



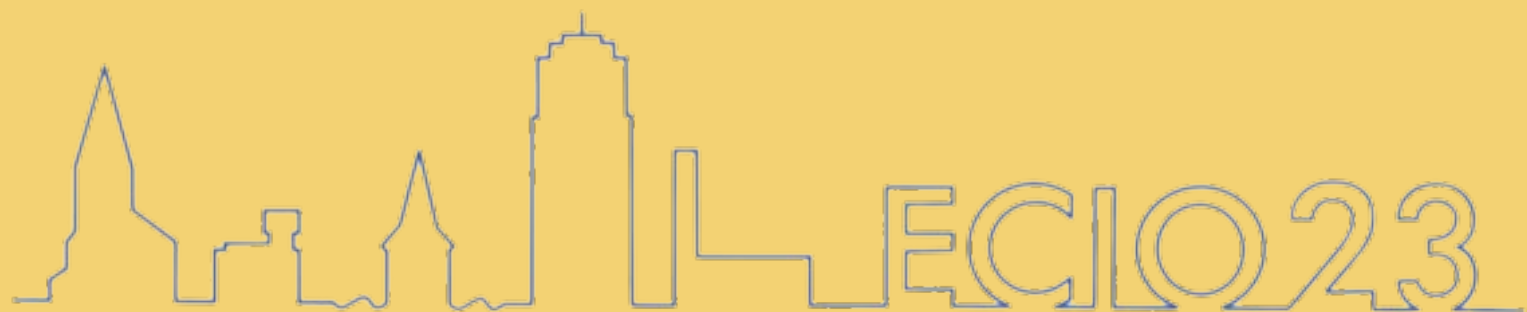
ECIO 2023

24th European Conference
on Integrated Optics

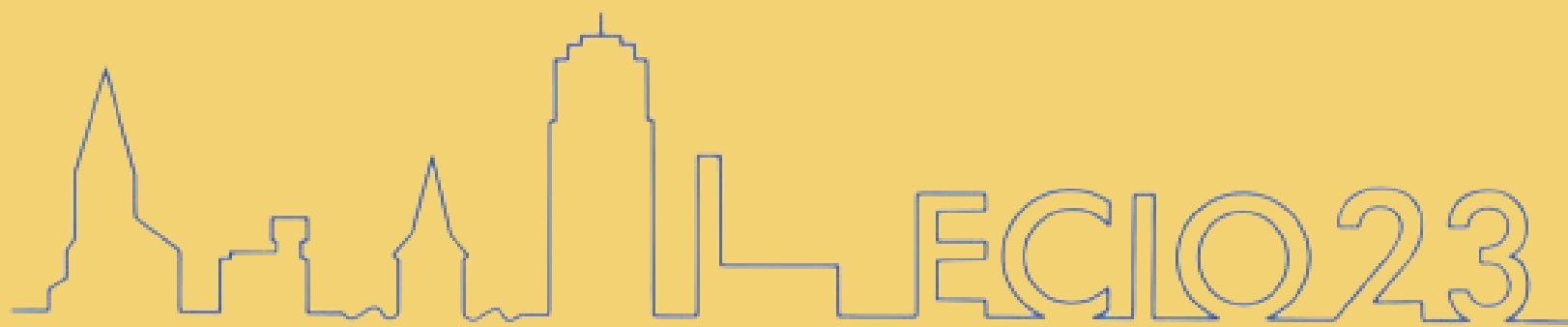
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19th April – 21th April
University of Twente
Enschede, Netherlands

UNIVERSITY
OF TWENTE.



ECIO23



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Co-Chair: **Lantian Chang**, University of Twente

