. Ginzton Laboratory, Stanford University)



Continued from Tuesday, 14 November

- 10:30am **Propagation, Spectroscopy, and Imaging II - TuF2: Novel Methods and Devices in Spectroscopy**
Palm Event Center MN
Chaired by: Prof. Kevin Tsia (Hong Kong) and Prof. Zhaowei Liu (United States)
- 10:30am **TuF2.1 (Invited) - Frequency comb spectroscopy for atmospheric measurements**
» Dr. Ian Coddington (United States)¹, Dr. Nathan Malarich (United States)¹ (1. NIST)
- 11am **TuF2.2 - Near-Petahertz Femtosecond Fieldoscopy: A Leap in Liquid Phase Spectroscopy**
» Mr. Anchit Srivastava (Germany)¹, Mr. Andreas Herbst (Germany)¹, Dr. Francesco Tani (Germany)¹, Dr. Hanieh Fattahi (Germany)¹ (1. Max-Planck Institute for Science of Light (MPL))
- 11:15am **TuF2.3 - Measurement of capillary wave phase velocity using orbital angular momentum (OAM) and the Doppler effect**
» Dr. J. Keith Miller (United States)¹, Mr. Evan Robertson (United States)¹, Mr. Tyler Cramer (United States)¹, Mr. Vincent Holsenback (United States)¹, Mr. Jaxon wiley (United States)¹, Prof. Eric Johnson (United States)¹ (1. Clemson University)
- 11:30am **TuF2.4 - Ultrafast dynamic pulsed beam steering using virtually imaged phased array**
» Ms. Suparna Seshadri (United States)¹, Ms. Jie Wang (United States)¹, Prof. Andrew Weiner (United States)¹ (1. Purdue University)
- 11:45am **TuF2.5 - High Throughput Arrayed Waveguide Grating with Resolving Power over 100,000**
» Dr. Yang Zhang (United States)¹, Mr. Wei-Lun Hsu (United States)¹, Dr. Pradip Gatkine (United States)², Prof. Sylvain Veilleux (United States)¹, Prof. Mario Dagenais (United States)¹ (1. University of Maryland, 2. California Institute of Technology)

- 10:30am **Nano Photonics, Plasmonics and Metamaterials IV - TuG2: Near-field and Subwavelength Interactions in Nanostructures**
Palm Event Center O
Chaired by: Prof. Abdoulaye Ndao (United States) and Jennifer Choy (United States)
- 10:30am **TuG2.1 - Experimental determination of the Green's function with double probe THz near-field microscopy**
» Prof. Jaime Gomez Rivas (Netherlands)¹, Dr. Stan ter Huurne (Netherlands)¹, Dr. Niels van Hoof (Netherlands)¹, Mr. Djero Peeters (Netherlands)¹, Dr. Dook van Mechelen (Netherlands)¹ (1. Eindhoven University of Technology)
- 10:45am **TuG2.2 - Sub-Terahertz Plasma Wave Generation by Dyakonov-Shur Instability in p-Diamond TeraFET**
» Mr. Muhammad Mahmudul Hasan (United States)¹, Prof. Nezhil Pala (United States)¹, Prof. Michael Shur (United States)² (1. Florida International University, 2. Rensselaer Polytechnic Institute)
- 11am **TuG2.3 - Counter-propagating scalar and vector beams for subwavelength shaping and particle manipulation**
» Mr. Eric Asché (Germany)¹, Dr. Eileen Otte (Germany)², Prof. Cornelia Denz (Germany)¹, Dr. Jörg Imbrock (Germany)¹ (1. Institute of Applied Physics, 48149 Muenster, 2. Stanford University)
- 11:15am **TuG2.4 - A hole charging layer of Co3O4 stabilizes the GaN nanowires and promotes efficient carrier transport with record-high photo-response**
» Mr. Yang Kang (China)¹, Dr. Danhao Wang (China)², Mr. Xin Liu (China)¹, Prof. Haiding Sun (China)³ (1. School of Microelectronics Univeristy of Science and Technology of China, 2. Department of Electrical Engineering and Computer Science University of Michigan, 3. University of Science and Technology of China)
- 11:30am **TuG2.5 - Nanofabrication of EGaIn Liquid Metal Near-Infrared Photonic Structures**
» Mr. Md Abdul Kaium Khan (United States)¹, Prof. Peter Qiang Liu (United States)¹ (1. University at Buffalo)



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- 10:30am **TuH2: PHOTONICS INDUSTRY FOCUS: Photonic Opportunities - Commercial and Educational**
Palm Event Center P
Chaired by: Carlos Lee (Belgium)
- 12pm **PHOTONICS INDUSTRY FOCUS: Standards / Industry Connections Luncheon**
Meyer
Chaired by: John Kulick
- 12pm **Lunch Break (on own)**
- 1:30pm **Quantum Photonics II - TuA3: Engineering Quantum Emitters II**
Palm Event Center AB
Chaired by: Sarah Sharif (United States) and Dr. Daniel Oblak (Canada)
- 1:30pm **TuA3.1 - Cascaded Quantum Well Structure Emitting Entangled Multiphoton States**
» Mr. Amir Sivan (Israel)¹, Prof. Meir Orenstein (Israel)¹ (1. Andrew and Erna Viterbi Faculty of Electrical and Computer Engineering, Technion—Israel Institute of Technology, Technion City, Haifa, 3200003, Israel)
- 1:45pm **TuA3.2 - Monolithic InAs QDs based Active-Passive Integration for Photonic Integrated Circuits**
» Ms. Abigail Enderson (United Kingdom)¹, Dr. Pawan Mishra (United Kingdom)¹, Dr. Zhongming Cao (United Kingdom)¹, Ms. Fwoziah Albeladi (United Kingdom)¹, Dr. Sara Gillgrass (United Kingdom)¹, Mr. Bogdan-Petrin Ratiu (United Kingdom)¹, Dr. Nianhua Peng (United Kingdom)², Dr. Mingchu Tang (United Kingdom)³, Prof. Huiyun Liu (United Kingdom)³, Dr. Samuel Shutts (United Kingdom)¹, Prof. Peter Smowton (United Kingdom)¹ (1. School of Physics and Astronomy, Cardiff University, 2. Surrey Ion Beam Centre, University of Surrey, 3. Department of Electrical Engineering, University College London)

- 2pm **TuA3.3 - Cavity Quantum Electrodynamics based on Lifetime-Limited Emission in Hexagonal Boron Nitride**
» Prof. Yanan Wang (United States)¹, Mr. Sanchaya Pandit (United States)¹ (1. University of Nebraska-Lincoln)
- 1:30pm **Optical Communication: Devices, Interconnects and Subsystems VII - TuB3: Photonic Integrated Modulators**
Palm Event Center CD
Chaired by: Prof. Xuhan Guo (China) and Dr. Yuqing Jiao (Netherlands)
- 1:30pm **TuB3.1 - 152 Gbaud Transmission using Strong Ferroelectric Mach-Zehnder Interferometer Modulator**
» Prof. Shiyoshi Yokoyama (Japan)¹, Dr. Jiawei Mao (Japan)¹, Mr. Futa Uemura (Japan)¹, Dr. Hiromu Sato (Japan)¹, Prof. Guo-Wei Lu (Japan)¹ (1. Kyushu University)
- 1:45pm **TuB3.2 - Effects of Junction Doping Profile on the Performance of Traveling-Wave Silicon Modulators**
» Mr. Abdolkhalegh Mohammadi (Canada)¹, Mr. Alireza Geravand (Canada)¹, Prof. Leslie RUSCH (Canada)¹, Prof. Wei Shi (Canada)¹ (1. Centre d'optique, photonique et laser (COPL), Université Laval)
- 2pm **TuB3.3 - A 160 Gb/s Two-Segment Silicon Microring Modulator with Z-Shape Doping Profile**
» Dr. Yuan Yuan (United States)¹, Dr. Yiwei Peng (United States)¹, Dr. Wayne Sorin (United States)¹, Dr. Stanley Cheung (United States)¹, Dr. Zhihong Huang (United States)¹, Dr. Di Liang (United States)¹, Dr. Marco Fiorentino (United States)¹, Dr. Raymond Beausoleil (United States)¹ (1. Hewlett Packard Enterprise)
- 2:15pm **TuB3.4 - 50Gb/s transmission in Short-Reach distance using Silicon Photonics Negative-Chirp SiGe EAM**
» Dr. Yi-jen Chiu (Taiwan)¹, Mr. Rih-You Chen (Taiwan)², Ms. Ya-Han Chang (Taiwan)³ (1. National Sun Yat-sen University, 2. Department of Photonics, National Sun Yat-sen University, 3. Department of Photonics, National Sun Yat-sen University)



Continued from **Tuesday, 14 November**

2:30pm **TuB3.5 - Variation-Aware Layout and Design Optimization of Silicon Photonic Mach-Zehnder Interferometers**
 » [Mrs. Zahra Ghanaatian](#) (United States)¹, Mr. Amin Shafiee (United States)¹, Prof. Mahdi Nikdast (United States)¹ (1. Department of Electrical and Computer Engineering, Colorado State University)

1:30pm **Optical Communication and Networks VI - TuC3: SDM and Multiband Transmission**
Palm Event Center E
 Chaired by: Prof. Jianping Yao (Canada)

1:30pm **TuC3.1 (Invited) - Physical-layer aware signal processing and control strategies for dynamic multi-band networks**
 » [Prof. Alan Pak Tao Lau](#) (Hong Kong)¹, Ms. Yan He (Hong Kong)¹, Dr. Liang Dou (China)², Dr. Zhiqun Zhai (China)², Dr. Zhuili Huang (China)¹, Prof. Chao Lu (Hong Kong)¹, Dr. Chongjin Xie (United States)² (1. Hong Kong Polytechnic University, 2. Alibaba Cloud)

2pm **TuC3.2 - Crosstalk suppression by mid-span isolators in bidirectional multi-core fiber transmission systems**
 » [Dr. Werner Klaus](#) (Japan)¹, Dr. Peter Winzer (United States)², Prof. Masanori Koshiba (Japan)³ (1. National Institute of Information and Communications Technology, 2. Nubis Communications, 3. Hokkaido University)

2:15pm **TuC3.3 - Digital few-mode fiber multiplexer using multiplane light conversion**
 » Mr. Dennis Pohle (Germany)¹, Mr. Fabio A. Barbosa (United Kingdom)², Dr. Filipe M. Ferreira (United Kingdom)², Dr. Stefan Rothe (Germany)¹, [Prof. Jürgen Czarske](#) (Germany)¹ (1. Chair of Measurement and Sensor System Technique, Faculty of Electrical and Computer Engineering, TU Dresden, 2. Department of Electrical Engineering, University College London)

