

Conference Agenda

Session Overview

Date: Monday, 17/June/2024

7:45am - 8:45am	Registration I Location: Foyer	
8:45am - 10:45am	Plenary IA Location: Ford + Generali Rooms Chair: Jeremy Witzens 8:45am - 9:15am Welcome Ulrich Rüdiger , Jeremy Witzens , Joyce Poon , Lars Zimmermann , Wolfgang Freude RWTH Aachen University, Germany 9:15am - 10:00am Nanophotonics for tailoring radiation from fast electrons Marin Soljacic Massachusetts Institute of Technology 10:00am - 10:45am Panel "PIC Technologies" Olga Razskazovskaya ¹ , Martin Schell ² , Christine Silberhorn ³ , Roman Körner ⁴ , Lars Zimmermann ⁵ , Stijn Cuyvers ⁶ 1: Optica; 2: Fraunhofer Heinrich-Hertz-Institut (HHI); 3: University of Paderborn; 4: Trumpf Photonic Components GmbH; 5: Leibniz Institute for Innovative Microelectronics (IHP); 6: Ligentec SA	
10:45am - 11:15am	Coffee Break I: Sponsored by Ligentec SA Location: Foyer	
11:15am - 12:30pm	FORD IA: Quantum Technologies Location: Ford Room Chair: Carlos Errando Herranz 11:15am - 11:45am Integrated photonic quantum technologies Anthony Laing Bristol University 11:45am - 12:15pm Quantum Key Distribution with Integrated Photonics Andrew Shields Toshiba Europe 12:15pm - 12:30pm On-chip phase sensing with undetected photons Stefano Signorini ¹ , Chiara Michelini ² , Lorenzo Pavesi ² , Valerio Pruneri ^{1,3} 1: ICFO - Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology, 08860, Castelldefels (Barcelona), Spain; 2: Department of Physics, University of Trento, Via Sommarive 14, 38123, Trento, Italy; 3: ICREA-Institució Catalana de Recerca i Estudis Avançats, 08010 Barcelona, Spain	GENERALI IA: Communication Systems and Microwave Photonics Location: Generali Room Chair: Peter Thomas Rakich 11:15am - 11:45am Next-generation coherent pluggables enabled through vertical integration Daniel Semrau Infinera 11:45am - 12:00pm Sustainable Pbps Co-Packaged Optics using Passively Assembled, Flip-Chip Evanescent Couplers Drew Michael Weninger ¹ , Samuel Serna ² , Luigi Ranno ¹ , Lionel Kimerling ¹ , Anuradha Agarwal ¹ 1: Massachusetts Institute of Technology, Cambridge MA, USA; 2: Bridgewater State University, Bridgewater MA, USA 12:00pm - 12:15pm Observation of fundamental charge noise in electro-optic photonic integrated circuits Junyin Zhang ^{1,2} , Zihan Li ^{1,2} , Johann Riemensberger ^{1,2,3} , Grigory Lihachev ^{1,2} , Guanhao Huang ^{1,2} , Tobias Kippenberg ^{1,2} 1: Institute of Physics, Swiss Federal Institute of Technology, Lausanne (EPFL), CH-1015 Lausanne, Switzerland; 2: Center of Quantum Science and Engineering, EPFL, CH-1015 Lausanne, Switzerland; 3: Department of Electronic Systems, Norwegian University of Science and Technology, 7491 Trondheim, Norway 12:15pm - 12:30pm Simultaneous Notch Filtering and True Time Delay RF Photonic Front-end Shangqing Shi ^{1,2} , Kaixuan Ye ¹ , M.T. van den Berg ¹ , Okky Daulay ¹ , Gaojian Liu ¹ , David Marpaung ¹

12:30pm
-
2:00pm

Lunch I
Location: [Foyer](#)

2:00pm
-
2:45pm

Plenary IB
Location: [Ford + Generali Rooms](#)
Chair: [Lars Zimmermann](#)

2:00pm - 2:45pm

Integrated devices and high-dimensional photonic systems for quantum technologies

[Christine Silberhorn](#)
University of Paderborn

2:45pm
-
3:45pm

Poster I: Sponsored by LioniX International
Location: [Foyer](#)

CMOS electronic circuits in standard Silicon Photonics

[Monica Crico](#)¹, [Samuele De Gaetano](#)¹, [Andres Martinez](#)¹, [Francesco Morichetti](#)¹, [Andrea Melloni](#)¹, [Giorgio Ferrari](#)², [Marco Sampietro](#)¹, [Francesco Zanetto](#)¹

1: Department of Electronics, Information and Bioengineering, Politecnico di Milano, p.za Leonardo da Vinci 32, Milano, Italy; 2: Department of Physics, Politecnico di Milano, p.za Leonardo da Vinci 32, Milano, Italy

Comparison of thermo-optic phase shifters in silicon platforms

[Yuxi Fang](#)¹, [Hong Deng](#)¹, [Xiangfeng Chen](#)¹, [Halil Cuma](#)¹, [Nagarjun K.P.](#)¹, [Filippo Ferraro](#)², [Guy Lepage](#)², [Peter De Heyn](#)², [Wim Bogaerts](#)¹

1: Ghent University, Belgium; 2: imec

High rate silicon integrated source of hyperentangled photon pairs

[Marcello Bacchi](#)¹, [Linda Gianini](#)^{2,3}, [Andrea Barone](#)², [Jonathan Faugier-Tovar](#)³, [Sara Congia](#)^{1,3}, [Massimo Borghi](#)¹, [Noemi Tagliavacche](#)¹, [Luca Zatti](#)², [Quentin Wilmart](#)³, [Ségolène Olivier](#)³, [Marco Liscidini](#)¹, [Matteo Galli](#)¹, [Daniele Bajoni](#)²

1: Dipartimento di Fisica, Università di Pavia, Via A. Bassi 6, 27100 Pavia, Italy; 2: Dipartimento di Ingegneria Industriale e dell'Informazione, Università di Pavia, Via A. Ferrata 5, 27100 Pavia, Italy; 3: Université Grenoble Alpes, CEA, LETI, F38000 Grenoble, France

Optomechanical Crystal Cavities for Mechanically-enabled All-Optical Upconversion of 3GPP 5G NR Signals

[Raúl Ortiz](#), [Vicente Fito](#), [Maria Morant](#), [Laura Mercadé](#), [Roberto Llorente](#), [Alejandro Martínez](#)
Nanophotonics Technology Center (NTC), Universitat Politècnica de València (UPV), Spain

Integrated Microwave Photonic Notch Filter in Thin-film Lithium Niobate

[Chuangchuang Wei](#)¹, [Hanke Feng](#)², [Kaixuan Ye](#)¹, [Cheng Wang](#)², [David Marpaung](#)¹

1: Nonlinear Nanophotonics Group, MESA+ Institute of Nanotechnology, University of Twente, Enschede, Netherlands; 2: Department of Electrical Engineering & State Key Laboratory of Terahertz and Millimeter Waves, City University of Hong Kong, Hong Kong, China

Generating Photon Pairs in a Hybrid Si-BTO Platform

[Daniel William Marchant](#)^{1,2}, [Imad Faruque](#)¹, [Jorge Baretto](#)¹

1: Quantum Engineering Technology Labs, University of Bristol, NSQI building, Tyndall Avenue, Bristol, BS8 1FD; 2: Quantum Engineering Centre for Doctoral Training, University of Bristol, NSQI building, Tyndall Avenue, Bristol, BS8 1FD

Microwave Photonic Notch Filter Using Stimulated Brillouin Scattering in a Si₃N₄-TeO₂ Hybrid Waveguide

[Akhileshwar Mishra](#)¹, [Yvan Klaver](#)¹, [Randy te Morsche](#)¹, [Bruno Luís Segat Frare](#)², [Batoul Hashemi](#)², [Niloofar Majidian Taleghani](#)², [Pooya Torab Ahmadi](#)², [Evan Jonker](#)², [Jonathan Bradley](#)², [David Marpaung](#)¹