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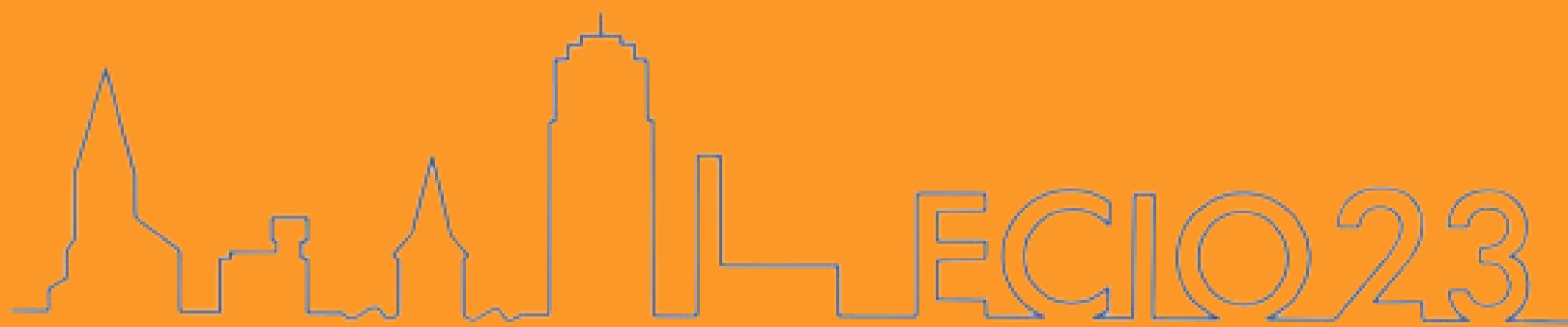
Kevin Williams, Eindhoven University of Technology, The Netherlands

Hon Ki Tsang, Chinese University of Hong Kong

Gonzalo Wangüemert Pérez, University of Málaga, Spain

Francesco Morichetti, Politecnico di Milano

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Lantian Chang

Carlos Osornio Martinez

Soheila Mardani

Kai Wang

Dawson Bonneville

David Marpaung

Jelmer Renema

Pepijn Pinkse

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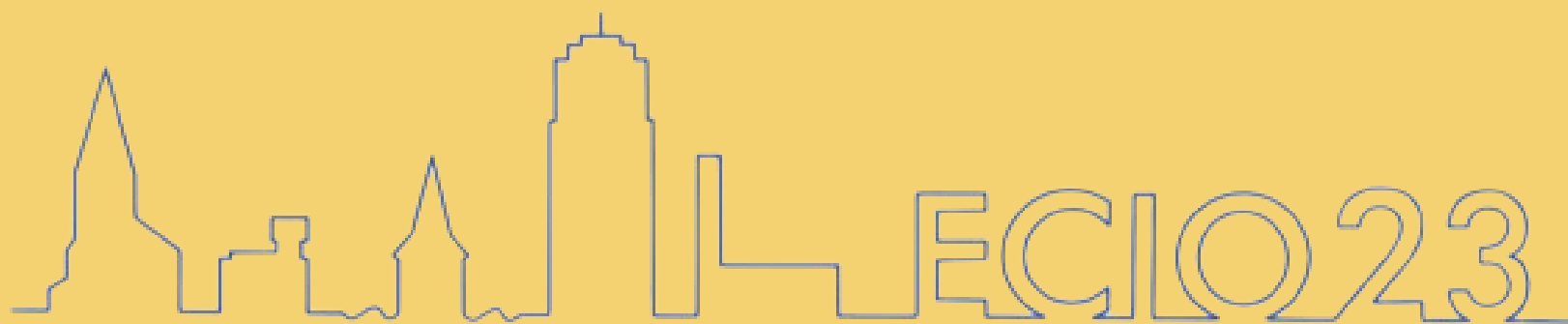
Jose Nijhuis – Effing

