

Jena LIGHT 2024 - Photonics meets AI

Preliminary program version 24.08.2024

Venue: Abbe Center of Photonics, Albert Einstein Str. 6, 07745 Jena, Germany

Date: September 3-6, 2024

Time	Tuesday, 03.09.2024	Wednesday, 04.09.2024	Thursday, 05.09.2024	Friday, 06.09.2024
08:30			Demetri Psaltis (EPFL) keynote, online Nonlinear Computation with Linear Optics	Yaron Bromberg (Jerusalem) keynote Quantum Communication and Computation with High-Dimensional Entangled Photons
09:00		Timo Mappes		
09:30		Science Heritage Experience on Optics in Jena: Past - Present - Future	Clara Wanjura (MPL Erlangen)	Mauro Paternostro (Palermo)
10:00		Jena, being awarded the title "historic site" by the European Physical Society, is the cradle of modern optics. Timo Mappes, the founding director of the Deutsches Optisches Museum, will take you on a tour through Jena's more than 100 years of optics history, from the early days of the founding fathers Abbe, Zeiss and Schott to the future in the upcoming Zeiss Campus.	Fully Nonlinear Neuromorphic Computing with Linear Wave Scattering	Quantum enhanced machine learning: from gate synthesis to photonic reservoir computing
10:30			Coffee break & posters	Coffee break & posters
11:00			J. Giesen & A. Breuer (FSU Jena) Einsum - A Formal Language for Tensor Expressions	Elena Goi (USST Shanghai) online Hybrid Nanoprinted Neural Networks
11:30		Welcome Address by representative of the Friedrich Schiller University Jena (starting 11:45)		
12:00	Registration & welcome coffee	Sina Saravi (FSU Jena)	Carlo Holly (Aachen)	Peter Bienstman (Ghent)
12:30	Visit of photonics research labs	AI Photonics - Merging Disciplines	AI in photonics - from advanced beam shaping to self-learning laser processes	Optical Computing with Silicon Photonic Reservoirs
13:00	Fraunhofer Institute for Applied Optics and Precision Engineering IOF	Lunch (Casino Beutenberg)	Lunch (Casino Beutenberg)	Lunch (Casino Beutenberg)
13:30	Lunch (Casino Beutenberg)			
14:00	Conference opening (at 14:15)	Wolfram Pernice (Heidelberg)	Alexander Heinecke (Intel)	Birgit Stiller (MPL Erlangen)
14:30	Carsten Rockstuhl (KIT)	Photonic computing with incoherent light	From Tensor Processing Primitive towards Tensor Compilers using upstream MLIR	Photonic computation enabled by sound waves
15:00	Machine Learning Enhanced Design of Meta-Atoms and Metasurfaces	Stefanie Kroker (Braunschweig)	Jean-Pierre Seifert (TU Berlin)	Janik Wolters (TU & DLR Berlin)
15:30	Bhavin Shastri (Queen's CA) online	Semicond. and Metasurfaces: From Neuromorph. Computing to Precision Experiments	Neuromorphic Accelerators Based on Phase Change Materials in Silicon-Photonics	Information processing with Photons and Atoms
16:00	Neuromorphic Photonic Computing: Applications, Classical to Quantum	Coffee break & posters	Coffee break	Farewell coffee & goodbye
16:30	Coffee break	Tatsuhiko Onodera (Cornell)	Visit of photonics research labs	
17:00	Humeyra Caglayan (Tampere)	Deep Physical Neural Networks: A Case Study with a 2D Programmable Photonic Chip	Leibniz Institute of Photonic Technology IPHT	
17:30	Imaging Applications through Learning-Enhanced Metasurface Optics	Aydogan Ozcan (UCLA) keynote, online		
18:00	Dragomir Neshev (ANU Canberra)	Programming Light Diffraction for Information Processing and Computational Imaging	Mario Chemnitz (FSU Jena)	
18:30	Analog Image Processing with Linear and Nonlinear Flat Optics	Transfer to Botanical Garden	Neuromorphic Computing with Nonlinear Dynamics in Single-mode Fibers	
19:00	BBQ, Beer & Posters		Pizza, Wine & Posters	
19:30	We will enjoy a typical Thuringian barbeque while having a first look at the posters.		We will continue our discussions at the posters.	
...		Conference Dinner & Plants Botanical Garden @ Fürstengraben 26, 07743 Jena		
22:00				