1: University of Twente, Netherlands, The; 2: McMaster University

Investigating the Spectral Response of a Taiji-CROW Device

[Bulent Aslan](#), [Riccardo Franchi](#), [Stefano Biasi](#), [Salamat Ali](#), [Lorenzo Pavesi](#)
University of Trento, Italy

Multimodal semi-analytical model for bound states in the continuum and unidirectional guided resonances in a photonic crystal

[Thomas Delplace](#)¹, [Tom van Loon](#)², [Minpeng Liang](#)², [Jaime Gómez Rivas](#)², [Bjorn Maes](#)¹

1: University of Mons, Belgium; 2: Eindhoven Hendrik Casimir Institute

An efficient singlet-triplet spin qubit to fiber interface assisted by a photonic crystal cavity

Kui Wu¹, Sebastian Kindel², Thomas Descamps², Tobias Hangleiter², Jan Christoph Müller², Rebecca Rodrigo¹, Florian Mergel¹, Hendrik Bluhm², Jeremy Witzens¹

1: Institute of Integrated Photonics, RWTH Aachen University, Aachen, 52074, Germany; 2: Quantum Technology Group, 2nd Institute of Physics, RWTH Aachen University, Aachen, 52074, Germany

Integrated spin-phonon devices based on SiC on insulator platform

Ruoming Peng¹, Yan Tung Kong¹, Joerg Wrachtrup^{1,2}

1: University of Stuttgart, Germany; 2: Max-Planck Institute for Solid-state Research, Germany

Thermoelastic Acousto-Optic Modulation in Thin-Film Lithium Niobate Circuit

Zheng Zheng¹, Hanke Feng², Ahmet Tarik Isik¹, Kaixuan Ye¹, Peter van der Slot¹, Cheng Wang², David Marpaung¹

1: University of Twente, Enschede, The Netherlands; 2: City University of Hong Kong, Hong Kong, China

Photonic Integrated Filter in Silicon Nitride Technology for High-Performance Microwave Photonics Applications

Valentina Gemmato¹, Filippo Scotti², Federico Camponeschi¹, Luca Rinaldi², Manuel Reza¹, Marco Bartocci³, Paolo Ghelfi², Claudio Porzi¹

1: Tecip institute, Scuola Superiore Sant'Anna, Pisa, Italy; 2: CNIT- PNTLab, Pisa, Italy; 3: Elettronica Spa, Roma, Italy

Pulse Driving of Thermo-Optic Phase Shifters on an InP membrane

Qiyuan Sheng, Yi Wang, Kevin Williams, Yuqing Jiao

Eindhoven Hendrik Casimir Institute (EHC), Eindhoven University of Technology, The Netherlands

Design of Silicon-Based Quantum Squeezer

Mouhamad Al-Mahmoud^{1,2}, Stéphane Clemmen^{1,2,3,4}

1: Photonics Research Group, INTEC-department, Ghent University-IMEC; 2: Center for Nano- and Biophotonics (NB-Photonics), Ghent University; 3: OPERA-Photonique CP 194/5, Université Libre de Bruxelles, 1050 Brussels, Belgium; 4: Laboratoire d'Information Quantique, Université Libre de Bruxelles, 1050 Brussels, Belgium

All dielectric integrable optical isolators

Sevag Abadian, Getúlio Souza, Stanislav Winkler, Marian Bogdan Sirbu, Michail Symeonidis, Tolga Tekin

Fraunhofer IZM, Germany

Performance of Bragg grating assisted multi-band add-drop filters on the silicon-on-insulator platform

Alejandro Fernández-Hinestrosa¹, José Manuel Luque-González¹, Pavel Cheben², Jens H. Schmid², Shurui Wang², J. Gonzalo Wangüemert-Pérez¹, Iñigo Molina-Fernández¹, Alejandro Ortega-Moñux¹

1: Telecommunication Research Institute (TELMA), Universidad de Málaga, Bulevar Louis Pasteur 35, 29010, Málaga, Spain; 2: National Research Council Canada (NRC), 1200 Montreal Road, Bldg. M50, Ottawa K1A 0R6, Canada

Waveguide undercut in high-confinement silicon nitride platform for enhanced phase-shifters performance

Anton Stroganov, Henry Francis, Camiel Op de Beeck, Davide Sacchetto, Ozren Petrovic, Antoine Brimont, Michael Geiselmann

LIGENEC SA, Switzerland

3:45pm
-
6:00pm

FORD IB: Quantum Technologies

Location: **Ford Room**

Chair: **Delphine Marris-Morini**

3:45pm - 4:00pm

High-visibility interference for time bin encoded entanglement on silicon integrated platform

Yue Qin, Hongnan Xu, Gaolei Hu, Hon Ki Tsang

The Chinese University of Hong Kong, Hong Kong S.A.R. (China)

4:00pm - 4:15pm

Silicon photonic circuits for on-chip photon-pair generation and wavelength demultiplexing

David Enrique Medina Quiroz¹, Paul Joseph Robin¹, Romain Dalidet², Laurent Labonte², Sebastien Tanzili², Laurent Vivien¹, Eric Cassan¹, Carlos Alonso Ramos¹

1: Université Paris-Saclay, C2N, France; 2: Université Cote d'Azur, INPHYNI, France

4:15pm - 4:45pm

Single solid-state quantum emitter photonics for on-chip quantum information

Marcelo Davanco

GENERALI IB: Microwave Photonics and Photon-Phonon Interaction

Location: **Generali Room**

Chair: **Victor Torres Company**

3:45pm - 4:00pm

RF photonic self-interference cancellation system using silicon nitride ring resonator network

Maarten T. Eijkel, Redlef B. G. Braamhaar, Peter J. M. van der Slot, David A. I. Marpaung

Universiteit Twente, Netherlands, The

4:00pm - 4:15pm

Large-scale photonic chip based pulse interleaver for low-noise microwave generation

Zheru Qiu^{1,2}, Neetesh Singh³, Yang Liu^{1,2}, Xinru Ji^{1,2}, Rui Ning Wang^{1,2,4}, Franz X. Kärtner³, Tobias J. Kippenberg^{1,2}

1: Swiss Federal Institute of Technology Lausanne (EPFL), CH-1015 Lausanne, Switzerland; 2: Center for Quantum Science and Engineering, EPFL, CH-1015 Lausanne, Switzerland; 3: Center for Free-Electron Laser Science, Deutsches Elektronen-Synchrotron, 22607 Hamburg, Germany; 4: Currently with Luxtelligence SA, CH-1015 Lausanne, Switzerland

4:45pm - 5:00pm

Fabrication of semiconductor membranes for an efficient spin qubit to photon interface assisted by a photonic crystal cavity

Sebastian Kindel¹, Kui Wu², Thomas Descamps¹, Rebecca Rodrigo², Arne Ludwig³, Andreas D. Wieck³, Jeremy Witzens², Hendrik Bluhm¹

1: JARA-FIT Institute for Quantum Information, Forschungszentrum Jülich GmbH and RWTH Aachen University, 52074 Aachen, Germany; 2: Institute of Integrated Photonics, RWTH Aachen University, Aachen, 52074, Germany; 3: Lehrstuhl für Angewandte Festkörperphysik, Ruhr-Universität Bochum, D-44780 Bochum, Germany

5:00pm - 5:30pm

Atom-photon interactions in atomic vapor waveguides

Uriel Levy

Hebrew University of Jerusalem

5:30pm - 5:45pm

Industrial Ion Trap Chips with Integrated Optics

Alexander Zesar^{1,2}, Jakob Wahl^{1,3}, Sofia Cano Castro^{1,4}, Klemens Schüppert¹, Yves Colombe¹, Silke Auchter¹, Max Glantschnig^{1,5}, Clemens Rössler¹, Bernhard Lamprecht⁶, Philipp Hurdax⁶, Marco Schmauser³, Marco Valentini³, Philipp Schindler³, Thomas Monz³, Oscar Jimenez Gordillo⁴, Andrea Melloni⁴, Joachim Krenn²