Annerie Heesink

Karen Munnink

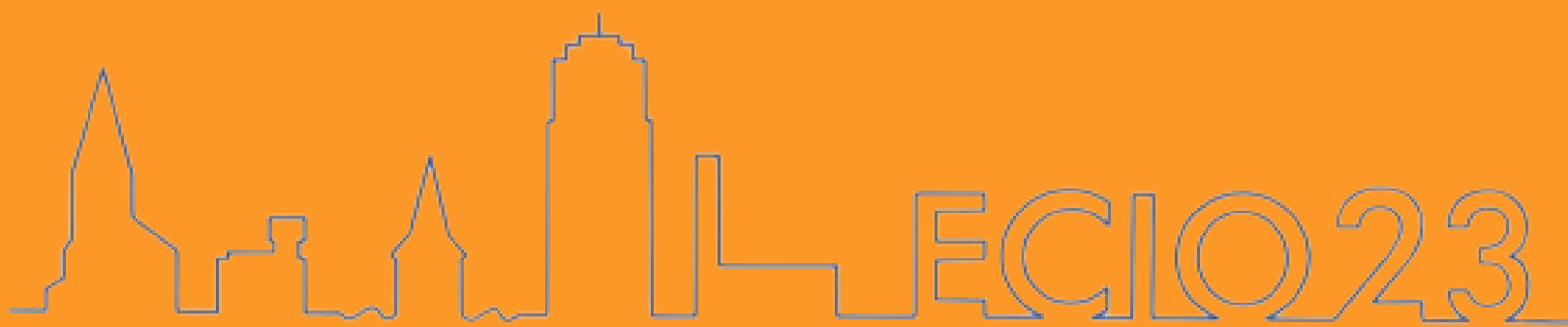
Nicole Meinster-Engbers

Jardi Timmerhuis



Program

Wednesday 19 th April		Thursday 20 th April	
		Section 1: Room 1	Section 2: Room 2
11:30-14:00	Registration (Bike hand out)		
14:00-14:30	Opening ceremony		
14:30-15:30	Plenary		
15:30-16:00	Coffee break		
16:00-17:00	Top scoring Session		
17:00-17:15	Break		
17:15-18:30	Exhibition session		
18:30-19:30	Panel discussion		
19:30	Reception with dinner		
8:45-9:30		Keynote 1	
9:30-10:30		Tech and platforms	Devices
10:30-11:30		Coffee break & Poster	
11:30-12:30		Tech and platforms	Devices
12:30-13:30		Lunch & Exhibition	
13:30-14:15		Women in Photonics	
14:15-15:15		Tech and platforms	Applications
15:15-16:30		Coffee break & Poster	
16:30-17:45		Devices	Applications
19:00		Gala Dinner	



Program

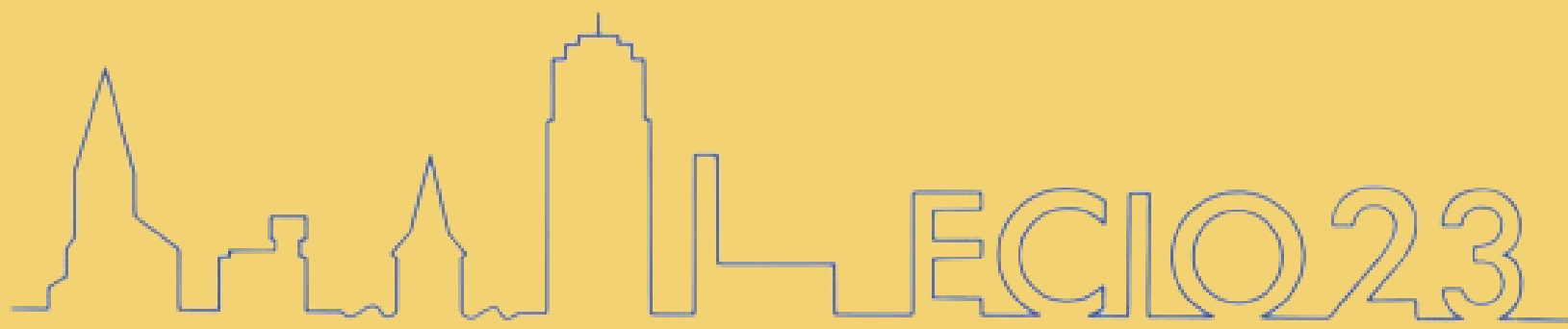
Friday 21 th April		
	Section 1: Room 1	Section 2: Room 2
8:45-9:30	Keynote 2	
9:30-10:30	Devices	Physical insights
10:30-11:30	Coffee break & Poster	
11:30-12:45	Devices	Tech and platforms
12:45-14:15	Lunch & Exhibition	
14:15-15:15	Devices	Applications
15:15-16:30	Coffee break & Poster	
16:30	Closing ceremony	

Physical insights: Novel physical insights and materials

Tech and platforms: Integrated photonic technologies and platforms

Devices: Devices and Integrated Circuits

Applications: Applications of PICs



Scientific Program

Wednesday

19th April 2023

11:30 – 14:00 **Registration and Pick up bikes**

14:00 – 14:30 **Opening ceremony**

14:30 – 15:30 **Plenary**

Milos Popovic.