2:30pm **TuC3.4 - Statistical Dependence of Average Intercore Crosstalk on Random Loss in Long-haul Uncoupled MCF Links**
 » [Prof. Joao Rebola](#) (Portugal)¹, Prof. Adolfo V. T. Cartaxo (Portugal)¹ (1. Iscte - Instituto Universitário de Lisboa, Lisbon 1649-026, Portugal)

2:45pm

TuC3.5 - On the Degree of Polarization of the Intercore Crosstalk in Weakly-Coupled Multicore Fibers
 » Prof. Tiago Alves (Portugal)¹, [Prof. Joao Rebola](#) (Portugal)¹, Prof. Adolfo Cartaxo (Portugal)¹ (1. Iscte - Instituto Universitário de Lisboa, Lisbon 1649-026, Portugal)

1:30pm **Light Sources V - TuD3: High Power Lasers**
Palm Event Center FG
 Chaired by: Prof. Amr Helmy (Canada) and Dr. Ying Xue (Hong Kong)

1:30pm

TuD3.1 - Slope Efficiency Suppression at High Current Densities in Broad Area AlGaAs Diode Lasers
 » Dr. Robert Deri (United States)¹, [Dr. William Fenwick](#) (United States)¹, Dr. Jiang Li (United States)¹, Mr. David Pope (United States)¹, Mr. Matthew Boiselle (United States)¹, Mr. David Dutra (United States)¹, Dr. Mark Crowley (United States)², Dr. Prabhu Thiagarajan (United States)², Dr. Gerald Thaler (United States)² (1. Lawrence Livermore National Lab, 2. Leonardo Electronics US Inc.)

1:45pm

TuD3.2 (Invited) - Thermal lens engineering for high brightness edge emitters
 » [Dr. Mohammad Jarez Miah](#) (Bangladesh)¹, Dr. Dominik Martin (Germany)², Mr. Arnim Ginolas (Germany)², Mr. Mohamed Elattar (Germany)², Dr. Pietro Della Casa (Germany)², Mr. Stefan Grütznert (Germany)³, Dr. Stephan Strohmaier (Germany)³, Dr. Andrea Knigge (Germany)², Prof. Günther Tränkle (Germany)², Dr. Paul Crump (Germany)² (1. Institute of Information and Communication Technology, Bangladesh University of Engineering and Technology, 1205 Dhaka, 2. Ferdinand-Braun-Institut gGmbH, Gustav-Krichhoff-Str. 4, 12489 Berlin, 3. TRUMPF Laser GmbH, 78713 Schramberg)



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2:15pm **TuD3.3 - Determination of Laser Diode Nonradiative Carrier Lifetimes using Subthreshold Power-Current-Voltage Characteristics**
 » Dr. Robert Deri (United States)¹, Dr. Elaine McVay (United States)¹, Dr. William Fenwick (United States)¹, Dr. Salmaan Baxamusa (United States)¹, Dr. Jiang Li (United States)¹, Dr. Noah Allen (United States)¹, Dr. Daniel Mittelberger (United States)¹, Ms. Rebecca Swertfeger (United States)¹, Mr. Steve Telford (United States)¹, Mr. Matthew Boiselle (United States)¹, Mr. David Pope (United States)¹, Mr. David Dutra (United States)¹, Mr. Logan Martin (United States)¹, Ms. Laina Gilmore (United States)¹, Dr. Gerald Thaler (United States)², Dr. Mark Crowley (United States)², Dr. Prabhuram Thiagarajan (United States)², Dr. Jiyon Song (United States)² (1. Lawrence Livermore National Lab, 2. Leonardo Electronics US Inc.)

2:30pm **TuD3.4 (Invited) - Laser facet passivation technology for long-term reliability of high-power edge emitters: a critical comparison of hydrogen-clean and vacuum-cleave**
 » Dr. los Boschker (Germany)¹, Dr. David Feise (Germany)¹, Dr. Steffen Knigge (Germany)¹, Dr. Andre Maaßdorf (Germany)¹, Dr. Anna Mogilatenko (Germany)¹, Dr. Peter Ressel (Germany)¹, Mr. Uwe Spengler (Germany)¹, Dr. Andrea Knigge (Germany)¹ (1. Ferdinand-Braun-Institut gGmbH, Leibniz-Institut für Höchstfrequenztechnik, Gustav-Kirchhoff-Str. 4, 12489 Berlin)

1:30pm **Materials, Foundries, and Fabrication IV - TuE3: Novel Materials and Advanced Fabrication**
Palm Event Center KL
 Chaired by: Prof. Martin D. Dawson (United Kingdom) and Dr. Sarvagya Dwivedi (United States)

1:30pm **TuE3.1 - Enhancing Imaging Performance in Electrowetting Prism Scanners through Electrode Gap Reduction**
 » Mr. Eduardo Miscles (United States)¹, Dr. Mo Zohrabi (United States)², Dr. Juliet Gopinath (United States)², Dr. Victor Bright (United States)¹ (1. Mechanical Engineering, University of Colorado Boulder, 2. Electrical, Computer and Energy Engineering, University of Colorado Boulder)

1:45pm **TuE3.2 - Transfer-printing of GeSn membranes for broadband photodetection in the extended short-wave infrared**
 » Mr. Cédric Lemieux-Leduc (Canada)¹, Dr. Mahmoud R. M. Atalla (Canada)¹, Dr. Simone Assali (Canada)¹, Dr. Patrick Daoust (Canada)¹, Mr. Gérard Daligou (Canada)¹, Mr. Julien Brodeur (Canada)¹, Prof. Stéphane Kéna-Cohen (Canada)¹, Prof. Yves-Alain Peter (Canada)¹, Prof. Oussama Moutanabbir (Canada)¹ (1. Polytechnique Montréal)

2pm **TuE3.3 - PZT micro-transfer printing for photonic MEMS**
 » Mr. Irfan Ansari (Belgium)¹, Mr. Kobe De Geest (Belgium)¹, Mr. Jasper De Witte (Belgium)¹, Mr. Tom Vandekerckhove (Belgium)¹, Dr. Hannes Rijckaert (Belgium)², Mr. Ewout Picavet (Belgium)², Mr. Enes Lievens (Belgium)¹, Mr. Gilles F. Feutmba (Belgium)¹, Ms. Tessa Van de Veire (Belgium)², Prof. Bart Kuyken (Belgium)¹, Prof. Jeroen Beeckman (Belgium)², Prof. Dries Van Thourhout (Belgium)¹ (1. Ghent University - IMEC, 2. Ghent University)

2:15pm **TuE3.4 - Inductively coupled plasma etching of orthorhombic gallium oxide films grown by mist chemical vapor deposition**
 » Ms. Yara Banda (Saudi Arabia)¹, Mr. Seong-Ho Cho (Korea, Republic of)², Mrs. Yanqing Jia (Saudi Arabia)¹, Dr. Si-Young Bae (Korea, Republic of)², Dr. Tien Khee Ng (Saudi Arabia)³, Prof. Boon S. Ooi (Saudi Arabia)⁴ (1. Photonics Laboratory, King Abdullah University of Science and Technology (KAUST), 2. Korean Institute of Ceramic Engineering and Technology (KICET), 3. King Abdullah University of Science and Technology, 4. KAUST)

2:30pm **TuE3.5 - Fabrication of stretchable PDMS filaments coupled to optical fibers for elongation monitoring**
 » Mr. Diego Ortega-Picazo (Mexico)¹, Mr. Rodolfo Carrillo-Betancourt (Mexico)¹, Dr. Juan Hernandez-Cordero (Mexico)¹ (1. Universidad Nacional Autónoma de México)

1:30pm **Biophotonics and Medical Optics V - TuF3: Resonance Based Methods**
Palm Event Center MN
 Chaired by: Prof. Peter Munro (United Kingdom) and Dr. Jamie Guggenheim (United Kingdom)



Continued from Tuesday, 14 November

- 1:30pm **TuF3.1(Invited) - Ultra-fast Super-Wide-field Photoacoustic Microscopy of Tissue Functions**
 » [Prof. Junjie Yao](#) (United States)¹ (1. Duke University)
- 2pm **TuF3.2 - Increasing the sensitivity of Fabry-Perot ultrasound sensors by multi-channel averaging**
 » [Dr. Jamie Guggenheim](#) (United Kingdom)¹, [Dr. Nam Trung Huynh](#) (United Kingdom)², [Dr. Edward Zhang](#) (United Kingdom)², [Prof. Paul Beard](#) (United Kingdom)² (1. University of Birmingham, 2. University College London)
- 2:15pm **TuF3.3 - Design and Development of Plantar Pressure Measurement Device Using Optical Sensor**
 » [Dr. Preeta Sharan](#) (India)¹, [Mr. Anup Upadhyaya](#) (India)¹, [Dr. Sandip Roy](#) (United Arab Emirates)², [Mr. Debpriyo Roy](#) (United States)³ (1. The Oxford College of Engineering, 2. S P Jain school of global management, 3. Lead Data Scientist at Verizon)
- 2:30pm **TuF3.4 - Automated photonic resonator absorption microscope for point of care biomarker detection**
 » [Mr. Weinan Liu](#) (United States)¹, [Mrs. Ayupova Takhmina](#) (United States)¹, [Ms. Weijing Wang](#) (United States)¹, [Ms. Shepherd Skye](#) (United States)¹, [Dr. Xiaojing Wang](#) (United States)¹, [Prof. Manish Kohli](#) (United States)², [Prof. Utkan Demirci](#) (United States)³, [Prof. Brian Cunningham](#) (United States)¹ (1. University of Illinois Urbana-Champaign, 2. The University of Utah, 3. Stanford University)
- 2:45pm **TuF3.5 (BEST STUDENT PAPER FINALIST) - Photonic Crystal Enhanced Fluorescence with DNA-based Nano-gripper for Ultrasensitive SARS-CoV-2 Biosensing**
 » [Ms. Yanyu Xiong](#) (United States)¹, [Dr. Lifeng Zhou](#) (China)², [Dr. Laura Cooper](#) (United States)³, [Ms. Shepherd Skye](#) (United States)¹, [Dr. Tingjie Song](#) (United States)¹, [Dr. Abhisek Dwivedy](#) (United States)¹, [Prof. Lijun Rong](#) (United States)³, [Dr. Tong Wang](#) (United States)⁴, [Prof. Xing Wang](#) (United States)¹, [Prof. Brian Cunningham](#) (United States)¹ (1. University of Illinois Urbana-Champaign, 2. Peking University, 3. University of Illinois Chicago, 4. City University of New York)