1: Infineon Technologies Austria AG, Siemensstraße 2, 9500 Villach, Austria; 2: Institut für Physik, Universität Graz, Universitätsplatz 5, 8010 Graz, Austria; 3: Institut für Experimentalphysik, Universität Innsbruck, Technikerstraße 25, 6020 Innsbruck, Austria; 4: Photonics Devices Group, Polytecnico di Milano, Via Ponzio 34, 20133 Milano, Italy; 5: Physikalisch-Technische Bundesanstalt, Bundesallee 100, Braunschweig, 38116, Germany; 6: Joanneum Research Materials, Franz-Pichler-Strasse 30, 8160 Weiz, Austria

5:45pm - 6:00pm

Photonic platform for industrially microfabricated ion traps

Sofia Cano Castro^{1,2}, Alexander Zesar^{1,3}, Max Glantschnig^{1,4}, Oscar A. Jimenez Gordillo², Silke Auchter¹, Yves Colombe¹, Clemens Rössler¹, Andrea Melloni²

1: Infineon Technologies Austria AG, Siemensstraße 2, 9500 Villach, Austria; 2: Politecnico di Milano, P.za Leonardo da Vinci, 32, Milano, 20131, Italy; 3: University of Graz, Universitätsplatz 3, 8010 Graz, Austria; 4: Physikalisch-Technische Bundesanstalt, Bundesallee 100, Braunschweig, 38116, Deutschland

4:15pm - 4:30pm

Agile Spectral Multiplication of Narrow-Band Comb using Integrated InP Multi-Wavelength Laser

Pablo Marin-Palomo, Shahab Abdollahi, Mathieu Ladouce, Martin Virte

Vrije Universiteit Brussel, Belgium

4:30pm - 5:00pm

Engineering Photons and Phonons in Silicon Nanostructures

Carlos Ramos

Centre National de la Recherche Scientifique

5:00pm - 5:15pm

Microwave-optical transduction using high-overtone bulk acoustic resonators on silicon nitride photonics

Terence Blesin¹, Wil Kao¹, Anat Siddharth¹, Rui Ning Wang¹, Alaina Attanasio², Hao Tian², Sunil A. Bhave², Tobias J. Kippenberg¹

1: EPFL, Switzerland; 2: Purdue University, USA

5:15pm - 5:30pm

Brillouin-active Subwavelength Silicon Membrane Waveguides

Paula Nuño Ruano¹, Jianhao Zhang², David González-Andrade¹, Hiba el Batoul Ferhat¹, Daniele Melati¹, Eric Cassan¹, Pavel Cheben², Laurent Vivien¹, Norberto Daniel Lanzillotti-Kimura¹, Carlos Alonso-Ramos¹

1: Centre de Nanosciences et de Nanotechnologies, CNRS, Université Paris-Saclay, Palaiseau 91120, France; 2: National Research Council Canada, 1200 Montreal Road, Bldg. M50, Ottawa, Ontario K1A 0R6, Canada

5:30pm - 5:45pm

Net Brillouin gain in tellurite covered silicon nitride waveguides

Yvan Klaver¹, Randy te Morsche¹, Roel A. Botter¹, Batoul Hashemi², Bruno Segat Frare², Pooya Torab Ahmadi², Niloofar Majidian Taleghani², Evan Jonker², Kaixuan Ye¹, Akhileshwar Mishra¹, Redlef Braamhaar¹, Jonathan Bradley², David Marpaung¹

1: University of Twente, Netherlands, The; 2: McMaster University, Canada

5:45pm - 6:00pm

Surface acoustic wave Brillouin scattering in thin-film lithium niobate waveguides

Kaixuan Ye¹, Hanke Feng², Yvan Klaver¹, Akshay Keloth¹, Akhileshwar Mishra¹, Cheng Wang², David Marpaung¹

1: University of Twente, Netherlands, The; 2: City University of Hong Kong, Hong Kong, China

6:00pm

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7:30pm

Welcome Reception

Location: **Foyer**

Date: Tuesday, 18/June/2024

8:00am - 9:00am	Registration II Location: Foyer	
9:00am - 10:30am	Plenary II Location: Ford + Generali Rooms Chair: Wolfgang Freude 9:00am - 9:45am A Particle Accelerator on a Photonic Chip: Design and Applications Peter Hommelhoff University of Erlangen 9:45am - 10:30am Panel "Innovation & Emerging Applications" Damian Dudek¹, Mareike Smolka², Natalia Ahmadian³, Sami Musa⁴, Philip Paul Joao Schrinner⁵, Joyce Poon⁶, Cedric Huyghebaert⁷, Florian Merget⁸, Tobias Müller⁹ 1: Information Technology Society in the VDE (VDE ITG); 2: Wageningen University & Research; 3: Earlybird Venture Capital; 4: Chilas BV; 5: LioniX International BV; 6: Lightmatter Inc.; 7: Black Semiconductor GmbH; 8: aiXscale Photonics GmbH; 9: Aixemtec GmbH	
10:30am - 11:00am	Coffee Break II: Sponsored by Photon Design Ltd Location: Foyer	
11:00am - 12:30pm	FORD IIA: Visible Photonics and Sensing Location: Ford Room Chair: Maziar Nezhad 11:00am - 11:30am Integrated Photonic Biosensors Iñigo Molina University of Málaga 11:30am - 12:00pm Silicon photonics for medical and environmental sensing Milos Nedeljkovic University of Southampton 12:00pm - 12:15pm Visible-light Optical Phased Arrays with a Convex Grating Emitter on Implantable Neural Probes for Spatially Targeted Deep Brain Optogenetics Ankita Sharma^{1,2}, Fu-Der Chen^{1,2}, Alperen Govdeli^{1,2}, Xianshu Luo³, Hongyao Chua³, Guo-Qiang Lo³, Wesley D. Sacher¹, Joyce K.S. Poon^{1,2} 1: Max Planck Institute of Microstructure Physics, Weinberg 2, 06120 Halle, Germany; 2: Department of Electrical and Computer Engineering, University of Toronto, 10 King's College Road, Toronto, Ontario, M5S 3G4, Canada; 3: Advanced Micro Foundry Pte Ltd, 11 Science Park Road, Singapore Science Park II, 117685, Singapore 12:15pm - 12:30pm Focusing Optical Phased Array for Optically Enabled Probing of the Retina with Subcellular Resolution Pedram Hosseini¹, Prachi Agrawal¹, Alireza Tabatabaei Mashayekh¹, Sandra Johnen², Jeremy Witzens¹, Florian Merget¹ 1: Institute and Chair of Integrated Photonics, RWTH Aachen University, Germany; 2: Department of Ophthalmology, University Hospital RWTH Aachen	GENERALI IIA: Programmable Photonics Location: Generali Room Chair: Giampiero Contestabile 11:00am - 11:30am Programmable Integrated Photonics with Phase-change Materials Niloy Acharjee, Carlos A. Ríos Ocampo University of Maryland, College Park, United States of America 11:30am - 12:00pm Multilevel reconfigurable nanophotonics with low-loss phase-change materials Sébastien Cuffe Centre National de la Recherche Scientifique 12:00pm - 12:15pm Sb₂Se₃ based Non-volatile Memory for Photonic Matrix-Vector Multiplications Mukta Janpandit¹, Rakshitha Kallega¹, Ramesh K², Chetan Singh Thakur³, Shankar Kumar Selvaraja¹ 1: Centre for Nano Science and Engineering, Indian Institute of Science Bangalore, INDIA; 2: Department of Physics, Indian Institute of Science Bangalore, INDIA; 3: Department of Electronic Systems Engineering, Indian Institute of Science Bangalore, INDIA 12:15pm - 12:30pm Reconfigurable silicon polarization rotator in the O-band using Sb₂Se₃ on the silicon-on-insulator platform Jorge Parra¹, Juan Navarro-Arenas^{1,2}, Amadeu Griol¹, Pablo Sanchis¹ 1: Nanophotonics Technology Center, Universitat Politècnica de València, Camino de Vera s/n, 46022 Valencia, Spain; 2: Institute of Materials Science (ICMUV), Universitat de València, Carrer del Catedràtic José Beltrán Martínez 2, 46980, Valencia, Spain
12:30pm - 2:00pm	Lunch II Location: Foyer	
2:00pm - 3:30pm	Ford IIB: Visible Photonics, Sensing, Polymer and Nonlinear Photonics Location: Ford Room	GENERALI IIB: Programmable Photonics Location: Generali Room Chair: Sebastien Cuffe