15:30 – 16:00 **COFFEE BREAK**

16:00 – 17:00 **TOP SCORING SESSION**

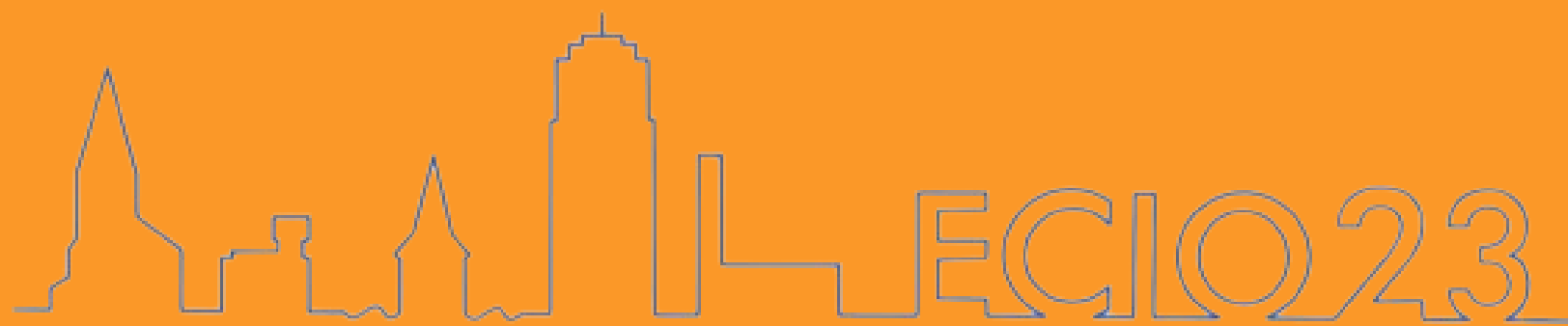
Platforms. Micro-transfer-printed O-band GaAs QD-on-Si DFB Laser on an advanced silicon photonics platform. Jing Zhang.

Devices. Ultrafast frequency-agile narrow-linewidth lasers using lithium niobate integrated photonics. Viacheslav Snigirev.

Physical Insights. Spectrally Programmable Individual Color Centers in Silicon Waveguides. Carlos Erando Herranz.

Applications: Fully Integrated Quasi-Coherent Receiver Based on Co-hosted InP PIC and a SiGe ASIC. Francisco Rodrigues.

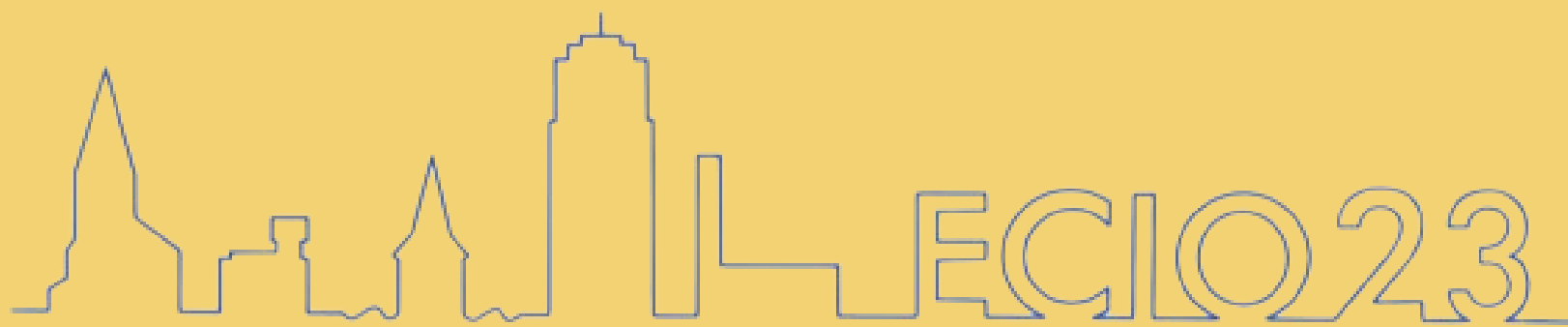
17:00 – 17:15 **BREAK**



17:15 – 18:30 Opening of the exhibition session

18:30 – 19:30 Panel discussion

19:30 Reception



Scientific Program

Thursday

20th April 2023

Registration

08:45 – 09:30 **Keynote 1**

Joyce Poon

09:30 – 10:30 **Integrated photonic technologies and platforms**

Th1.1 Invited. Waveguide amplifiers in Si₃N₄ platform. Liu Yang

Th1.2 Optical gain via multi-layer monolithic integration of Si₃N₄ with Al₂O₃:Er³⁺ waveguide amplifiers. Carlos Osornio.

Th1.3 Broadband and large mode-area on-chip amplifier. Mahmoud Gaafar.

