

International Conference & Exhibition on Optics & Electro-Optics

10-11 March, 2025 | David InterContinental Hotel, Tel-Aviv, Israel

Monday March 10, 2025

08:00 - 09:00	Breakfast & registration				
09:00 - 10:55	Opening session - Plenary Hall				
09:00-09:20	Chairperson: Prof. Abraham Katzir , <i>Chairman of Oasis 2025</i>				
09:20-09:25	Opening 2: Guy Shasha , <i>Chairman of the The Association of Engineers, Architects and Graduates in Technological Sciences in Israel</i>				
09:25-09:35	Opening 3: Dr. Alon Stopel , <i>Chairman of the Innovation Authority and Chief Scientist for Innovation at the Ministry of Innovation, Science and Technology</i>				
09:35-10:20	Plenary lecture 1 : Artificial Intelligence and Cyber Security Prof. Isaac Ben-Israel , <i>Director, Cyber Research Center, Tel-Aviv University</i>				
10:20 - 11:05	Plenary lecture 2 : Silicon Photonics Prof. Avinoam Zadok , <i>Faculty of Electrical and Computer Engineering, Technion</i>				
11:05 - 11:30	Coffee break and Posters review				
11:30 - 13:00	Parallel Session 1				
	Hall A	Hall B	Hall C	Hall D	Hall E
	Optical Engineering Dr. Tali Hurvitz	Atomic and Quantum Optics Dr. Ofer Kfir	Lasers and Applications Dr. Shaul Pearl	Electro-Optics in Industry Dr. Alex Ayalon	Electro-Optics in Defense Prof. Dov Oster
	Invited - 30' Prof. Uriel Levy TBC	Invited - 30' Prof. Maria Chekhova Quantum measurement through parametric amplification	Invited - 30' Dr. Liad Levi High Power DPAL (Diode Pumped Alkali Laser)	Invited - 20' Dr. Eyal Shekel <i>Civan Lasers</i> Dynamic Beam Laser for Welding and Metal Additive Manufacturing: Advancing Fiber Laser Technology through Coherent Beam Combining and Optical Phased Arrays	Invited - 30' BG (res.) Eytan Eshel , <i>IAI, EVP R&D, technology and innovation (CTO)</i> Innovation in a defense company
	Invited - 30' Prof. Natan Shaked Holographic multiplexing for acquiring wavefronts of rapid dynamics for optical metrology applications	15' Mr. Stav Lotan Leveraging Sparsity for Efficient Detection of Entanglement in High	15' Dr. Yaakov Glick 40mJ energy, high power, pulsed all-fiber amplifier	Invited - 20' Dr. Yoram Karni <i>SCD</i> Advancements in Miniaturization, Weight Reduction, and Power Optimization for Infrared Imaging Systems by SCD	TBA
	15' Mr. David Halfon 3D-printed coupling aids for efficiently interfacing silicon chip to rectangular core fiber	15' Mr. Shaul Katznelson Superfluorescent Scintillation from Coupled Perovskite Quantum Dots	15' Mr. Rafael Porcar M2-meter for live laser beam diagnostics in the VIS and SWIR	Invited - 20' Dr. Rani Ditcovski <i>Triarii Research</i> Israeli Free Space Quantum Key Distribution Demonstration	TBA