Chair: Milos Nedeljkovic

2:00pm - 2:15pm

Beyond the free spectral range: on-chip spectrometer with multi-color cascaded colloidal quantum-dot photodiodes

Chao Pang^{1,2,3}, Raúl López March¹, Ezat Kheradmand^{2,3}, Yu-hao Deng^{2,3}, Luis Moreno Hagelsieb⁴, Lukas Elsinger^{1,2,3}, David Cheyns⁴, Pieter Geiregat^{2,3}, Zeger Hens^{2,3}, Dries Van Thourhout^{1,2}

1: Photonics Research Group, Ghent University - imec, 9052 Gent, Belgium; 2: NB Photonics, Ghent University, 9052 Gent, Belgium; 3: Physics and Chemistry of Nanostructures Group, Ghent University, 9000 Gent, Belgium; 4: IMEC, 3001 Leuven, Belgium

2:15pm - 2:30pm

Characterization of Grating Out-couplers in the Ultraviolet-C wavelength range for on-chip spectroscopy

Chenming Su^{1,2}, Nicolas Le Thomas^{1,2}

1: Photonics Research Group, INTEC Department, Ghent University-imec, Technologiepark-Zwijnaarde, 9052 Ghent, Belgium; 2: Center for Nano- and Biophotonics, Ghent University, Belgium

2:30pm - 2:45pm

Efficient Modelling of 3D-printed Freeform Waveguides by a Dedicated Beam-Propagation Method (BPM) Based on Transformation Optics

Sina Foroutan-Barenji, Jonas Krimmer, Wolfgang Freude, Christian Koos

Karlsruhe Institute of Technology - KIT, Germany

2:45pm - 3:00pm

Wavelength Tunable, Polymer-Based Arrayed Waveguide Gratings for Hybrid Integration

Martin Kresse¹, Moritz Kleinert¹, David de Felipe¹, Tianwen Qian¹, Philipp Winklhofer¹, Madeleine Weigel¹, Klara Mihov¹, Jakob Reck¹, Crispin Zawadzki¹, Norbert Keil¹, Martin Schell^{1,2}

1: Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute, Einsteinufer 37, Berlin, 10587, Germany; 2: Technische Universität Berlin, Straße des 17. Juni 135, 10623 Berlin, Germany

3:00pm - 3:30pm

Power-efficient silicon nitride soliton microcombs

Victor Torres Company

Chalmers University

2:00pm - 2:30pm

Integration Technologies for High-Speed Neuromorphic Photonics

Giampiero Contestabile

Scuola Superiore Sant'Anna

2:30pm - 2:45pm

A Photonic Convolution Processor Based on Matched Pair of Arrayed Waveguide Gratings

Caiyue Zhao¹, Dan Yi¹, Zunyue Zhang², Hongnan Xu¹, Hon Ki Tsang¹

1: Department of Electronic Engineering, The Chinese University of Hong Kong, Shatin, NT, Hong Kong SAR; 2: School of Precision Instrument and Opto-Electronics Engineering, Tianjin University, Tian-jin, China

2:45pm - 3:00pm

Two Modes Unscrambling using a Single Micro-ring Resonator

Dan Yi, Hon Ki Tsang

The Chinese University of Hong Kong, Hong Kong S.A.R. (China)

3:00pm - 3:15pm

Photo-thermal Plasmonic Sensors for Transparent Detection and Control of Integrated Photonic Devices

Alessandro di Tria¹, Andres Martinez¹, Francesco Zanetto¹, Manuel Kohli³, Juerg Leuthold³, Alexandre Bouhelier⁴, Francesco Morichetti¹, Andrea Melloni¹, Giorgio Ferrari², Marco Sampietro¹

1: Department of Electronics, Information and Bioengineering, Politecnico di Milano, 20133 Milano, Italy; 2: Department of Physics, Politecnico di Milano, 20133 Milano, Italy; 3: Institute of Electromagnetic Fields, ETH Zürich, 8092 Zürich, Switzerland; 4: Laboratoire Interdisciplinaire Carnot de Bourgogne, CNRS UMR 6303 Université de Bourgogne, Dijon 21000, France

3:15pm - 3:30pm

Hybrid SiN – Al(Ga)N optical phase shifter at 1550 nm

Cyrille Barrera^{1,2,3}, Yohan Désières², Amélie Dussaigne², Eva Kempf^{1,4}, Ludovic Dupré¹, Pierre Ferret², Carlos Alonso-Ramos³, Frédéric Barbier², Jean-Gabriel Mattei¹, Laurent Clément¹, Laetitia Adelmini², Laurent Vivien³, Frédéric Boeuf¹

1: STMicroelectronics, Crolles 38920, France; 2: CEA LETI, Grenoble 38000; 3: C2N, Paris-Saclay 91120, France; 4: INL, Lyon 69100, France

3:30pm

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4:30pm

Poster II: Sponsored by Siemens EDA

Location: Foyer

An ultra-small InP Microdisk laser diode for programmable non-linear activation functions in neuromorphic photonics

Christos Pappas¹, Andrea Demarchi², Ioannis Roumpos¹, Guilhem Madiot³, Miltiadis Moralis-Pegios¹, Geroge Giamougiannis¹, Apostolos Tsakyridis¹, Alexandre Bazin², Francesco Manegatti², Grégoire Beaudoin², Konstantinos Pantzas², Isabelle Sagnes², Fabrice Raineri^{2,3}, Nikos Pleros¹

1: Aristotle University of Thessaloniki, Greece; 2: Centre de Nanosciences et de Nanotechnologies, CNRS; 3: Institut de Physique de Nice, CNRS

Waveguide spectral lens and solar spectrum measurement in the visible-near-infrared region

Shijie Ke, Ziyang Zhang

Laboratory of Photonic Integration, School of Engineering, Westlake University, 18 Shi-longshan Road, Hangzhou 310024, Zhejiang Province, China

Fast Prototyping of Facet-Attached Microlenses Using 2PP Printing

Gandolf Feigl¹, Matthias Jannach¹, Samuel M. Hörmann^{1,2}, Jakob Wilhelm Hinum-Wagner^{1,2}, Alexander Bergmann¹

Control of Programmable Optical Processors by using a Neural-Network Digital Twin

Gabriele Cavicchioli, Francesco Maria Sances, Andrea Melloni, Francesco Morichetti
Dipartimento di elettronica informazione e bioingegneria, Politecnico di Milano, Italy

Combining Photonic Integrated Circuits and Detectors with Absolute Responsivity as an Absolute Power Source

Lars Kristian Gretland Skaar, Johanne Heitmann Solheim, Jarle Gran
Justervesenet, Norway

Thermo-optical robustness of crystalline Sb₂Se₃/Si waveguides at 1310 nm

Iñigo Lopez-Mulet, Jorge Parra, Miroslavna Kovylina, Pablo Sanchis
Nanophotonics Technology Center, Universitat Politècnica de València, Camino de Vera s/n, 46022 Valencia, Spain

Towards Large-Language Model Assisted Layout of Silicon Photonic Integrated Circuits

Jason Liu¹, Ankita Sharma^{1,2}, Cheick Doumbia¹, Joyce K.S. Poon^{1,2}
1: Department of Electrical and Computer Engineering, University of Toronto, 10 King's College Road, Toronto, Ontario, M5S 3G4, Canada; 2: Max Planck Institute of Microstructure Physics, Weinberg 2, 06120 Halle, Germany

Functional programable waveguide engine and arbitrary beam splitter

Zeyu Deng, Ziyang Zhang
Westlake University, China, People's Republic of

Towards monolithically integrated fluorescence microscopy using photonic integrated circuits