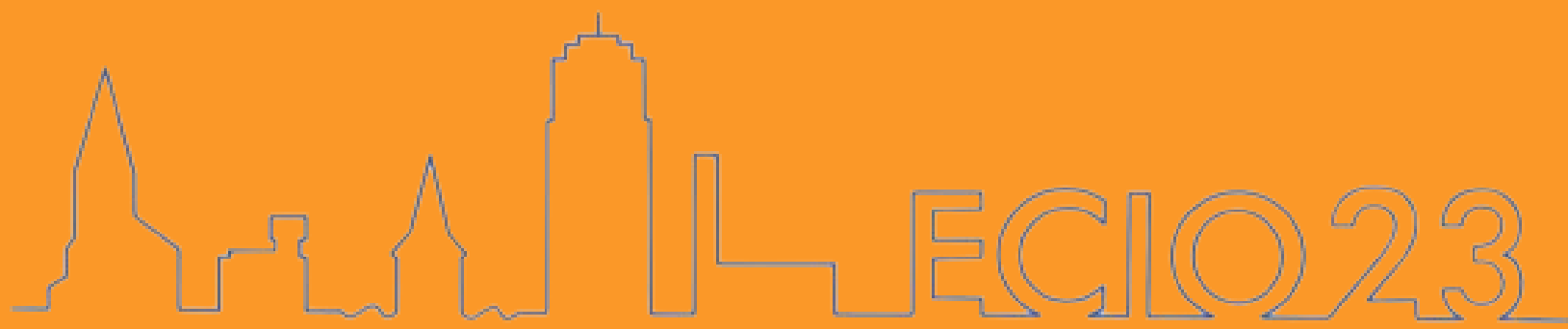
09:30 – 10:30 **Devices and Integrated Circuits**

Th2.1 First experimental demonstration of a Generalized Mach-Zehnder Interferometer on Si₃N₄. Stefanos Kovaivos.

Th2.2 Reverse Synthesis for the Configuration of Coupled Ring Resonators. Xiangfeng Chen.

Th2.3. Demonstration of nano-pixel 9:1 asymmetric power splitter. Haisong Jiang

Th2.4 Demonstrating Bidirectional Coupling Using a Monolithically Integrated Tunable Comb Source. John McCarthy



10:30 – 11:30 Coffee Break & Posters

11:30 – 12:30 Integrated photonic technologies and platforms

Th1.4 Invited. Integration of quantum light sources, circuits and superconducting detectors on nanophotonic chips. Carsten Schuck.

Th1.5. Fiber-coupled plug-and-play heralded single photon source based on Ti:LiNbO₃ and polymer technology. Christian Kießler.

Th1.6. Programmable photorefractive optical synapses in integrated photonics for neuromorphic computing. Elger A. Vlieg.

11:30 – 12:30 Devices and Integrated Circuits

Th2.5. Subwavelength metamaterial grating couplers on silicon nitride platform. Daniel Benedikovic.

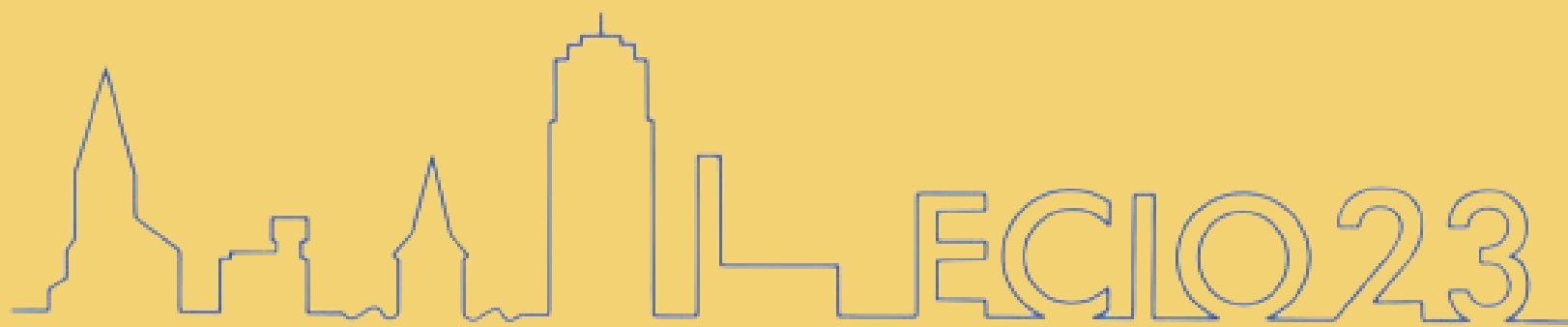
Th2.6. Integrated four channel wavelength multiplexer in Thin Film Lithium Niobate for CWDM 400G/800G short reach communications. Giuseppe Cusmai.