- 1:30pm **Microwave Photonics and Vehicular Optics III - TuG3: Microwave Photonic Systems**
Palm Event Center O
 Chaired by: [Prof. Xiaoke Yi](#) (Australia) and [Justin Zobel](#) (United States)
- 1:30pm **TuG3.1 (Invited) - Microwave and Millimeter-Wave Photonic Imaging Systems**
 » [Dr. Dennis Prather](#) (United States)¹, [Dr. Christopher Schuetz](#) (United States)², [Dr. Shouyuan Shi](#) (United States)¹, [Mr. Charles Harrity](#) (United States)² (1. University of Delaware, 2. Phase Sensitive Innovations, Inc.)
- 2pm **TuG3.2 - Using Free Space Optics for Beamsteering of 5G Metasurface Antenna**
 » [Mr. Asif Bilal](#) (Cyprus)¹, [Dr. Abdul Quddious](#) (Germany)², [Dr. Marcos Antoniadis](#) (Canada)³, [Prof. Atsushi Kanno](#) (Japan)⁴, [Dr. Pham Dat](#) (Japan)⁵, [Dr. Keizo Inagaki](#) (Japan)⁵, [Prof. Tetsuya Kawanishi](#) (Japan)⁶, [Prof. Stavros Iezekiel](#) (Cyprus)¹ (1. University of Cyprus, 2. Technical University of Dresden, 3. Toronto Metropolitan University, 4. Nagoya Institute of Technology, 5. National Institute of Information and Communications Technology, 6. Waseda University)
- 2:15pm **TuG3.3 - System Performance Analysis of a Photonics-based Wireless Signal Receiver for Terahertz Communication**
 » [Mr. Kota Miyake](#) (Japan)¹, [Dr. Takahiro Kaji](#) (Japan)², [Prof. Atsushi Kanno](#) (Japan)³, [Dr. Isao Morohashi](#) (Japan)², [Dr. Akira Otomo](#) (Japan)², [Prof. Hiroki Kishikawa](#) (Japan)⁴, [Prof. Takeshi Yasui](#) (Japan)⁴, [Prof. Shintaro Hisatake](#) (Japan)¹ (1. Gifu University, 2. National Institute of Information and Communications Technology, 3. Nagoya Institute of Technology, 4. Tokushima University)
- 2:30pm **TuG3.4 - Ultra-Wideband Microwave Photonic Spectrometer for Planetary Boundary Layer Sensing**
 » [Dr. Mehmet Ogut](#) (United States)¹, [Dr. Shannon Brown](#) (United States)¹, [Dr. Sidharth Misra](#) (United States)¹, [Dr. Eric Kittlaus](#) (United States)¹, [Dr. Pekka Kangaslahti](#) (United States)¹, [Dr. Janusz Murakowski](#) (United States)², [Dr. Michael Gehl](#) (United States)³ (1. Jet Propulsion Laboratory, 2. Phase Sensitive Innovations, Inc., 3. Sandia National Laboratory)



Continued from **Tuesday, 14 November**

2:45pm **TuG3.5 - Frequency Hopping Communications Link Enabled by Microwave Photonics**

» [Mr. Andrew Voshell](#) (United States)¹, [Mr. Sean O'Connor](#) (United States)¹, [Dr. Thomas Clark](#) (United States)¹ (1. Johns Hopkins University Applied Physics Laboratory)

3pm **Coffee Break & Exhibits**
Palm Event Center

3:30pm **TuI4: Plenary Session & IEEE Photonics Society Awards Recipients**
Citron East/West
Chaired by: [Dominique Dagenais](#) (United States)

3:30pm **TuI4.1 (Plenary) - Photonic Integration on SOI by Epitaxy**
» [Prof. Kei May Lau](#) (Hong Kong)¹ (1. Research Professor at the Hong Kong University of Science & Technology (HKUST))

4:30pm **TuI4.2 (Plenary) - Large-Scale Silicon Photonic Switches for AI/ML Computing and 3D Sensing**
» [Prof. Ming Wu](#) (United States)¹ (1. Professor, University of California, Berkeley)

Wednesday, 15 November

8:30am **Quantum Photonics III - WA1: Hyper-Entanglement and Multiplexing Optical States**
Palm Event Center AB
Chaired by: [Michael Fanto](#) (United States)

8:30am **WA1.1 (Invited) - Entanglement and hyper-entanglement generation in periodically poled silica fibers**
» [Prof. Li Qian](#) (Canada)¹ (1. University of Toronto)

9am **WA1.2 - Tomography of ultrabroadband polarization-frequency hyperentangled photons**

» [Dr. Hsuan-Hao Lu](#) (United States)¹, [Dr. Muneer Alshowkan](#) (United States)¹, [Mr. Karthik Myilswamy](#) (United States)², [Prof. Andrew Weiner](#) (United States)², [Dr. Joseph Lukens](#) (United States)³, [Dr. Nicholas Peters](#) (United States)¹ (1. Oak Ridge National Laboratory, 2. Purdue University, 3. Arizona State University)

9:15am **WA1.3 - Procrustean entanglement concentration in dense wavelength-division multiplexing**

» [Dr. Hsuan-Hao Lu](#) (United States)¹, [Dr. Muneer Alshowkan](#) (United States)¹, [Mr. Jude Alnas](#) (United States)², [Dr. Joseph Lukens](#) (United States)³, [Dr. Nicholas Peters](#) (United States)¹ (1. Oak Ridge National Laboratory, 2. Duke University, 3. Arizona State University)

9:30am **WA1.4 (Invited) - Certification of Non-Gaussian States using Double Homodyne Detection**

» [Prof. Nicolas Treps](#) (France)¹ (1. Sorbonne University)

8:30am **Optical Communication: Devices, Interconnects and Subsystems VIII - WB1: Novel Optical Fiber Designs**

Palm Event Center CD
Chaired by: [Dr. Giovanni Milione](#) (United States) and [Prof. Haoshuo Chen](#) (United States)

8:30am **WB1.1 - Tailoring the Brillouin Scattering Spectrum by Thermal Annealing of Acoustically Antiguiding Fiber**

» [Mr. Siyuan Wang](#) (United States)¹, [Mr. Bailey Meehan](#) (United States)², [Prof. Thomas Hawkins](#) (United States)², [Prof. John Ballato](#) (United States)², [Prof. Peter Dragic](#) (United States)¹ (1. University of Illinois Urbana-Champaign, 2. Clemson University)

8:45am **WB1.2 - The Potential for Span Length Increase with NANF**

» [Prof. PIERLUIGI POGGIOLINI](#) (Italy)¹, [Prof. Gabriella Bosco](#) (Italy)¹, [Dr. Yanchao Jiang](#) (Italy)¹, [Prof. Francesco Poletti](#) (United Kingdom)² (1. OptCom, DET, Politecnico di Torino, 10129, Torino, 2. Microsoft Azure Fiber)



Continued from **Wednesday, 15 November**

- 9am **WB1.3 - Ultra-Long-Haul WDM PM-16QAM Transmission in a Reduced Inter-Modal Interference NANF**
 » Dr. Antonino Nespola (Italy)¹, Dr. Seyed Reza Sandoghchi (United Kingdom)², Dr. Lucy Hooper (United Kingdom)², Dr. Marcelo Alonso Gouveia (United Kingdom)², Dr. Thomas D Bradley (United Kingdom)³, Dr. Hesham Sakr (United Kingdom)², Dr. Gregory Jasion (United Kingdom)³, Dr. Eric Numkam Fokoua (United Kingdom)², Dr. Stefano Straullu (Italy)¹, Prof. Gabriella Bosco (Italy)⁴, Prof. Andrea Carena (Italy)⁴, Dr. Yanchao Jiang (Italy)⁴, Dr. Ann Margareth Rosa Brusin (Italy)⁴, Dr. Yong Chen (United Kingdom)², Dr. John R Hayes (United Kingdom)³, Dr. Fabrizio Forghieri (Italy)⁵, Prof. David J Richardson (United Kingdom)², Prof. Francesco Poletti (United Kingdom)², Prof. PIERLUIGI POGGIOLINI (Italy)⁴ (1. LINKS Foundation, 10129, Torino, 2. Microsoft Azure Fiber, 3. Optoelectronics Research Centre, University of Southampton, 4. OptCom, DET, Politecnico di Torino, 10129, Torino, 5. CISCO Photonics, Vimercate (MB),)
- 9:15am **WB1.4 - Fiber Bragg Grating in Dual Ring Hollow-core Fiber**
 » Dr. Charu Goel (Singapore)¹, Dr. Yuxi Wang (Singapore)¹, Dr. Seongwoo Yoo (United Kingdom)², Dr. Wonkeun Chang (Singapore)¹ (1. Nanyang Technological University, 2. University of Glasgow)
- 9:30am **WB1.5 - Thermal Properties of a Hollow-Core Optical Fiber Spooled onto a Drum with Negative Coefficient of Thermal Expansion**
 » Ms. Irene Barbeito Edreira (United Kingdom)¹, Dr. Meng Ding (United Kingdom)¹, Mr. Bo Shi (United Kingdom)¹, Dr. Zitong Feng (United Kingdom)¹, Dr. Giuseppe Marra (United Kingdom)², Dr. Ian Davidson (United Kingdom)¹, Dr. Jaroslaw Rzegocki (United Kingdom)¹, Dr. Mohammad Mousavi (United Kingdom)¹, Dr. Gregory Jasion (United Kingdom)¹, Prof. Francesco Poletti (United Kingdom)¹, Prof. Radan Slavik (United Kingdom)¹ (1. University of Southampton, 2. National Physical Laboratory)
- 9:45am **WB1.6 - Single-Mode Single-Polarization Hollow-Core Fiber Design at 2 μm**
 » Mr. Herschel Herring (United States)¹, Dr. Md Selim Habib (United States)² (1. Florida Polytechnic University, 2. Florida Institute of Technology)