Quentin Desmeth^{1,2}, Steven Vanuytsel², Victor Garcia-Munoz², Andim Stassen², Qingzong Deng², Vittal Thanjavur Prakasam², Vladimir Leonov², Seungkyu Ha², Pol Van Dorpe^{2,1}, Niels Verellen²
1: KU Leuven; 2: imec

Design of Microrings with complex waveguide crosssections to reduce non-linear effects of silicon

Stefania Cucco, novarese marco, mariangela gioianni
Politecnico di Torino, Italy

Robust Fabrication of Photonic Neuromorphic Reservoir for Modulation Format Identification

Enes Šeker^{1,2}, Rijil Thomas¹, Guillermo von Hünefeld^{3,4}, Stephan Suckow¹, Gregor Ronniger³, Mahdi Kaveh³, Pooyan Safari³, Isaac Sackey³, David Stahl⁵, Colja Schubert³, Johannes Karl Fischer³, Ronald Freund^{3,4}, Max C. Lemme^{1,2}
1: AMO GmbH, Advanced Microelectronic Center Aachen (AMICA), Otto-Blumenthal-Straße 25, 52074 Aachen, Germany; 2: RWTH Aachen University, Chair of Electronic Devices, Otto-Blumenthal-Straße 25, 52074 Aachen; 3: Fraunhofer Institut für Nachrichtentechnik, Heinrich Hertz Institute (HHI), Einsteinufer 25, 10587 Berlin, Germany; 4: Technical University of Berlin, Photonic Communication Systems, Straße des 17. Juni 135, 10623 Berlin, Germany; 5: ID Photonics GmbH, Anton Bruckner Straße 6, 85579 Neubiberg, Germany

Microresonator frequency comb with improved efficiency via pump recycling in a gain medium

Bastian Ruhnke¹, Mahmoud A. Gaafar¹, Thibault Wildi¹, Markus Ludwig¹, Alexander Ulanov¹, Thibault Voumard¹, Kai Wang², Milan Sinobad¹, Jan Lorenzen¹, Henry Francis³, Jose Carreira³, Michael Geiselmann³, Neetesh Singh¹, Franz X. Kärtner^{1,4}, Sonia M. Garcia-Blanco², Tobias Herr^{1,4}
1: Deutsches Elektronen Synchrotron DESY, Germany; 2: Integrated Optical Systems, MESA+ Institute for Nanotechnology, University of Twente.; 3: LIGENEC SA; 4: Department of Physics, Universität Hamburg

Si₃N₄ Microring-Resonator-Based Integrated Photonic Sensor for Enhanced Label-free Biofluid Analysis in the 850nm Optical Band

Jakob Reck¹, Klara Mihov¹, Martin Kresse¹, David de Felipe¹, Tianwen Qian¹, Madeleine Weigel¹, Csongor Keuer¹, Philipp Winklhofer¹, Crispin Zawadzki¹, Moritz Kleinert¹, Norbert Keil¹, Martin Schell^{1,2}
1: Fraunhofer Institute for Telecommunications, Heinrich-Hertz-Institut, HHI, Germany; 2: Technische Universität Berlin, Germany

Computer-generated MMI-type visible multi-wavelength combiner with monitor branch using Zr-doped PLC

Junji Sakamoto, Yuji Fujiwara, Satomi Katayose, Toshikazu Hashimoto
NTT Device Technology Labs

On-chip optical neural network based on multimode interference

Zhangqi Dang, Ziyang Zhang
Westlake University, China

All-optical XOR gate based on a saturable cavity

First Polymer-based Passive Optical Waveguide for the Visible Range from 633 nm down to 488 nm

Tianwen Qian¹, Robin Kraft¹, Thomas Wiglenda³, Crispin Zawadzki¹, Klara Mihov¹, Martin Kresse¹, Madeleine Weigel¹, Jakob Reck¹, Csongor Keuer¹, Philipp Winklhofer¹, Moritz Kleinert¹, David de Felipe¹, Arne Schleunitz³, Norbert Keil¹, Martin Schell^{1,2}

1: Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute, Einsteinufer 37, 10587 Berlin, Germany; 2: Technische Universität Berlin, Straße des 17. Juni 135, 10623 Berlin, Germany; 3: micro resist technology GmbH, Köpenicker Str. 325, 12555 Berlin, Germany

Silicon nitride C-band grating coupler with reduced waveguide back-reflection using adaptively corrected elliptical grates

Ibrahim Ghannam, Florian Merget, Jeremy Witzens
Institute of Integrated Photonics, RWTH Aachen University

4:30pm
-
6:00pm

FORD IIC: Nonlinear Photonics

Location: **Ford Room**
Chair: **Anna Lena Schall-Giesecke**

4:30pm - 4:45pm

Phase-stabilized electrically-driven microresonator frequency comb

Alexander Ulanov¹, Thibault Wildi¹, Thibault Voumard¹, Bastian Ruhnke¹, Tobias Herr^{1,2}

1: Deutsches Elektronen-Synchrotron DESY, Germany; 2: Physics Department, Universität Hamburg UHH, Germany

4:45pm - 5:00pm

An Integrated Gallium Phosphide Optical Parametric Amplifier

Nikolai Kuznetsov^{1,2}, Alberto Nardi^{1,3}, Alisa Davydova^{1,2}, Mikhail Churaev^{1,2}, Johann Riemensberger^{1,2,4}, Paul Seidler^{1,3}, Tobias J. Kippenberg^{1,2}

1: Institute of Physics, Swiss Federal Institute of Technology Lausanne (EPFL), CH-1015 Lausanne, Switzerland; 2: Center of Quantum Science and Engineering (EPFL), CH-1015 Lausanne, Switzerland; 3: IBM Research Europe, Zurich, Säumerstrasse 4, Rüschlikon, CH-8803 Switzerland; 4: Department of Electronic Systems, Norwegian University of Science and Technology, Trondheim, Norway

5:00pm - 5:15pm

Lithium tantalate photonic integrated circuits

Chengli Wang^{1,2}, Zihan Li¹, Xin Ou², Tobias Kippenberg¹

1: Institute of Physics, Swiss Federal Institute of Technology Lausanne (EPFL), CH-1015 Lausanne, Switzerland; 2: State Key Laboratory of Functional Materials for Informatics, Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, 200050, Shanghai, China

5:15pm - 5:30pm

Broadband nonlinear photonics in integrated gallium nitride waveguides

Weichen Fan¹, Markus Ludwig¹, Ian Rousseau², Bastian Ruhnke¹, Thibault Wildi¹, Tobias Herr^{1,3}

1: Deutsches Elektronen-Synchrotron DESY, Notkestr. 85, 22607 Hamburg, Germany; 2: Hexisense SA, Rue de Genève 100, 1004 Lausanne, Switzerland; 3: Physics Department, Universität Hamburg UHH, Luruper Chaussee 149, 22607 Hamburg, Germany

5:30pm - 5:45pm

Voltage-controllable second-order susceptibility in arsenic sulfide film

Laurids Wardenberg¹, Benito Bunk¹, Georg von Freymann^{2,3}, Jörg Schilling¹

1: Martin-Luther-Universität Halle-Wittenberg, Germany; 2: RPTU Kaiserslautern-Landau, Germany; 3: ITWM Kaiserslautern, Germany

GENERALI IIC: Programmable Photonics and Optical MEMS

Location: **Generali Room**
Chair: **Carlos A. Rios Ocampo**

4:30pm - 4:45pm

1x22 Optical Switch by Thermo-Optic Waveguide Lens

Tao Chen, Ziyang Zhang

Westlake University, People's Republic of China,

4:45pm - 5:15pm

MEMS-based integrated photonic elements for ultra-low-power programmability

Kyoungsik Yu

Korea Advanced Institute of Science & Technology (KAIST)

5:15pm - 5:30pm

Monolithically Integrated Visible-Light MEMS Switch

Alperen Govdeli^{1,2}, Hong Chen¹, Saeed S. Azadeh¹, John N. Straguzzi¹, Hongyao Chua³, Guo-Qiang Lo³, Joyce K. S. Poon^{1,2}, Wesley D. Sacher¹