Th2.7. Thermo-optically Tunable DBR Resonator with Ultra-broad Rejection Band for Silicon Photonic Applications. Pratyasha Priyadarshini

Th2.8. Ultra-high resolution on-chip reconstructive spectrometer. Chunhui Yao

12:30 – 13:30 Lunch & Exhibition

13:30 – 14:15 Women in Photonics



14:15 – 15:15 **Integrated photonic technologies and platforms**

Th1.7. **Invited. Glass integrated photonics.** Jean-Emmanuel Broquin.

Th1.8. **Damage Resistant Diced Waveguides in Ti-Indiffused Lithium Niobate for Second Harmonic Generation.** Michelle Kirsch.

Th1.9. **Monolithic CMOS sample & hold circuit for sequential control of volatile actuators in Silicon Photonics.** Francesco Zanetto.

14:15 – 15:15 **Applications of PICs**

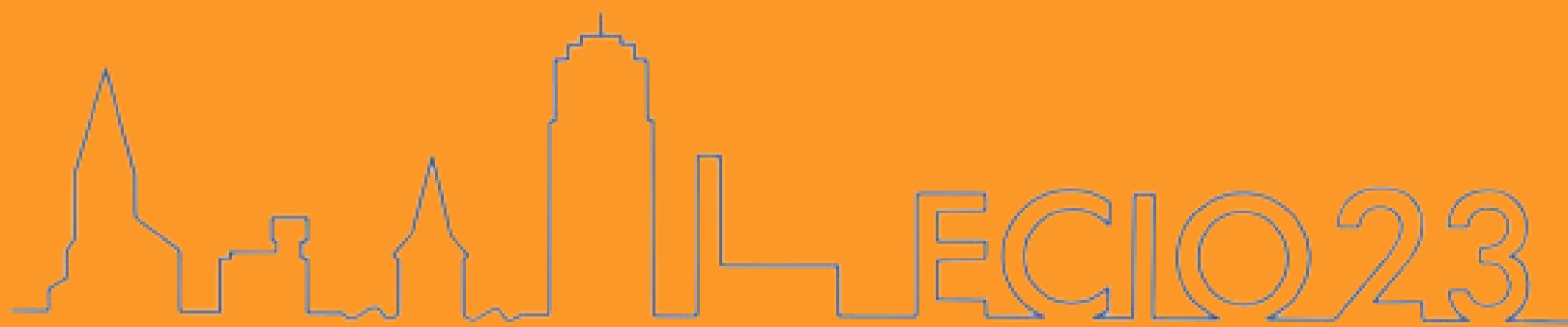
Th2.9 **Soliton generation in a gallium phosphide photonic crystal cavity.**
Alysa Davydova.

Th2.10. **Demonstration of low RMS differential phase noise across C-band for integrated, amplifying optical phased arrays.** Shiva Vikram Bhagavatula

Th2.11 **Sub-kHz linewidth, high power, frequency agile photonic integrated E-DBR laser.** Anat Siddharth

Th2.12 **Unconventional Optical Phased Array Antennas Integrated in a Programmable Photonic Integrated Circuit.** Nicola Anselmi.

15:15 – 16:30 **Coffee Break & Posters**



16:30 – 17:45 **Devices and Integrated Circuits**

Th1.10. **Suspended Gallium Arsenide Electro-Optic Racetrack Ring Modulator.** Haoyang Li.

Th1.11. **Thermal Stabilization of Micro-ring Modulator using a Monolithically Integrated Analog Feedback Circuit.** Vaibhav Ruparelia.

Th1.12. **Phase modulation in a Compact 8-channel Loop-back AWG based Integrated Comb Processor.** Louw Roel van der Zon.

Th1.13. **1 GHz integrated electro-optical modulator in the 5.5-9 μm wavelength range.** Thi Hao Nhi Nguyen

Th1.14 **Intra-Cavity Coherently Combining of DBR Lasers on an InP Generic Foundry Platform.** Rakesh Ranjan Kumar.