- 8:30am **Special Symposium on Advances in Neurophotonics I - WC1: Advances in Neurophotonics I**
Palm Event Center E
 Chaired by: Nisan Ozana (Israel)
- 8:30am **WC1.1 (Tutorial) - Remote photonic sensing of brain activity**
 » Prof. Zeev Zalevsky (Israel)¹ (1. Faculty of Engineering and the Nanotechnology Center, Bar-Ilan University, Ramat-Gan 52900, Israel)
- 9:30am **WC1.2 (Invited) - Towards wearable blood flow measurements with Integrated Diffuse Speckle Contrast Spectroscopy**
 » Dr. Ashwin Parthasarathy (United States)¹ (1. University of South Florida)
- 8:30am **Detection, Sensing, and Energy V - WD1: Integrated Photodetection System**
Palm Event Center FG
 Chaired by: Dr. Sadhvikas Addamane (United States)
- 8:30am **WD1.1 (Invited) - Integrated Optical Phased Arrays: AR Displays, 3D Printing, Biophotonics, and Beyond**
 » Prof. Jelena Notaros (United States)¹ (1. Massachusetts Institute of Technology)
- 9am **WD1.2 - SiN-based integrated optical phased array for 2D beam steering at 905nm**
 » Dr. Sylvain Guerber (France)¹, Dr. Daivid Fowler (France)¹, Mr. Jonathan Faugier-Tovar (France)¹, Dr. Olivier Castany (France)¹, Dr. Bertrand Szelag (France)¹, Dr. Michel Krakowski (France)² (1. CEA-LETI, 2. III-V lab)
- 9:15am **WD1.3 - Machine Learning Aided Nondestructive IC Testing by THz Response**
 » Mr. Muhammad Mahmudul Hasan (United States)¹, Prof. Nezhil Pala (United States)¹, Prof. Michael Shur (United States)² (1. Florida International University, 2. Rensselaer Polytechnic Institute)



Continued from Wednesday, 15 November

9:30am **WD1.4 - Avalanche Photodiode with Multiple Multiplication-Layers and Flip-Chip Bonding Package for 4-D FMCW LiDAR Applications**
 » Mr. Yan-Chieh Chang (Taiwan)¹, Mr. LIN YU SHIANG (Taiwan)², Dr. Zohauddin Ahmad (Taiwan)¹, Prof. Chia-Chien Wei (Taiwan)², Prof. You-Chia Chang (Taiwan)³, Prof. Jin-Wei Shi (Taiwan)¹ (1. National Central University, 2. National Sun Yat-Sen University, 3. National Yang-Ming Chiao-Tung University)

9:45am **WD1.5 - Entomological lidar: where lasers and insects meet**
 » Mr. Yiyun Li (United States)¹, Dr. Robert Brick (United States)¹, Prof. Alexei Sokolov (United States)², Prof. Marlan Scully (United States)² (1. Institute for Quantum Science and Engineering, Department of Physics and Astronomy, Texas A&M University, 2. Institute for Quantum Science and Engineering, Department of Physics and Astronomy, Texas A&M University & Department of Physics, Baylor University)

8:30am **Materials, Foundries, and Fabrication V - WE1: Photonic Components for Silicon Photonics**
Palm Event Center KL
 Chaired by: Prof. Andrea Melloni (Italy) and Dr. Wayesh Qarony (United States)

8:30am **WE1.1 - Power Efficiency of Multi-channel Silicon Modulators for Coherent Detection**
 » Mr. Arman Safarnejadian (Canada)¹, Prof. Leslie RUSCH (Canada)¹, Prof. Wei Shi (Canada)¹, Prof. Ming Zeng (Canada)¹ (1. Centre d'optique, photonique et laser (COPL), Université Laval)

8:45am **WE1.2 - Bias-stable Sub-Volt Visible Electro-optic Modulator in Thin-Film Lithium Niobate**
 » Mr. Oguz Tolga Celik (United States)¹, Ms. Nancy Yousry Ammar (United States)¹, Mr. Hubert S. Stokowski (Poland)¹, Mr. Taewon Park (United States)¹, Prof. Amir Safavi-Naeini (United States)¹ (1. Stanford University)

9am **WE1.3 - Integrated Liquid-Crystal-Based Modulators: Packaging Processes and Evaluation Techniques**
 » Mr. Andres Garcia Coletto (United States)¹, Ms. Milica Notaros (United States)¹, Prof. Jelena Notaros (United States)¹ (1. Massachusetts Institute of Technology)

9:15am **WE1.4 - Hybrid III-V/Si high-confinement lateral-current injection optical waveguide in Si photonics**
 » Dr. Yi-jen Chiu (Taiwan)¹, Mr. Chih-min Liao (Taiwan)² (1. National Sun Yat-sen University, 2. National Sun Yat-Sen University)

9:30am **WE1.5 - Liquid crystal-based electrically controlled polarization beam splitter for controlling the logic gate operations**
 » Mr. Vaibhav Sharma (India)¹, Prof. Aloka Sinha (India)¹ (1. Indian Institute of Technology Delhi)

9:45am **WE1.6 - Refractive Index Modification in Thin Film Barium Titanate-on-Insulator and Dry Etch Free Fabrication of Waveguide Devices**
 » Dr. Yu Cao (Singapore)¹, Mr. Hong-Lin Lin (Singapore)¹, Dr. Haidong Liang (Singapore)¹, Prof. Andrew Bettiol (Singapore)¹, Prof. Elhadj Dogheche (France)², Prof. Aaron Danner (Singapore)¹ (1. National University of Singapore, 2. Université Polytechnique Hauts-de-France)

8:30am **Nano Photonics, Plasmonics and Metamaterials V - WF1: Topological Control of Nanostructures and their Application**
Palm Event Center MN
 Chaired by: Jennifer Choy (United States)

8:30am **WF1.2 - Inverse Engineering of Absorption and Scattering in Nanoparticles: A Machine Learning Approach**
 » Mr. Alex Vallone (United States)¹, Dr. Nooshin M. Estakhri (United States)², Prof. Nasim Mohammadi Estakhri (United States)¹ (1. Chapman University, 2. Virginia Tech)

8:45am **WF1.3 - Unitary Control of Optical Absorption and Emission**
 » Dr. Cheng Guo (United States)¹, Prof. Shanhui Fan (United States)¹ (1. Stanford University)



Continued from **Wednesday, 15 November**

9am **WF1.4 - Resonance properties of simple and topological optical lattice slabs**

» [Prof. Yeong Hwan Ko](#) (United States)¹, Prof. Ivan Richer (Czech Republic)², Prof. Robert Magnusson (United States)¹ (1. University of Texas at Arlington, 2. Czech Technical University in Prague)

8:30am **Nonlinear Photonics and Novel Optical Phenomena IV - WG1: Novel Phenomena I**

Palm Event Center O
Chaired by: Dr. Birgit Stiller (Germany) and Alireza Marandi (United States)

8:30am **WG1.1 (Tutorial) - Optical thermodynamics of highly multimode nonlinear photonic systems**

» [Dr. Demetrios Christodoulides](#) (United States)¹ (1. University of Southern California)

9:15am **WG1.2 - Synchronization of forced pulses in an array of semiconductor lasers subject to optical feedback**

» [Dr. Olivier Spitz](#) (United States)¹, Dr. Suyesh Koyu (United States)¹, Dr. Mark Berrill (United States)², Dr. Yehuda Braiman (United States)¹ (1. College of Optics and Photonics, University of Central Florida, 2. Oak Ridge National Laboratory)

9:30am **WG1.3 (Invited) - Landau levels of light in a 2D photonic crystal**

» [Prof. Mikael Rechtsman](#) (United States)¹ (1. Pennsylvania State University)

8:30am **WH1: PHOTONICS INDUSTRY FOCUS: Photonic Products Showcase**

Palm Event Center P
Chaired by: Daniel Renner (United States)

10am **Coffee Break & Exhibits**

Palm Event Center

10:30am **Quantum Photonics IV - WA2: Integrated Quantum Photonics**

Palm Event Center AB
Chaired by: Michael Fanto (United States) and Sarah Sharif (United States)

10:30am **WA2.1 (Tutorial) - VLSI Fabricated Quantum Photonic Integrated Circuits**

» [Prof. Matt Eichenfield](#) (United States)¹ (1. University of Arizona and Sandia National Labs)

11:15am **WA2.2 (Invited) - Scalable semiconductor quantum photonic technologies**

» Prof. Jelena Vuckovic (United States)¹, [Mr. Daniil Lukin](#) (United States)¹ (1. Stanford University)

11:45am **WA2.3 - All-silicon quantum light source by embedding a single color center in a nanophotonic cavity**

» [Dr. Wavesh Qarony](#) (United States)¹, Dr. Walid Redjem (United States)¹, Mr. Yertay Zhiyenbayev (United States)¹, Dr. Vsevolod Ivanov (United States)², Mr. Christos Papapanos (United States)¹, Dr. Wei Liu (United States)², Dr. Kaushalya Jhuria (United States)², Prof. Z. Y. Al Balushi (United States)³, Mr. Scott Dhuey (United States)², Dr. Adam Schwartzberg (United States)², Dr. Liang Tan (United States)², Dr. Thomas Schenkel (United States)², Prof. Boubacar Kante (United States)¹ (1. University of California Berkeley, 2. Lawrence Berkeley National Lab, 3. University of California Berkeley)

12pm **WA2.4 - Towards Single-Pixel Quantum Thermal Imaging**

» [Mr. Haechan An](#) (United States)¹, Mr. Hamza Ather (United States)¹, Prof. Ali Shakouri (United States)¹, Prof. Mahdi Hosseini (United States)² (1. Purdue University, 2. Northwestern University)

10:30am **Optical Communication: Devices, Interconnects and Subsystems IX - WB2: Photonic Integrated Couplers and Switches**

Palm Event Center CD
Chaired by: Prof. Haoshuo Chen (United States) and Dr. Giovanni Milione (United States)



Continued from **Wednesday, 15 November**

- 10:30am **WB2.1 - Passive Alignment of Fiber Array to InP Photonic Integrated Circuit using Suspended Waveguides**
 » [Ms. Wenjing Tian](#) (Netherlands)¹ (1. Eindhoven Hendrik Casimir Institute, Eindhoven University of Technology)
- 10:45am **WB2.2 - Asymmetric Metasurface Couplers for Silicon Photonic Integrated Circuits**
 » [Dr. Sang Yeon Cho](#) (United States)¹, Dr. Weimin Zhou (United States)¹, Dr. Justin Bickford (United States)¹ (1. U.S. Army Research Laboratory)
- 11am **WB2.3 - Bandwidth-Adaptive Single- and Double-Channel Silicon Photonic Contra-Directional Couplers**
 » [Mr. Mohammad Amin Mahdian](#) (United States)¹, Mr. Lorenzo Tunesi (Italy)², Prof. Paolo Bardella (Italy)², Prof. Mahdi Nikdast (United States)¹ (1. Department of Electrical and Computer Engineering, Colorado State University, 2. Department of Electronics and Communications, Politecnico di Torino)
- 11:15am **WB2.4 - Proposal of Dual-Mode Adiabatic 3-dB Coupler via Shortcuts to Adiabaticity at Wavelength 2.1 μm**
 » [Mr. Taichi Muratsubaki](#) (Japan)¹, Prof. Takeshi Fujisawa (Japan)¹, Prof. Takanori Sato (Japan)¹, Prof. Kunimasa Saitoh (Japan)¹ (1. Hokkaido University)
- 11:30am **WB2.5 - Remotely Controllable All-Optical MZI-based Thermo-Optic Switch**
 » [Dr. Zhu Liang](#) (Japan)¹, Prof. Yuya Shoji (Japan)² (1. Department of Electrical and Electronic Engineering, School of Engineering, Tokyo Institute of Technology, 2. Department of Electrical and Electronic Engineering, School of Engineering, Tokyo Institute of Technology & Laboratory for Future Interdisciplinary Research of Science and Technology, Tokyo Institute of Technology)