1: Max Planck Institute of Microstructure Physics, Weinberg 2, 06120 Halle, Germany; 2: Department of Electrical and Computer Engineering, University of Toronto, 10 King's College Road, Toronto, Ontario, M5S 3G4, Canada; 3: Advanced Micro Foundry Pte Ltd, 11 Science Park Road, Singapore Science Park II, 117685, Singapore

5:30pm - 5:45pm

Photonic Integrated Piezo-MEMS (Pip-MEMS) Device for 1D Beam Scanning

Venkatachalam P¹, Daniel Yumnam¹, Sushma Gali¹, Mruthyunjaya K. Swamy², Shankar Kumar Selvaraja¹

1: Centre of Nano Science and Engineering, Indian Institute of Science, Bangalore 560012, India; 2: Department of Mechanical Engineering, National Institute of Technology Karnataka, Surathkal 575025, India

5:45pm - 6:00pm

Nanomechanical phase shifting on a gallium arsenide platform

Celeste Qvotrup¹, Rodrigo Thomas¹, Zhe Liu¹, Marcus Albrechtsen¹, Arne Ludwig², Andreas Wieck², Leonardo Midolo¹

1: Niels Bohr Institute, University of Copenhagen, Denmark; 2: Lehrstuhl für Angewandte Festkörperphysik, Ruhr-Universität Bochum, Universitätsstrasse 150, Bochum, D-44780, Germany

5:45pm - 6:00pm

Second Harmonic Generation and $\chi(2)$ Cascading in Periodically Poled MgO:LiNbO₃ Photonic Wires

**Halvor Fergestad¹, Daiheng Fu¹, Muhammed Alqedra¹,
Kore Hasse², Detlef Kip², Val Zwiller¹, Katia Gallo¹**

1: KTH Royal Institute of Technology, Roslagstullsbacken 21, Stockholm SE-10691, Sweden; 2: Faculty of Electrical Engineering, Helmut Schmidt University, 22043 Hamburg, Germany

7:30pm

-

11:00pm

Conference Dinner

Location: [Restaurant Ratskeller](#)

Date: Wednesday, 19/June/2024

8:00am - 9:00am	Registration III Location: Foyer	
9:00am - 10:30am	Plenary III Location: Ford + Generali Rooms Chair: Joyce Poon 9:00am - 9:45am Plasmonics for Integrated Optics Juerg Leuthold ETH Zürich 9:45am - 10:30am Advances in electro-optical components for datacom and sensing applications Anna Tatarczak Coherent	
10:30am - 11:00am	Coffee Break III: Sponsored by Thorlabs Location: Foyer	
11:00am - 12:30pm	FORD IIIA: Lasers Location: Ford Room Chair: Alan Wang 11:00am - 11:30am 3D integration enabling ultra-low noise isolator-free lasers in silicon photonics Chao Xiang University of Hong Kong 11:30am - 11:45am Widely tunable external cavity laser across the 1634-1777nm spectrum with sub-kHz linewidth Fathema Farjana, Albert Van Rees, Dimitri Geskus Chilas BV, Netherlands, The 11:45am - 12:00pm External Cavity 637-nm Laser with Increased RSOA-to-PIC Alignment Tolerance and a Filtered Sagnac-Loop Reflector with Single Output Waveguide Georgios Sinatkas¹, Arijit Misra^{1,2}, Florian Merget¹, Jeremy Witzens¹ 1: RWTH Aachen University, Germany; 2: Cisco Optical GmbH 12:00pm - 12:15pm Widely Tunable GaSb/Si3N4 Vernier Hybrid Laser Emitting Around 2.55 μm Samu-Pekka Ojanen, Nouman Zia, Jukka Viheriälä, Eero Koivusalo, Joonas Hilska, Heidi Tuorila, Mircea Guina Optoelectronics Research Centre, Physics Unit, Tampere University, FI-33720 Tampere, Finland 12:15pm - 12:30pm Pound-Drever-Hall laser frequency stabilization of tunable 1.55μm monolithically integrated semiconductor lasers using an integrated phase modulator. Rachel A. Jones, Kevin A. Williams, Erwin A. J. M. Bente Eindhoven University of Technology, United Kingdom	GENERALI IIIA: Thin Film Lithium Niobate, Assembly & Test Location: Generali Room Chair: Michael Strain 11:00am - 11:30am Integrated and nonlinear photonics in thin film lithium niobate Katia Gallo KTH Royal Institute of Technology 11:30am - 11:45am Standardized TFLN Photonic Integrated Circuits Platform Hamed Sattari, Ivan Prieto, Homa Zarebidaki, Jacopo Leo, Gregory Choong, Mattia Orvietani, Fatemeh Arefi, Alberto Della Torre, Yves Petremand, Michele Palmieri, Olivier Dubochet, Michel Despont CSEM SA, Switzerland 11:45am - 12:00pm Compact silicon-rich SiN/LiNbO3 Mach Zehnder and microring modulators. Clément BEN BRAHAM^{1,2}, Ali BELAROUCI³, Carlos ALONSO-RAMOS², Regis OROBTCHOUK³, Laurent VIVIEN², Yohan DESIERES¹ 1: CEA LETI, France; 2: Centre de Nanosciences et de Nanotechnologies, Paris Saclay; 3: Université de Lyon, Institut des Nanotechnologies de Lyon, INSA Lyon 12:00pm - 12:15pm Foundry Fabricated Thin-Film Lithium Niobate Electro-Optic Modulators for Blue Light Tianyi Liu^{1,2}, Vahid Ansari¹, Engjell Bebeti¹, John N. Straguzzi¹, Alperen Govdeli^{1,2}, Wesley D. Sacher¹, Joyce K. S. Poon^{1,2} 1: Max Planck Institute of Microstructure Physics, Weinberg 2, 06120 Halle (Saale), Germany; 2: Department of Electrical and Computer Engineering, University of Toronto, 10 King's College Rd., Toronto, Ontario M5S 3G4, Canada 12:15pm - 12:30pm Repeatability of automated edge coupling for wafer level testing Anna Peczek¹, Tino Minner², Quan Yuan², Christian Mai¹, Dan Rishavy², Lars Zimmermann^{1,3} 1: IHP – Leibniz-Institut für innovative Mikroelektronik, Im Technologiepark 25, 15236 Frankfurt (Oder), Germany; 2:

12:30pm
-
2:00pm

Lunch III
Location: [Foyer](#)

2:00pm
-
3:30pm

FORD IIIB: Lasers & Isolators
Location: [Ford Room](#)
Chair: [Carlos Alonso Ramos](#)

2:00pm - 2:15pm

High power 1.8 W tunable laser based on CMOS compatible power amplifier

[Neetesh Singh](#)¹, [Jan Lorenzen](#)¹, [Muharrem Kilinc](#)¹, [Kai Wang](#)², [Milan Sinobad](#)¹, [Henry Francis](#)³, [Michael Geiselmann](#)³, [Umit Demirbas](#)³, [Mikhail Pergament](#)¹, [Sonia Garcia-Blanco](#)², [Franz Kaertner](#)^{1,4}

1: Center for Free-Electron Laser Science CFEL, Deutsches Elektronen-Synchrotron DESY, Germany; 2: Integrated Optical Systems, MESA+ Institute for Nanotechnology, University of Twente, 7500AE, Enschede, The Netherlands; 3: LIGEN-TEC SA, EPFL Innovation Par L, Chemin de la Dent-d'Oche 1B, Switzerland CH-1024 Ecublens, Switzerland; 4: Department of Physics, Universität Hamburg, Jungiusstr. 9, 20355 Hamburg, Germany

2:15pm - 2:30pm

Micro-transfer-printed O-band GaAs QD-on-Si widely tunable laser

[Jing Zhang](#)^{1,2}, [Yang Liu](#)^{1,2}, [Ali Uzun](#)^{1,2}, [Evangelia Delli](#)^{1,2}, [Laurens Bogaert](#)^{1,2}, [Senbiao Qin](#)^{1,2}, [Konstantin Morozov](#)³, [Sergey Mikhlin](#)³, [Johanna Rimböck](#)⁴, [Ruggero Loi](#)⁵, [Peter Ossieur](#)⁶, [Guy Lepage](#)⁷, [Peter Verheyen](#)⁷, [Dimitrios Velenis](#)⁷, [Chiara Marchese](#)⁷, [Joris Van Campenhout](#)⁷, [Geert Morthier](#)^{1,2}, [Gunther Roelkens](#)^{1,2}