16:30 – 17:45 **Applications of PICs**

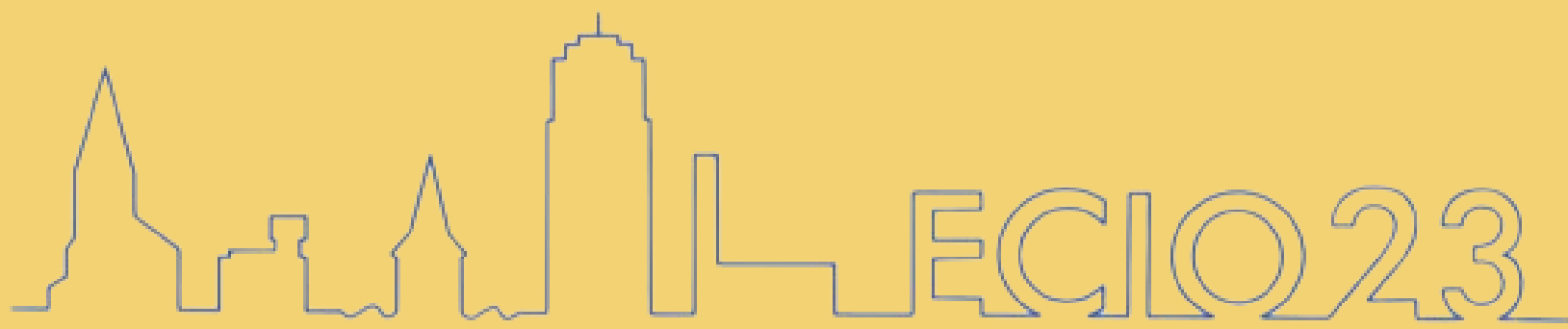
Th2.13. **Invited. Astrocomb miniaturization.** Ewelina Obzrud

Th2.14. **A Photonic Integrated High-power Soliton Microcomb Generator.** Xinru Li.

Th2.15. **Thermally controlled frequency comb generation in hybrid silicon quantum dot lasers.** Thibaut Renaud.

Th2.16. **Electro-Optic Packaging of Silicon Photonics-Based RF Multiplier for Clock Signal Generation in the Millimeter-Wave Band.** Claudio Porzi

19:00 **Gala Dinner**



Scientific Program

Friday

21th April 2023

Registration

08:45 – 09:30 **Keynote 2**

Integrated Photonics for Quantum and Artificial Neural Networks-based Signal Processing, Roberto Morandotti

09:30 – 10:30 **Devices and Integrated Circuits**

F1.1 Invited. 20-mode Quantum Photonic Processor as an industrial product. Michiel de Goede.

F1.2. Fully On-chip Laser-integrated Entangled Photon Pair Source. Michael Kues.

F1.3. Frequency agile SiN-MEMS photonic integrated external cavity laser. Andrea Bancora. Grigory Lihachev.

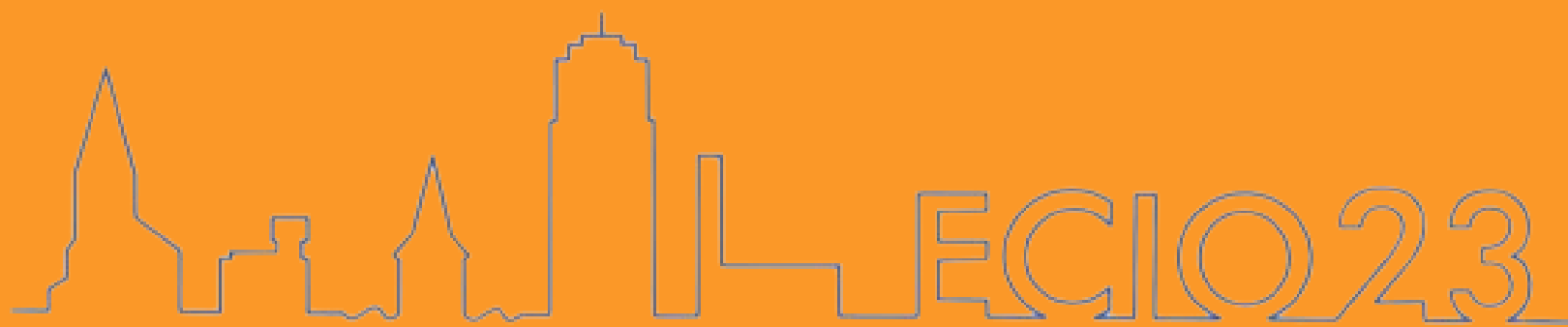
09:30 – 10:30 **Novel physical insights and materials**

F2.1 Magneto-optical properties of e-beam evaporated EuS films for room temperature applications. Frank Somhorst

F2.2. Supersymmetric Compactification and Higher-Dimensional Rearrangement of Photonic Lattices. Tom Wolterink

F2.3. Investigations on Brillouin and Kerr properties of a low-index silicon oxynitride platform. Kaixuan Ye

F2.4. Enhanced Frequency Noise Discrimination Using Cavity-coupled Mach-Zehnder Interferometer. Mohamad Hossein Idjadi



10:30 – 11:30 Coffee Break & Posters

11:30 – 12:30 Devices and Integrated Circuits

F1.4. Invited. Integrated programmable photonics. Daniel Pérez López.