- 10:30am **Special Symposium on Advances in Neurophotonics II - WC2: Advances in Neurophotonics II**
Palm Event Center E
 Chaired by: Nisan Ozana (Israel)

- 10:30am **WC2.1 (Invited) - Advanced approaches to cerebral blood flow monitoring with diffuse correlation spectroscopy**
 » [Dr. Mitchell Robinson](#) (United States)¹, Dr. Marco Renna (United States)¹, Mr. Zachary Starkweather (United States)¹, Mr. Tom Cheng (United States)², Dr. Jonathan Richardson (United States)³, Dr. Stefan Carp (United States)¹, Dr. Maria Angela Franceschini (United States)¹ (1. Massachusetts General Hospital, 2. Boston University, 3. MIT Lincoln Lab)
- 11am **WC2.2 (Invited) - Development and demonstration of cutting-edge technologies for time-domain diffuse optics**
 » [Dr. Laura Di Sieno](#) (Italy)¹ (1. Politecnico di Milano)
- 11:30am **WC2.3 (Invited) - Imaging through scattering tissue based on NIR Multispectral Image Fusion technique.**
 » [Dr. Amir Shemer](#) (Israel)¹ (1. Jerusalem College of Engineering)

- 10:30am **Detection, Sensing, and Energy VI - WD2: Advances in Photodetection I**
Palm Event Center FG
 Chaired by: Prof. Andreas Beling (United States) and Prof. Jelena Notaros (United States)

- 10:30am **WD2.1 - Improvement of Thermal Dissipation of High-Power Photodiodes**
 » [Mr. Junwu Bai](#) (United States)¹, Dr. Yang Shen (United States)¹, Dr. Peng Yao (United States)², Dr. Dekang Chen (United States)¹, Dr. Matthew Konkol (United States)², Ms. Xiangwen Guo (United States)¹, Mr. Bingtian Guo (United States)¹, Dr. Victoria Carey (United States)², Dr. Joe Campbell (United States)¹, Dr. Dennis Prather (United States)² (1. University of Virginia, 2. Phase Sensitive Innovations, Inc.)
- 10:45am **WD2.2 - Saturation effects in heterogeneously integrated high-speed photodiodes on thin-film lithium niobate**
 » [Ms. Xiangwen Guo](#) (United States)¹, Dr. Lingyan He (United States)², Dr. Mian Zhang (United States)², Prof. Andreas Beling (United States)¹ (1. University of Virginia, 2. Hyperlight Corporation)



Continued from Wednesday, 15 November

11am **WD2.3 - Analysis of Silicon Nitride Trampoline Resonators for Ultrasensitive Infrared Detection**
 » [Mr. Yuncong Liu](#) (United States)¹, Mr. Connor Watkins (United States)¹, [Dr. Philip Feng](#) (United States)¹ (1. University of Florida)

11:15am **WD2.5 - Self-Powered Flexible Broadband Photodetector Enabling Detection Across Visible to Near Infrared Wavelengths**
 » [Mr. Salem Altaieb](#) (United States)¹, Mr. Jiachi Ye (United States)¹, Dr. Haoyan Kang (United States)¹, Dr. Chaobo Dong (United States)², Dr. Chandraman Patil (United States)¹, Prof. Hamed Dalir (United States)¹, Prof. Volker Sorger (United States)¹, Prof. Hao Wang (United States)¹ (1. University of Florida, 2. George Washington University)

10:30am **Optical AI and Computational Photonics IV - WE2: Photonic Reservoir Computing and Processors**
Palm Event Center KL
 Chaired by: Prof. Volker Sorger (United States) and Prof. Nicola Peserico (United States)

10:30am **WE2.1 - Photonic VCSEL-based RC for Classification of RADAR Signals**
 » [Dr. Joshua Robertson](#) (United Kingdom)¹, Mr. Matej Hejda (United Kingdom)¹, Mr. Dafydd Owen-Newns (United Kingdom)¹, Dr. Carmine Clemente (United Kingdom)¹, Dr. Antonio Hurtado (United Kingdom)¹ (1. University of Strathclyde)

10:45am **WE2.2 - Classification and Demultiplexing of OAM-coded signal via Fourier optical convolutional neural network**
 » [Mr. Jiachi Ye](#) (United States)¹, Dr. Haoyan Kang (United States)¹, Dr. Hao Wang (United States)¹, Mr. Salem Altaieb (United States)¹, Prof. Elham Heidari (United States)¹, Prof. Navid Asadizanjani (United States)¹, Prof. Volker Sorger (United States)¹, Prof. Hamed Dalir (United States)¹ (1. University of Florida)

11am **WE2.3 - Impact of Free-carrier Nonlinearities on Silicon Microring-based Reservoir Computing**
 » [Mr. Bernard Jonathan Giron Castro](#) (Denmark)¹, Prof. Christophe Peucheret (France)², Prof. Darko Zibar (Denmark)¹, Dr. Francesco Da Ros (Denmark)¹ (1. Technical University of Denmark, 2. Univ Rennes)

11:15am **WE2.4 - Application-Specific Photonic Integrated Chip for Partial Differential Equations**
 » Mr. Chen Shen (United States)¹, [Mr. Belal Jahannia](#) (United States)², Mr. Behrouz Movahhed Nouri (United States)¹, Prof. Hamed Dalir (United States)², Prof. Nicola Peserico (United States)², Prof. Volker Sorger (United States)² (1. George Washington University, 2. University of Florida)

11:30am **WE2.6 (Invited) - Photonic-Electronic Ultra-Broadband Signal Processing: Concepts and Technologies**
 » [Prof. Christian Kooz](#) (United States)¹ (1. Karlsruhe Institute of Technology (KIT))

10:30am **Nano Photonics, Plasmonics and Metamaterials VI - WF2: Color and Polarization Control in Nanostructures**
Palm Event Center MN
 Chaired by: Prof. Mengjie Yu (United States) and Jennifer Choy (United States)

10:30am **WF2.1 (Invited) - Ultra-Broadband Reflection Suppression by multi-layer resonant metasurfaces**
 » [Prof. Jacob Scheuer](#) (Israel)¹, Mr. Dotan Arad (Israel)¹ (1. Tel-Aviv University)

11am **WF2.2 - Reflective Color Filter Using Series Connection of Semiconductors in Asymmetric Fabry-Perot Nanocavity**
 » [Mr. Kirtan Dixit](#) (United States)¹, Mr. Zachary Houtman (United States)¹, Dr. Don Gregory (United States)¹ (1. University of Alabama in Huntsville)



Continued from **Wednesday, 15 November**

- 11:15am **WF2.3 - A Polarization Dependent Reflective Color Filter with Grating-Based Sb2S3 Phase-Change Material**
 » Mr. Ataollah Kalantari Osgouei (Turkey)¹, Dr. Bahram Khalichi (Turkey)¹, Dr. Zahra Rahimian Omam (Turkey)¹, Dr. Amir Ghobadi (Turkey)¹, Dr. Ekmel Ozbay (Turkey)¹ (1. Bilkent University)
- 11:30am **WF2.4 - Enhanced Induced Circular Dichroism by Anti-symmetric Surface Plasmon Resonance Mode**
 » Dr. Abduwali Abdukerim (China)¹ (1. Shaanxi Normal University)
- 10:30am **Nonlinear Photonics and Novel Optical Phenomena V - WG2: Novel Phenomena II**
Palm Event Center O
 Chaired by: Prof. Jeffrey Moses (United States) and Alireza Marandi (United States)
- 10:30am **WG2.1 (Invited) - Sound waves for optical signal processing**
 » Dr. Birgit Stiller (Germany)¹ (1. Max Planck Institute for the Science of Light)
- 11am **WG2.2 - Impact of Glass Composition on Visible Nonlinear Emission in Nanostructured Barium Aluminum Fluorosilicate Fibers**
 » Mr. Alexander Pietros (United States)¹, Prof. Thomas Hawkins (United States)², Dr. Maxime Cavillon (France)³, Prof. John Ballato (United States)², Prof. Peter Dragic (United States)⁴ (1. Fiber Optics Research and Glass Engineering Laboratory (FORGE) and the Department of Electrical and Computer Engineering, University of Illinois Urbana-Champaign, Urbana, IL, 61801, 2. Clemson University, 3. Institut de Chimie Moléculaire et des Matériaux d'Orsay (ICMMO), Université Paris-Saclay, CNRS, 91400, 4. University of Illinois Urbana-Champaign)
- 11:15am **WG2.3 (Invited) - Scalable quantum photonic devices operating in the telecom C-band**
 » Dr. Elizaveta Semenova (Denmark)¹, Prof. Alexander Huck (Denmark)² (1. DTU Electro, 2. DTU)

- 10:30am **WH2: PHOTONICS INDUSTRY FOCUS: Entrepreneurship - Best Practices**
Palm Event Center P
 Chaired by: Dalma Novak (United States)
- 10:30am **WH2.1 (Invited) - What they don't teach you in start-up school: Mistakes, misunderstandings and the scramble for survival**
 » Dr. Simon Poole (Australia)¹ (1. The Australian National Fabrication Facility (ANFF), and Recipient of the Industry Achievement Award)
- 11am **WH2.2 (Invited) - The Photonics industry in Brazil and promoting entrepreneurship in Photonics within academia**
 » Prof. Newton Frateschi (Brazil)¹ (1. University of Campinas)
- 11:30am **WH2.3 (Invited) - VIGO Photonics - Dream of a man of science that come true to support society with multiple innovations.**
 » Mr. Adam Piotrowski (Poland)¹ (1. VIGO Photonics)
- 12pm **PHOTONICS INDUSTRY FOCUS: Young Professionals Luncheon**
Meyer
- 12pm **Lunch Break (on own)**
- 1:30pm **Biophotonics and Medical Optics VI - WB3: Characterization of Tissues and Cells**
Palm Event Center CD
 Chaired by: Prof. Yang Liu (United States) and Dr. Jamie Guggenheim (United Kingdom)
- 1:30pm **WB3.1 (Invited) - Advances in optical coherence elastography for cell mechanics**
 » Dr. Brendan Kennedy (Australia)¹ (1. University of Western Australia)