1: Photonics Research Group, INTEC, Ghent University - IMEC, Ghent, Belgium; 2: Center for Nano- and Biophotonics, Ghent University - IMEC, Ghent, Belgium; 3: Innolume GmbH, Konrad-Adenauer-Allee 11, 44263 Dortmund, Germany; 4: EV Group E.Thallner GmbH, DI Erich Thallner Str. 1, 4782 St. Florian am Inn, Austria; 5: X-Celeprint Ltd, Lee Maltings, Dyke Parade, Cork, Ireland; 6: IDLab, INTEC, Ghent University - IMEC, Ghent, Belgium; 7: IMEC, Kapeldreef 75, 3001 Heverlee, Belgium

2:30pm - 2:45pm

Widely tunable laser on IMOS platform

[Tasfia Kabir](#), [Yi Wang](#), [Stefano Tondini](#), [Yuqing Jiao](#), [Kevin Williams](#), [Maritjn Heck](#)

Eindhoven University of Technology, Netherlands, The

2:45pm - 3:00pm

Ultrafast tunable photonic integrated E-DBR Pockels laser

[Anat Siddharth](#)¹, [Simone Bianconi](#)¹, [Zheru Qiu](#)¹, [Rui N. Wang](#)², [Mohammad J. Beryhi](#)², [Tobias J. Kippenberg](#)¹, [Johann Riemensberger](#)^{1,3}

1: EPFL, Switzerland; 2: Luxtelligence SA, Switzerland; 3: NTNU, Norway

3:00pm - 3:30pm

THz Bandwidth Nonmagnetic Isolators in Silicon

[Peter Rakich](#)
Yale University

3:30pm
-
4:30pm

Poster III: Sponsored by Yokogawa
Location: [Foyer](#)

On-chip calibration of an optical phased array through chip facet reflections

[Marco Gagino](#)¹, [Alonso Millan-Mejia](#)², [Erwin Bente](#)¹, [Victor Dolores-Calzadilla](#)¹

1: Eindhoven University of Technology, Eindhoven Hendrik Casimir Institute (EHCI), 5612 AP Eindhoven, The Netherlands; 2: SMART Photonics, 5656 AE Eindhoven, The Netherlands

GENERALI IIIB: Assembly & Test, Free Space

Location: [Generali Room](#)
Chair: [Mo Li](#)

2:00pm - 2:30pm

Advanced transfer printing for the integration of micron-scale devices

[Michael Strain](#)

University of Strathclyde

2:30pm - 2:45pm

Demonstration of micro-transfer printing thick optical components on glass and silicon wafers

[Saif Wakeel](#), [Padraic E. Morrissey](#), [HowYuan Hwang](#), [Peter O'Brien](#)

Photonics Packaging and System Integration Group, Tyndall National Institute, Cork, Ireland

2:45pm - 3:15pm

Cutting-edge Integrated Photonics in Space

[Caterina Ciminelli](#)

Politecnico di Bari, Italy

3:15pm - 3:30pm

Automatic Real-Time Configuration of a 15-channel Free-Space Optical Receiver with a Fully Integrated CMOS Controller

[Emanuele Sacchi](#)¹, [Francesco Zanetto](#)¹, [Andres Ivan Martinez Rojas](#)¹, [SeyedMohammad SeyedinNavadeh](#)¹, [Francesco Morichetti](#)¹, [Andrea Ivano Melloni](#)¹, [Marco Sampietro](#)¹, [Giorgio Ferrari](#)²

1: Department of Electronics, Information and Bioengineering, Politecnico di Milano, Italy; 2: Department of Physics, Politecnico di Milano, Italy

Polymer-Ge hybrid waveguide for flexible photonic integration

Jinyuan Liu, Zhenming Ding, Ziyang Zhang
Westlake University, China, People's Republic of

Analyzing frequency combs in multi-section hybrid silicon quantum dot laser using Hanbury Brown-Twiss measurements

Mingzhao Shi¹, Shihao Ding¹, Heming Huang¹, Geza Kurczveil², Raymond G. Beausoleil², Frédéric Grillot^{1,3}
1: LTCI, Télécom Paris, Institut Polytechnique de Paris, 91120 Palaiseau, France; 2: Large-Scale Integrated Photonics Lab, Hewlett Packard Labs, Hewlett Packard Enterprise, Milpitas, CA 95035, USA; 3: Center for High Technology Materials, University of New-Mexico, Albuquerque, NM 87106, USA

Development of PECVD SiN thin films for integrated photonic applications on 300 mm wafers

Margarita Lapteva¹, Vinya Vibhuti¹, Mircea-Traian Catuneanu², Jens Knobbe³, Peter Reinig¹, Sascha Bönhardt¹, Kambiz Jamshidi²
1: Fraunhofer Institute for Photonic Microsystems IPMS, Center Nanoelectronic Technologies CNT, An der Bartlake 5, 01099 Dresden, Germany; 2: Technische Universität Dresden, Integrated Photonic Devices Laboratory, Helmholtzstrasse 16, Dresden 01069, Germany; 3: Fraunhofer Institute for Photonic Microsystems IPMS, Maria-Reiche-Str. 2, 01109 Dresden, Germany

Discretely Tunable GaSb/Si3N4 Hybrid Laser Emitting at 2594, 2629, and 2670 nm

Samu-Pekka Ojanen, Nouman Zia, Jukka Viheriälä, Eero Koivusalo, Joonas Hilska, Heidi Tuorila, Mircea Guina
Optoelectronics Research Centre, Physics Unit, Tampere University, FI-33720 Tampere, Finland

Low-loss, buried InGaAs/InP integrated waveguides operating in a wide mid-infrared range

Miguel Montesinos-Ballester¹, Lucius Miller¹, Victor Turpaud², Elsa Joechi¹, Mathieu Bertrand¹, Delphine Marris-Morini², Emilio Gini¹, Jerome Faist¹
1: Institute for Quantum Electronics, ETH Zürich, CH-8093 Zürich, Switzerland; 2: Université Paris-Saclay, Univ. Paris-Sud, CNRS, Centre de Nanosciences et de Nanotechnologies, 91120, Palaiseau, France

Study of a SiN microresonator with a variable coupler at 1550 nm

Sylvain Boust¹, Jonathan Faugier-Tovar², Sylvain Guerber², Quentin Wilmart², François Duport¹, Frédéric Van Dijk¹
1: III-V Lab, France; 2: Univ. Grenoble Alpes, CEA, LETI

Electro-Optic Modulator in Thin-Film Lithium Niobate Foundry Process

Alberto Della Torre, Homa Zarebidaki, Jacopo Leo, Arno Mettraux, Gregory Choong, Mattia Orvietani, Yves Petremand, Ivan Prieto, Olivier Dubochet, Michel Despont, Hamed Sattari
CSEM Centre Suisse d'Electronique et de Microtechnique SA, Switzerland

Monolithically integrated active/passive GaAs laser platform including high-Q ring resonators

Jan-Philipp Koester, Hans Wenzel, Jörg Fricke, Poojitha Sammeta, Olaf Brox, Matthias Reggentin, Pietro Della Casa, Markus Weyers, Andrea Knigge
Ferdinand-Braun-Institut, Leibniz-Institut für Höchstfrequenztechnik (FBH), Germany

Integrated photonic in-plane beam converter for Bessel-Gaussian beam generation

Jaewhan Lee¹, Jae-hoon Lee^{1,2}, Sangsik Kim^{1,3}
1: Graduate School of Quantum Science and Technology, Korea Advanced Institute of Science and Technology; 2: Korea Research Institute of Standards and Science; 3: School of Electrical Engineering, Korea Advanced Institute of Science and Technology