F1.5. Photonic memory based on VO₂/Si technology. Jorge Parra.

F1.6. A memristor-controlled multilevel non-volatile phase shifter for photonic integrated circuits. Felix Hermann.

F1.7. 1x4 Vertical Power Splitter/Combiner: A Basic Building Block for Complex 3D Waveguide Routing Networks. Madeleine Weigel.

11:30 – 12:30 Integrated photonic technologies and platforms

F2.5. Development of an integrated optical sensor on chalcogenide glasses and on porous silicon for the mid-infrared spectroscopy. Sofiane Meziani.

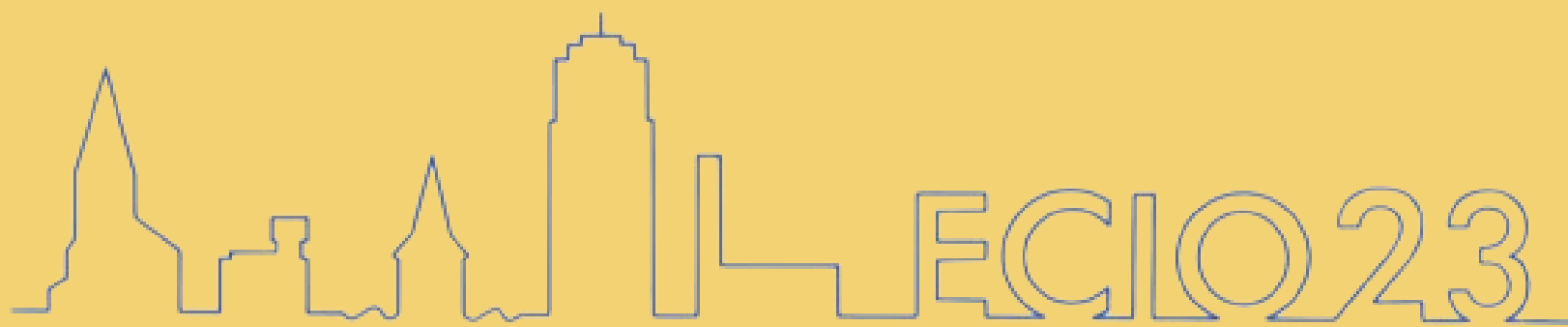
F2.6. Integrated White-Light Interferometry for rapid dispersion and index measurements of InP waveguides. Amer Bassal.

F2.7. High-power CW >100 mW SOAs for active-passive integration. Andrzej Jankowski.

F2.8. Temperature stabilization techniques for High Stability LO Generation using a Hybrid Integrated Dual InP-Si₃N₄ Laser Source. Alberto Zarzuelo.

F2.9 Characterisation and mitigation of surface related optical loss in suspended GaAs photonic integrated circuits. Robert Thomas.

12:45 – 14:15 Lunch & Exhibition



14:15 – 15:15 **Devices and Integrated Circuits**

F1.8. C-Band Apodized Chirped Gratings in Aluminum Oxide Strip Waveguides. Milan Sinobad.

F1.9 Lasing in a Neodymium-doped Aluminium Oxide Taiji Resonator. Dahnée Wojcik.

F1.10. Accurate, high-speed tuning of an ultra-narrow linewidth external cavity laser. Wilson Tsong

F1.11 A hybrid photonic integrated signal source with >1.5 THz continuous tunability and <0.25 GHz accuracy for mmW/THz applications. Tianwen Qian.

14:15 – 15:15 **Applications of PICs**

F2.10 Integrated Photonic Processor Enabling Dynamic Mitigation of Turbulence-Induced Scintillation in an Optical Free Space Link. Andres Martinez

F2.11 Miniature and non-contact photoacoustic system using silicon photonics-based Laser Doppler Vibrometer and compact excitation source. Emiel Dieussaert

F2.12 Integrated Microwave Photonic Receiver for Radar Applications. Federico Camponeschi

F2.13 Automatic mitigation of tilt and phase-front distortions in multichannel chip-to-chip free-space optical links. SeyedMohammad SeyedinNavadeh

15:15 – 16:30 **Coffee Break & Posters**

16:30 – 17:00 **Closing ceremony**

17:00 **Return bikes/ Labs and company visits**
(optional)