Continued from Wednesday, 15 November

2pm **WB3.2 - Continuous Blood Lactate and Potassium Monitoring via Intravascular Catheter Fiber Optic Sensors**

» Dr. Lawrence Renna (United States)¹, Mr. Narciso Guzman (United States)¹, Ms. Emily Vuu (United States)¹, Mr. George Harea (United States)², Dr. Gerardo Ico (United States)¹, Dr. Teryn Roberts (United States)², Dr. Andriy Batchinsky (United States)² (1. Intelligent Optical Systems, 2. Autonomous Reanimation and Evacuation Research Program, The Geneva Foundation)

2:15pm **WB3.3 - Myocardial tissue characterization using Mueller matrix-based optical system**

» Ms. Twinkle Bagha (India)¹, Ms. Seema Patel (India)¹, Ms. Poojasree M (India)¹, Dr. Prasanna Simha Mohan Rao (India)², Prof. Hardik J. Pandya (India)¹ (1. Indian Institute of Science, 2. Sri Jayadeva Institute of Cardiovascular Sciences and Research)

2:30pm **WB3.4 - Highly Sensitive PCF-SPR Biosensor for Glioblastoma Brain Cancer Detection**

» Prof. MUHAMMAD REZAUL HOQUE KHAN (Bangladesh)¹, Mr. Atiqul Alam Chowdhury (Bangladesh)¹, Prof. Mohammad Rakibul Islam (Bangladesh)¹, Mr. Mirza Muntasir Nishat (Bangladesh)¹, Mr. Obydullah NA (Bangladesh)¹, Mr. Md Sanowar Hosen (Bangladesh)² (1. Islamic University of Technology, 2. Daffodil International University)

1:30pm **Microwave Photonics and Vehicular Optics IV - WC3: Photonic Signal Processing**

Palm Event Center E

Chaired by: Siva Yegnanarayanan (United States) and Prof. Xiaoke Yi (Australia)

1:30pm **WC3.1 (Invited) - Mobile Fronthaul Networks: Approaches and Challenges**

» Prof. Ampalavanapillai Nirmalathas (Australia)¹, Mr. Yijie Tao (Australia)¹, Dr. Tingting Song (Australia)¹, Prof. Christina Lim (Australia)¹, Dr. Chathurika Ranaweera (Australia)², Dr. Sampath Edirisinghe (Sri Lanka)³, Dr. Yu Tian (Australia)¹ (1. University of Melbourne, 2. Deakin University, 3. University of Sri Jayewardenepura)

2pm **WC3.2 - Reconfigurable Microwave Photonic Filter with Linear Amplitude Response Based on Quantum Dash Mode-Locked Laser for Instantaneous Frequency Measurement**

» Mr. Yuxuan Xie (Canada)¹, Mr. Mostafa Khalil (Canada)¹, Mr. Jiaren Liu (Canada)², Mr. Zhenguo Lu (Canada)², Mr. Philip Poole (Canada)², Prof. Lawrence Chen (Canada)¹ (1. McGill University, 2. National Research Council Canada)

2:15pm **WC3.3 - A 16-32GHz RF Silicon Photonic Receiver with 22nm FD-SOI CMOS Driver**

» Mr. Yu-Lun Luo (United States)¹, Mr. Dharma Paladugu (United States)¹, Mr. Ramy Rady (United States)¹, Dr. Entesari Kamran (United States)¹, Prof. Samuel Palermo (United States)¹ (1. Texas A&M University)

2:30pm **WC3.4 - Broadband Electro-Optic Comb Generation using a Stable and Low Noise Photonically Filtered Optoelectronic Oscillator**

» Mr. Lawrence Trask (United States)¹, Mr. Srinivas Varma Pericherla (United States)¹, Dr. Chinmay Shirpurkar (United States)¹, Prof. Peter Delfyett (United States)¹ (1. University of Central Florida)

2:45pm **WC3.5 - Self-referenced Full-field Acquisition of Optical Signals Via a Real-time Photonics Spectrogram**

» Mr. Benjamin Crockett (Canada)¹, Mr. Connor Rowe (Canada)¹, Prof. José Azaña (Canada)¹ (1. Institut national de la recherche scientifique)

1:30pm **Detection, Sensing, and Energy VII - WD3: Advances in Photodetection II**

Palm Event Center FG

Chaired by: Prof. Andreas Beling (United States) and Dr. Sadvikas Addamane (United States)

1:30pm **WD3.1 - Enhancing THz Chemical Sensing with Elliptical Cladding Elements in Negative Curvature Fibers**

» Mr. Ethan Howard (United States)¹, Ms. Julia Ward (United States)¹, Mr. Bradley King (United States)¹, Prof. Ahmet Akosman (United States)¹ (1. Roger Williams University)



Continued from Wednesday, 15 November

1:45pm

WD3.2 - Bipolar Photoresponse in p-n Heterojunction for Spectrally Distinctive Photodetection

» Dr. Wei Chen (China)¹, Dr. Danhao Wang (China)², Mr. Yang Kang (China)³, Mr. Dongyang Luo (China)³, Dr. Shi Fang (China)¹, Prof. Haiding Sun (China)⁴ (1. School of Microelectronics, University of Science and Technology of China, 2. Department of Electrical Engineering and Computer Science University of Michigan, 3. School of Microelectronics University of Science and Technology of China, 4. University of Science and Technology of China)

2pm

WD3.3 - Titanium Dioxide Modified Optical Fiber Refractometer

» Dr. Moutusi De (India)¹, Dr. Nirmal Punjabi (India)², Dr. Soumyo Mukherji (India)² (1. Pillai college of Engineering, New Panvel, 2. Indian Institute of Technology Bombay)

2:15pm

WD3.4 - Wearable UV photodetectors based on sol-gel-based metal-oxide films operating at sub-V

» Mr. Sang-joon Park (Korea, Republic of)¹, Prof. Tae-Jun Ha (Korea, Republic of)¹ (1. Kwangwoon University)

1:30pm

Materials, Foundries, and Fabrication VI - WE3: Novel Photonic Components

Palm Event Center KL

Chaired by: Dr. Sarvagya Dwivedi (United States) and Dr. Wayesh Qarony (United States)

1:30pm

WE3.1 (Invited) - Ultra-low tuning power electro-optically tunable laser for coherent WDM systems

» Dr. Yuta Ueda (Japan)¹ (1. NTT Device Technology Labs.)

2pm

WE3.2 - Second-order optical nonlinearities in ferroelectric ScAlN for quantum photonics

» Mr. Liangnan Liu (United States)¹, Mr. Pierre-Luc Thériault (Canada)², Dr. Shuai Liu (United States)¹, Dr. Ding Wang (United States)¹, Mr. Wade Wu (United States)¹, Ms. Qiannan Wen (United States)¹, Prof. Zheshen Zhang (United States)¹, Dr. Moe Soltani (United States)³, Prof. Mackillo Kira (United States)¹, Prof. Stéphane Kéna-Cohen (Canada)², Prof. Zetian Mi (United States)¹ (1. University of Michigan, 2. École Polytechnique de Montréal, 3. Raytheon BBN Technologies)

2:15pm

WE3.3 (Invited) - The Berkeley Surface Emitting Laser (BerkSEL): a scale-invariant laser?

» Prof. Boubacar Kante (United States)¹ (1. University of California Berkeley)

2:45pm

WE3.4 - Mid-infrared All-ZBLAN Optical Fiber Couplers

» Mr. Gebrehiwot Tesfay Zeweldj (Canada)¹, Mr. Yi Fan Li (Canada)¹, Mr. Mathieu Laparé (Canada)¹, Mr. Joshua Xu (Canada)¹, Mr. Juan Cheng Li (Canada)¹, Mr. Mohsen Rezaei (Canada)¹, Mr. Hosne Mobarok Shamim (Canada)¹, Prof. Martin Rochette (Canada)¹ (1. McGill University)

1:30pm

Nano Photonics, Plasmonics and Metamaterials VII - WF3: Integrated Photonics for On-chip Modulation

Palm Event Center MN

Chaired by: Dr. Biqin Huang (United States)

1:30pm

WF3.1 (Invited) - Integrated lithium niobate microwave photonics

» Dr. Cheng Wang (Hong Kong)¹ (1. City University of Hong Kong)

2pm

WF3.2 (Invited) - Ultrafast Photonics on Thin Film Lithium Niobate

» Prof. Mengjie Yu (United States)¹ (1. University of Southern California)

2:30pm

WF3.3 - ITO-based Spatial Light Modulators for Potential Integration with VCSELs and Photonic Integrated Circuits

» Prof. Hao Wang (United States)¹, Dr. Martin Thomaschewski (United States)², Mr. Jiachi Ye (United States)¹, Dr. Haoyan Kang (United States)¹, Dr. Yaliang Gui (United States)², Dr. Chaobo Dong (United States)², Dr. Chandraman Patil (United States)¹, Prof. Elham Heidari (United States)¹, Prof. Volker Sorger (United States)¹, Prof. Hamed Dalir (United States)¹ (1. University of Florida, 2. George Washington University)



Continued from **Wednesday, 15 November**

2:45pm **WF3.4 - VO₂-based All-optical Reflection Modulator for 2µm Wave Band**

» Mr. Asif Hossain Bhuiyan (Bangladesh)¹, Ms. Shamima Akter Mitu (United States)², Dr. Sajid Muhaimin Choudhury (Bangladesh)³ (1. Brac University, Dhaka, 2. Northwestern University, 3. Department of Electrical and Electronic Engineering, Bangladesh University of Engineering and Technology, Dhaka 1205)

1:30pm **Light Sources VI - WG3: Optimizing at Extreme Wavelengths (UV, QCL, MIR)**

Palm Event Center O

Chaired by: Dr. Di Liang (United States) and Prof. Boon S. Ooi (Saudi Arabia)

1:30pm **WG3.1 - Improved Current Injection for Resonant Leaky-Wave Coupled Arrays of Mid-Infrared Quantum Cascade Lasers**

» Mr. Shuqi Zhang (United States)¹, Dr. Jae Ha Ryu (United States)¹, Dr. Jeremy Kirch (United States)¹, Prof. Dan Botez (United States)¹, Prof. Luke Mawst (United States)¹, Mr. Tom Earles (United States)², Mr. Steven Ruder (United States)² (1. University of Wisconsin, Madison, 2. DRS Daylight Solutions)

1:45pm **WG3.2 - Active-Region Design of Mid-Infrared Quantum Cascade Lasers via Machine Learning**

» Mr. Yunhan Hu (United States)¹, Mr. Suraj Suri (United States)¹, Dr. Jeremy Kirch (United States)¹, Dr. Benjamin Knipfer (United States)¹, Dr. Steve Jacobs (United States)², Mr. Sreenivas Nair (United States)¹, Mr. Ziyu Zhou (United States)¹, Prof. Zongfu Yu (United States)¹, Prof. Dan Botez (United States)¹, Prof. Luke Mawst (United States)¹ (1. University of Wisconsin, Madison, 2. Intraband LLC)

2pm **WG3.3 - Development of novel far-UVC light source for high germicidal effects and low human health risk.**

» Mr. Koichi Shinoda (Japan)¹, Dr. Thi Kim Ngan Bui (Japan)¹, Dr. Kazuaki Mawatari (Japan)¹, Mr. Hitoshi Hirakawa (Japan)², Mr. Kenji Awamoto (Japan)², Mr. Masayuki Wakitani (Japan)², Dr. Tsutae Shinoda (Japan)², Prof. Akira Takahashi (Japan)¹ (1. Tokushima University, 2. Shikoh Tech Co., Ltd.)