Aluminium nitride integrated photonics for the infrared spectral range

Soheila Mardani, Bjorn Jongebloed, Meindert Dijkstra, Sonia García-Blanco
University of Twente, Netherlands, The

Additive manufacturing of strip-loaded thin-film lithium niobate waveguides by means of two-photon polymerization

Alexandra Rittmeier^{1,2}, Elisavet Chatzizyrli^{1,2}, Angeliki Afentaki^{1,2}, Jörg Neumann^{1,2}, Andreas Wienke^{1,2}, Dietmar Kracht^{1,2}, Michael Kues^{1,2,3}, Moritz Hinkelmann^{1,2}
1: Laser Zentrum Hannover e.V., Germany; 2: Exzellenzcluster PhoenixD, Leibniz Universität Hannover, Germany; 3: Institute of Photonics, Leibniz Universität Hannover, Germany

Integrated GeSn Heterojunction Phototransistor on Si

Michael Oehme, Christian Spieth, Sören Schäfer, Maurice Wanitzek, Lukas Seidel, Michael Hack, Erich Kasper, Daniel Schwarz
Institute of Semiconductor Engineering, University of Stuttgart, Germany

Self-Aligned Fibre-to-Chip Edge Coupling Structure with Suspended Taper

Silicon Photonic Wafer-Scale Yield of Single Mode Resonator with Broadband DBR Mirrors

Arnab Goswami¹, Pratyasha Priyadarshini¹, Gan Yih Loong², Ng Chew Yan², Deleep Nair¹, Anjan Chakravorty¹, Bijoy Krishna Das¹

1: IIT Madras, Chennai, India; 2: SilTerra Malaysia Sdn. Bhd

Spot Size Converters for Enhanced Coupling Efficiency between Single Mode Fibers and High-Confinement Si₃N₄ Waveguides

Klara Mihov¹, Aron Elias Lutz², Moritz Kleinert¹, Martin Kresse¹, Daniel Preuß¹, Jakob Reck¹, David de Felipe¹, Tianwen Qian¹, Madeleine Weigel¹, Csongor Keuer¹, Philipp Winkhofer¹, Crispin Zawadzki¹, Norbert Keil¹, Martin Schell^{1,2}

1: Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute, Germany; 2: Technische Universität Berlin, Germany

Highly flexible dielectric platform for post-CMOS photonics

Marcus Westhues¹, Thomas Geruschke¹, Julia Hauser¹, Roman Burkard², Aleksandar Nestic¹, Anna Lena Schall-Giesecke^{1,2,3}

1: Fraunhofer Institut for Microelectronic Circuits and Systems (IMS), Duisburg, Germany; 2: University of Duisburg-Essen (UDE), Duisburg, Germany; 3: Center for Nanointegration Duisburg-Essen (CENIDE), Duisburg, Germany

Reconfigurable Photonic Integrated Circuit for All-Optical Matrix Inversion

Gabriele Cavicchioli¹, David A. B. Miller², Nader Engheta³, Andrea Melloni¹, Francesco Morichetti¹

1: Dipartimento di elettronica informazione e bioingegneria, Politecnico di Milano, Via Ponzio 34/4, 20133, Milano, Italy; 2: Ginzton Laboratory, Spilker Building, Stanford University, Stanford, CA 94305, USA; 3: Department of Electrical and Systems Engineering, University of Pennsylvania, Philadelphia, Pennsylvania, 19104, USA

4:30pm
-
6:00pm

FORD IIIC: Amplifiers and EO Devices

Location: **Ford Room**
Chair: **Hon Ki Tsang**

4:30pm - 4:45pm

External net gain in monolithically integrated Si₃N₄-Al₂O₃:Er³⁺ spiral waveguide amplifiers

Dawson Bonneville¹, **Carlos E Osornio**¹, Ivo Hegeman², **Quentin Coulad**^{3,4}, **Meindert Dijkstra**¹, **Sonia M Garcia-Blanco**¹

1: Integrated Optical Systems, MESA+ Institute for Nanotechnology, University of Twente, 7500 AE Enschede, The Netherlands; 2: Lionix International, 7521 AN Enschede, The Netherlands; 3: Keopsys Industries, 22300 Lannion, France; 4: Keopsys Industries, 22300 L'Université de Rennes, CNRS, Institut Foton, UMR 6082, 35000 Rennes, Franceannion, France

4:45pm - 5:15pm

High-Speed Conductive Oxide Modulator with Sub-Volt Driving Voltage

Alan Wang

Baylor University

5:15pm - 5:30pm

III-V electro-absorption modulation and detection devices integrated to 220 nm silicon-on-insulator

Owen Moynihan, **Samir Ghosh**, **James O Callaghan**, **Brendan Roycroft**, **Kevin Thomas**, **Emanuele Pelucchi**, **Brian Corbett**

IPIC Tyndall National Institute, University College Cork, Ireland

5:30pm - 5:45pm

Ge-fin Photodiodes with 3-dB Bandwidths well beyond 110 GHz for O-Band Receiver Subsystems

Daniel Steckler¹, **Stefan Lischke**¹, **Anna Peczek**¹, **Lars Zimmermann**^{1,2}

1: IHP-Leibniz Institut für innovative Mikroelektronik; 2: Technische Universität Berlin

5:45pm - 6:00pm

Integrated-SiGe waveguide photodetector in the 5.2-10 μm wavelength range operating at room

GENERALI IIIC: Free Space

Location: **Generali Room**
Chair: **Andrea Ivano Melloni**

4:30pm - 4:45pm

Integrated Mode-Selective Repeater for Free-Space Optical Communications

Sayedmohammad Sayedinnavadeh, **Alessandro di Tria**, **Francesco Zanetto**, **Giorgio Ferrari**, **Marco Sampietro**, **Andrea Melloni**, **Francesco Morichetti**
Politecnico di Milano, Milan, Italy

4:45pm - 5:15pm

New integrated LiDAR technology using chip-integrated beam steering and frequency-angular imaging

Mo Li

University of Washington

5:15pm - 5:30pm

Wavefront shaper based on integrated photonics

Filip Milojković^{1,2}, **Niels Verellen**¹, **Roelof Jansen**¹, **Frederic Peyskens**¹, **Mathias Prost**¹, **Jon Øyvind Kjellman**¹, **Xavier Rottenberg**¹, **PoI Van Dorpe**^{1,2}

1: Interuniversity Microelectronics Center (IMEC), Kapeldreef 75, 3001 Leuven, Belgium; 2: Department of Physics and Astronomy, KU Leuven, 3001 Leuven, Belgium

5:30pm - 5:45pm

Silicon Nitride Metalenses at Near-Infrared Wavelengths Manufactured Using Deep-Ultraviolet Scanner Lithography

David De Vocht¹, **Luise Armbruster**¹, **Alonso Millan-Mejia**², **Angel Savov**², **Yuqing Jiao**¹, **Erwin Bente**¹

1: Eindhoven Hendrik Casimir Institute, Eindhoven University of Technology; 2: SMART Photonics

5:45pm - 6:00pm

Chirped Bragg gratings for on chip pulse compression in the mid-infrared wavelength range

Annabelle BRICOUT¹, **Victor TURPAUD**¹, **Thi-Hao-Nhi NGUYEN**¹, **Hamza DELY**¹, **Natnicha KOOMPAI**¹, **Stefano**

temperature

Thi Hao Nhi Nguyen¹, Victor Turpaud¹, Natnicha Koompai¹, Jonathan Peltier¹, Stefano Calcaterra², Giovanni Isella², Jean-René Coudeville¹, Carlos Alonso-Ramos¹, Laurent Vivien¹, Jacopo Frigerio², Delphine Marris-Morini¹

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CALCATERRA², Jacopo FRIGERIO², Samson EDMOND¹, Jean-René COUDEVILLE¹, Etienne HERTH¹, Carlos ALONSO-RAMOS¹, Laurent VIVIEN¹, Giovanni ISELLA², Delphine MARRIS-MORINI¹

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6:00pm

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6:30pm

Awards & Closing Ceremony

Location: **Ford + Generali Rooms**