2:15pm **WG3.4 - All-fiber erbium-doped ZBLAN ring cavity laser**

» Mr. Nasrollah Karampour (Canada)¹, Mr. Gebrehiwot Tesfay Zeweldi (Canada)¹, Prof. Martin Rochette (Canada)¹ (1. McGill University)

2:30pm **WG3.5 - Micro ring-structured deep ultraviolet LEDs with enhanced light extraction efficiency**

» Mr. Muhammad Hunain Memon (China)¹, Mr. Huabin Yu (China)¹, Mr. Hongfeng Jia (China)², Ms. Shudan Xiao (China)¹, Prof. Haiding Sun (China)¹ (1. University of Science and Technology of China, 2. School of Microelectronics, University of Science and Technology of China, Hefei, Anhui, 230026, China)

2:45pm **WG3.6 - Multi-Mode Interference Reflector for Integrated Photonics**

» Ms. Fwoziah Albeladi (United Kingdom)¹, Dr. Sara Gillgrass (United Kingdom)¹, Ms. Josie Travers-Nabialek (United Kingdom)¹, Dr. Richard Forrest (United Kingdom)¹, Dr. Pawan Mishra (United Kingdom)¹, Dr. Tahani Albeladi (United Kingdom)¹, Dr. Craig Allford (United Kingdom)¹, Dr. Samuel Shutts (United Kingdom)¹, Prof. Peter Smowton (United Kingdom)¹ (1. School of Physics and Astronomy, Cardiff University)

3pm **Coffee Break & Exhibits**

Palm Event Center

3:30pm **WI4: Plenary Session & IEEE Photonics Society Awards Recipients**

Citron East/West

Chaired by: Dominique Dagenais (United States)

3:30pm **WI4.1 (Plenary) - Nanophotonic Biosensors for Ultrasensitive and Decentralised Diagnostics at the Point-of-Need**

» Prof. Laura Lechuga (Spain)¹ (1. Professor, Catalan Institute of Nanoscience and Nanotechnology (ICN2), CSIC, BIST and CIBER-BBN)

4:30pm **WI4.2 - (Plenary) Full-stack Design of Scalable Quantum Links**

» Prof. Dirk Englund (United States)¹ (1. Professor, Quantum Photonics Laboratory, Massachusetts Institute of Technology)

5:30pm **PHOTONICS INDUSTRY FOCUS: Industry Reception and CREOL Lab Tours**

CREOL, The College of Optics and Photonics at UCF



Thursday, 16 November

- 8:30am **Propagation, Spectroscopy, and Imaging III - ThA1: Advanced Imaging Techniques**
Palm Event Center AB
Chaired by: Prof. Kebin Shi (China)
- 8:30am **ThA1.1 (Invited) - Single objective light sheet imaging by using axial-to-lateral signal mapping**
» [Prof. Kebin Shi](#) (China)¹ (1. Peking University)
- 9am **ThA1.2 - Selection of Illumination Angles for Object Rotation and Illumination Scanning Configurations in Optical Diffraction Tomography**
» [Mr. John Aziz](#) (United States)¹, Dr. Seth Smith-Dryden (United States)², Prof. Bahaa Saleh (United States)³, Dr. Guifang Li (United States)³ (1. CREOL, The College of Optics and Photonics, University of Central Florida, Orlando, FL 32816, USA, 2. CREOL, The college of Optics and Photonics, University of Central Florida, 4304 Scorpius Street, 32816, Orlando, USA, 3. University of Central Florida)
- 9:15am **ThA1.3 - Deeply subwavelength terahertz solid immersion microscopy using rutile optics.**
» [Mr. Vladislav Zhelnov](#) (Russian Federation)¹, Dr. Nikita Chernomyrdin (Russian Federation)¹, Dr. Gleb Katyba (Russian Federation)², [Prof. Maksim Skorobogatiy](#) (Canada)³, Dr. Kirill Zaytsev (Russian Federation)¹ (1. Prokhorov General Physics Institute, 2. Osipyan Institute of Solid State Physics, 3. Polytechnique Montréal)
- 9:30am **ThA1.4 - Characterising optical randomness of the surface and bulk in multiply scattering media**
» [Mr. Shubham Dawda](#) (United States)¹, Dr. Aristide Dogariu (United States)¹ (1. University of Central Florida)
- 9:45am **ThA1.5 - Ultrafast Visible Light Imaging: 100 Gigavoxels/sec Time-Stretch 4D-Optical Coherence Tomography**
» [Prof. Hossein Asghari](#) (United States)¹ (1. Loyola Marymount University)

- 8:30am **Light Sources VII - ThB1: Communication and Comb Sources**
Palm Event Center CD
Chaired by: Md. Jarez Miah (Bangladesh) and Prof. Peter Smowton (United Kingdom)
- 8:30am **ThB1.1 - 40-nm widely tunable laser with Mach-Zehnder interferometer based intra-cavity filter**
» [Mrs. Tasfia Kabir](#) (Netherlands)¹, Mr. Stefano Tondini (Netherlands)¹, Prof. Martijn Heck (Netherlands)¹ (1. Eindhoven University of Technology)
- 8:45am **ThB1.2 - Active and passive mode-locking of a laser using a graphene modulator on an SOI chip**
» [Mr. Tom Reep](#) (Belgium)¹, Mr. Cheng-Han Wu (Belgium)¹, Dr. Steven Brems (Belgium)², Dr. Didit Yudistira (Belgium)², Dr. Joris Van Campenhout (Belgium)², Dr. Marianna Pantouvaki (Belgium)², Prof. Dries Van Thourhout (Belgium)¹, Prof. Bart Kuyken (Belgium)³ (1. UGent - IMEC, 2. IMEC, 3. University Gent-imec)
- 9am **ThB1.3 - Low Phase Noise InP-SiN Hybrid Mode-Locked Laser working at 3.64 GHz**
» [Dr. François DUPORT](#) (France)¹, Dr. Sylvain Boust (France)¹, Dr. Yasmine Ibrahim (France)¹, Dr. Ghaya Baili (France)², Dr. Guenole Dande (France)², Dr. Stéphanie Garcia (France)³, Dr. Quentin Wilmart (France)³, Dr. Alexandre Garreau (France)¹, Mr. Jean-François Paret (France)¹, Ms. Catherine Fortin (France)¹, Mr. Karim Mekhazni (France)¹, Mr. Harry Gariah (France)¹, Mr. Philippe Charbonnier (France)¹, Dr. Fabrice Blache (France)¹, Dr. Frédéric van Dijk (France)¹ (1. III-V lab, 2. Thales Research and Technology, 3. CEA-LETI)
- 9:15am **ThB1.4 - Broadband Quantum-Dot Frequency-Modulated Comb Laser Induced by Kerr Nonlinearity**
» [Dr. Bozhang Dong](#) (United States)¹, Mr. Mario Dumont (United States)¹, Dr. Osama Terra (United States)¹, Dr. Heming Wang (United States)¹, Mr. Andrew Netherton (United States)¹, Prof. John Bowers (United States)¹ (1. University of California Santa Barbara)



Continued from **Thursday, 16 November**

9:30am **ThB1.5 - Fabricating And Testing AlGaInAs Multiple Quantum-Well Laser Diodes For Space Application**

» Mr. [Di Huang](#) (United States)¹, Mr. Bryant Colin (United States)², Mr. Kellen Arnold (United States)², Dr. Enxia Zhang (United States)², Prof. Sharon Weiss (United States)², Prof. Robert Reed (United States)², Prof. Peter Delfyett (United States)¹ (1. University of Central Florida, 2. Vanderbilt University)

9:45am **ThB1.6 - External cavity optical filtering and self-injection locking a chip-scale Mode-locked laser using a Fabry-Perot Etalon**

» Mr. [Srinivas Varma Pericherla](#) (United States)¹, Mr. Lawrence Trask (United States)¹, Dr. Chinmay Shirpurkar (United States)¹, Dr. Ashish Bhardwaj (United States)², Dr. Gloria Hoefler (United States)², Prof. Peter Delfyett (United States)¹ (1. University of Central Florida, 2. Infinera corporation)

8:30am **Microwave Photonics and Vehicular Optics V - ThC1: Integrated Microwave Photonics**

Palm Event Center E

Chaired by: Charles Middleton (United States) and Siva Yegnanarayanan (United States)

8:30am **ThC1.1 (Invited) - Towards system-on-chip integration of photonic-based coherent distributed Synthetic Aperture Radar**

» Dr. Luca Rinaldi (Italy)¹, Dr. Federico Camponeschi (Italy)², Dr. Haris Amir (Italy)², Dr. Salvatore Maresca (Italy)³, Dr. Manuel Reza (Italy)², Dr. Gaurav Pandey (Italy)², Dr. Muhammad Imran (Italy)², Dr. Paolo Ghelfi (Italy)¹, Dr. Mirco Scaffardi (Italy)¹, Prof. [Antonella Bogoni](#) (Italy)⁴ (1. CNIT, 2. Sant'Anna School, 3. CNR - IEIIT, 4. Sant'Anna School-CNIT)

9am **ThC1.2 - Integrated Microwave-to-Optical Converters on Thin-Film Lithium Niobate**

» Ms. [Farzaneh Arab Juneghani](#) (United States)¹, Mr. Milad Gholipour Vazimali (United States)¹, Mr. Ectis Velazquez (United States)¹, Dr. Kim Fook Lee (United States)², Prof. Xun Gong (United States)¹, Prof. Gregory Kanter (United States)², Prof. Sasan Fathpour (United States)³ (1. University of Central Florida, 2. NuCrypt LLC, 3. University of Florida)

9:15am **ThC1.3 - Compact and High-extinction-ratio Integrated Optical Switch for Optical True Time Delay**

» Dr. [Jianfu Wang](#) (Australia)¹, Dr. Shijie Song (Australia)¹, Dr. Liwei Li (Australia)¹, Prof. Linh Nguyen (Australia)¹, Prof. Xiaoke Yi (Australia)¹ (1. University of Sydney)

9:30am **ThC1.4 (Invited) - High dynamic range integrated microwave photonic filters**

» Prof. [David Marpaung](#) (Netherlands)¹ (1. Nonlinear Nanophotonics group, University of Twente)

8:30am **Optical AI and Computational Photonics V - ThD1: Reconfigurable Photonic Systems**

Palm Event Center FG

Chaired by: Prof. Nicola Peserico (United States)

8:30am **ThD1.1 (Invited) - 3D photonic interconnects for scalable neural networks**

» Dr. [Javier Porte Parera](#) (United Kingdom)¹, Mr. Adrià Grabulosa (France)², Dr. Johnny Moughames (France)², Dr. Muamer Kadic (France)², Dr. Daniel Brunner (France)³ (1. University of Strathclyde, 2. FEMTO-ST Institute, 3. CNRS)

9am **ThD1.2 - A Multi-Layer Topologically Reconfigurable Broadcast-and-Weight Photonic Neural Network**

» Mr. [Joshua Lederman](#) (United States)¹, Mr. Yusuf Jimoh (United States)¹, Mr. Simon Bilodeau (United States)¹, Mr. Weipeng Zhang (United States)¹, Mr. Eric Blow (United States)², Dr. Thomas Ferreira de Lima (United States)², Prof. Bhavin Shastri (Canada)³, Prof. Paul Prucnal (United States)¹ (1. Princeton University, 2. NEC Laboratories America, Inc., 3. Queen's University)

9:15am **ThD1.3 - Sparse coherent photonic processor for solving eigenmode problems**

» Mr. [Andrew Klein](#) (United States)¹, Dr. Zheyuan Zhu (United States)¹, Mr. Dewan Saiham (United States)¹, Dr. Guifang Li (United States)¹, Dr. Sean Pang (United States)¹ (1. University of Central Florida)



Continued from **Thursday, 16 November**

9:30am **ThD1.4 - Optical Freespace Michelson Interferometric Reconfigurable Full Complex Convolution Module**
 » Dr. Haoyan Kang (United States)¹, Mr. Jiachi Ye (United States)¹, Dr. Hao Wang (United States)¹, Prof. Hamed Dalir (United States)¹, Prof. Volker Sorger (United States)¹ (1. University of Florida)

9:45am **ThD1.5 - Thermal Crosstalk Modeling and Compensation for Programmable Photonic Processors**
 » Mr. Ali Cem (Denmark)¹, Mr. David Sanchez-Jacome (Spain)², Dr. Daniel Pérez-López (Spain)², Dr. Francesco Da Ros (Denmark)¹ (1. Technical University of Denmark, 2. iPronics Programmable Photonics S.L.)

8:30am **Nonlinear Photonics and Novel Optical Phenomena VI - ThE1: Ultrafast Photonics**
Palm Event Center KL
 Chaired by: Dr. Cheng Wang (Hong Kong) and Alireza Marandi (United States)

8:30am **ThE1.1 (Invited) - Coherent Amplification in Electron Microscopy of Polariton Wavepackets**
 » Prof. Ido Kaminer (Israel)¹ (1. Technion)

9am **ThE1.2 (BEST STUDENT PAPER FINALIST) - Single-shot Waveform Measurement of Shortwave Infrared Pulses for Nonlinear Propagation Detection**
 » Ms. Chau Truong (United States)¹, Dr. Yangyang Liu (United States)¹, Mr. Dipendra Khatri (United States)¹, Prof. Bonggu Shim (United States)², Prof. Michael Chini (United States)¹ (1. University of Central Florida, 2. Binghamton University)

9:15am **ThE1.3 - Efficient supercontinuum generation in a filter-less cascade of silica, fluoride, and chalcogenide fibers**
 » Mr. Md Hosne Mobarok Shamim (Canada)¹, Mr. Gebrehiwot Tesfay Zeweldi (Canada)¹, Prof. Martin Rochette (Canada)¹ (1. McGill University)

9:30am **ThE1.4 (Invited) - Hybridized nonlinear optics for high quantum efficiency parametric amplification and beyond**
 » Prof. Jeffrey Moses (United States)¹ (1. Cornell University)

8:30am **Nano Photonics, Plasmonics and Metamaterials VIII - ThF1: Nanoscale Light-matter Interactions in Quantum Materials**
Palm Event Center MN
 Chaired by: Mr. Jiangnan Liu (United States)

8:30am **ThF1.1 (Invited) - Integrated Photonic with Divacancy Defects in 4H-SiC-on-Insulator Platform**
 » Dr. Biqin Huang (United States)¹, Dr. Brett Yurash (United States)¹, Dr. Samuel Whiteley (United States)¹, Mr. Xiwei Bai (United States)¹, Mr. Tsung Yang (United States)¹, Dr. Tong Wang (United States)¹, Dr. Shuoqin Wang (United States)¹, Dr. Thaddeus Ladd (United States)¹, Dr. Shanying Cui (United States)¹ (1. HRL Laboratories LLC)

9am **ThF1.2 (Invited)- Nanophotonic Quantum Sensing with Solid-State Spin Qubits**
 » Prof. Laura Kim (United States)¹, Dr. Hyeonrak Choi (United States)², Dr. Matthew Trusheim (United States)², Mr. Hanfeng Wang (United States)², Prof. Dirk Englund (United States)² (1. UCLA, 2. MIT)

9:30am **ThF1.3 - Enhancing the luminescence efficiency of colloidal quantum dots in compound supraparticles**
 » Dr. Pedro Alves (United Kingdom)¹, Dr. Dimitars Jevtics (United Kingdom)¹, Prof. Michael Strain (United Kingdom)¹, Prof. Martin D. Dawson (United Kingdom)¹, Dr. Nicolas Laurant (United Kingdom)¹ (1. University of Strathclyde)

9:45am **ThF1.4 - Photocatalytic-ready Supraparticle Lasers**
 » Dr. Charlotte J. Eling (United Kingdom)¹, Dr. Nicolas Laurant (United Kingdom)¹ (1. University of Strathclyde)

10am **Coffee Break & Exhibits**
Palm Event Center



Continued from Thursday, 16 November

10:30am **IPC 2023 Post-Deadline Presentations and Closing Ceremony**
Citron East/West
 Chaired by: Dr. Di Liang (United States)

10:30am **Best Student Paper and Best Student Poster Awards Announcement**
 » Dr. Di Liang (United States)¹ (1. University of Michigan)

10:45am **PD1 - Rate-adaptive geometric shaping for BICM with off-the-shelf component blocks**
 » Dr. Metodi Plamenov Yankov (Denmark)¹, Dr. Smaranika Swain (Denmark)¹, Dr. Francesco Da Ros (Denmark)¹ (1. Technical University of Denmark)

10:57am **PD2 - Record Photon Information Efficiency with Optical Clock Transmission and Recovery of 12.5 bits/photon After 77 dB of Optical Path Loss**
 » Mr. Cheng Guo (United States)¹, Dr. Sai Kanth Dacha (United States)¹, Dr. Rene-jean Essiambre (United States)¹, Dr. Alexei Ashikhmin (United States)¹, Dr. Andrea Blanco-Redondo (United States)², Dr. Frank R. Kschischang (Canada)³, Dr. Konrad Banaszek (Poland)⁴, Dr. Matthew Weiner (United States)¹, Dr. Rose Kopf (United States)¹, Dr. Ian Crawley (United States)¹, Dr. Mohamad Hossein Idjadi (United States)¹, Dr. Ayed A. Sayem (United States)¹, Dr. Jie Zhao (United States)¹, Mr. James D. Sandoz (United States)⁵, Dr. Nicolas Fontaine (United States)¹, Ms. Nicole Menkart (United States)¹, Dr. Roland Ryf (United States)¹, Mr. John Cloonan (United States)¹, Dr. Michael Vasilyev (United States)⁶, Dr. Thomas E. Murphy (United States)⁷, Dr. Ells Burrows (United States)¹ (1. Nokia Bell Labs, 2. CREOL, University of Central Florida, 3. University of Toronto, 4. University of Warszawa, 5. Nokia, 6. The University of Texas at Arlington, 7. University of Maryland)

11:09am **PD3 - Surface acoustic wave Brillouin scattering in a photonic integrated circuit**
 » Mr. Govert Neijts (Australia)¹, Dr. Choon Kong Lai (Australia)¹, Ms. Maren Kramer Riseng (Australia)¹, Dr. Duk-Yong Choi (Australia)², Dr. Kunlun Yan (Australia)², Prof. David Marpaung (Netherlands)³, Prof. Stephen Madden (Australia)², Prof. Benjamin Eggleton (Australia)¹, Dr. Moritz Merklein (Australia)¹ (1. Institute of Photonics and Optical Science (IPOS) and The University of Sydney Nano Institute (Sydney Nano), School of Physics, The University of Sydney, NSW 2006, Australia, 2. Laser Physics Centre, Research School of Physics, Australian National University, Canberra, ACT 2601, Australia, 3. Nonlinear Nanophotonics group, University of Twente)

11:21am **PD4 - High-speed Physical Random Number Generation Using Self-Chaotic Broad-Area VCSEL**
 » Ms. Hang Lu (Saudi Arabia)¹, Dr. Omar Alkhazragi (Saudi Arabia)¹, Dr. Tien Khee Ng (Saudi Arabia)¹, Prof. Boon S. Ooi (Saudi Arabia)¹ (1. Photonics Laboratory, King Abdullah University of Science and Technology (KAUST))

11:33am **PD5 - Foundry-fabricated silicon source of broadband polarization entanglement**
 » Dr. Alexander Miloshevsky (United States)¹, Mr. Lucas Cohen (United States)², Mr. Karthik Myilswamy (United States)², Ms. Saleha Fatema (United States)², Dr. Muneer Alshowkan (United States)¹, Dr. Hsuan-Hao Lu (United States)¹, Prof. Andrew Weiner (United States)², Dr. Joseph Lukens (United States)³ (1. Oak Ridge National Laboratory, 2. Purdue University, 3. Arizona State University)

11:45am **PD6 - Ultra low density and high performance InAs quantum dot single photon emitters**
 » Dr. Chen Shang (United States)¹, Mr. Marco De Gregorio (Germany)², Mr. Quirin Buchinger (Germany)², Prof. Sven Hofling (Germany)², Prof. John Bowers (United States)¹ (1. University of California Santa Barbara, 2. University of Wurzburg)