13:00 - 14:00 14:00 - 14:15 14:15 - 15:45	15' Mr. Ariel Ashkenazy All-optical, computation-free time-multiplexing super-resolved imaging based on speckle illumination	15' Dr. Shay Eimalem Massively Multiplexed Wide-field Photon Correlation Sensing	15' Prof. Salman Noach Widely tunable, pulsed Tm:YAP laser, based on an Active / Passive Q switch with Yag etalons	Invited - 15' Mr. Andrés Cifuentes <i>ASE OPTICS, Spain</i> Compact high-resolution LWIR optical system for the Earth Observation in support of smart farming	TBA
		15' Mr. Gilad Pollack Correlation of Purely Spatial Bell-state Measurements in Event-based Single-Photon Camera	15' Mr. Nitzan Haviv Noise Suppression in Gain-Managed Nonlinear Amplifiers	Invited - 15' Dr. Aviv Ronen <i>Beckermus Technologies</i> Advancing Photonic and Optic Chip Packaging: Challenges and Technological Solutions	
	Lunch Break				
	Poster Review				
	Parallel Session 2				
	Hall A	Hall B	Hall C	Hall D	Hall E
	Spectroscopy and Optical Sensing Prof. Tal Ellenbogen	Electro-Optics Devices Prof. Ilya Goykhman	Start-Up Aviv Zeevi	Nonlinear Optics Prof. Avinoam Zadok	Optics in Medicine and Biology Prof. Yuval Garini
	Invited - 30' Prof. Dr. Christoph Lienau Two-dimensional electronic spectroscopy of many-body correlations in quantum materials	Invited - 25' Prof. Shaya Fainman <i>University of California, San Diego</i> Foundry enabled chip-scale photonics technology and applications	TBA	Invited - 20' Prof. Guy Bartal Faculty of Electrical and Computer Engineering, Technion TBC	Invited - 25' Prof. Dror Fixler <i>Faculty of Engineering, Bar Ilan University</i> Self-calibrated single-wavelength biosensor for extracting cardiac parameters
	15' Mr. Omri Haim Image-guided computational holographic wavefront shaping	Invited - 25' Dr. Boris Desiatov <i>Bar Ilan Institute of Technology</i> TBC	TBA	14' Mr. Yaakov Neustadter Kerr frequency comb generation in Saddle-Shape microresonators	Invited - 25' Prof. Ori Katz <i>Institute of Applied Physics, The Hebrew University of Jerusalem</i> Noninvasive megapixel fluorescence microscopy through scattering layers by a virtual incoherent reflection matrix
	15' Mr. Ori Pearl Non-destructive opto-mechanical analysis of fiber coating layers	Invited - 25' Dr. Grisha Spektor <i>Octave Photonics</i> Atomic-photonic Interfaces via linear and nonlinear photonics for the real world	TBA	14' Dr. Gil Bashan Optically Programable Quasi Phase Matching in Four-Wave Mixing	Invited - 20' Prof. Adrian Stern <i>School of Electrical and Computer Engineering, Ben Gurion University</i> Compressive Sensing Methods for Rapid Hyperspectral Microscopy
15' Mr. Ya'akov Mandelbaum Tips vs. Holes: x10 Higher Scattering in FIB-made Plasmonic Nanoscale Arrays for Spectral Imaging	15' Mr. Eitan Kaminski <i>Technion - Israel Institute of Technology</i> Waveguide Integrated MoS2-based Photodetectors in the Shortwave IR	TBA	14' Mr. Alon Krause Highly-efficient and stable Second Harmonic Generation (SHG) from Para Red Organic Crystals	10' Mrs. Tamar Harary <i>Andrew and Erna Viterbi Faculty of Electrical & Computer Engineering, Technion</i> Large-field-of-view optical-resolution optoacoustic microscopy employing a stationary silicon-photonics acoustic detector for both reflection and transmission imaging configurations	
15' Mr. Elad Zehavi Generation of Non-Classical Light in an All-Fiber SU1,1 Interferometer		TBA	14' Ms. Naama Harcavi Optical nonlinearity of transparent conducting oxides - more metallic than realized	10' Mr. Jonathan Jeffet <i>School of Physics and Astronomy, Tel Aviv University</i> Multi-Color Super-Resolution Imaging Using Spectral Confocal Spinning Disk Image Scanning Microscopy	
			14' Ms. Sutapa Ghosh Strong tunable nonlinearity in atomic vapor induced by an optical frequency comb		

15:45 - 16:15 16:15 - 17:45	Coffee break and Posters review				
	Parallel Session 3				
	Hall A	Hall B	Hall C	Hall D	Hall E
	Micro and Nano Optics Prof. Alina Karabchevsky	Quantum Computers Prof. Nadav Katz	Ultrafast Phenomena Dr. Marcus Gilad	Artificial Intelligence in Optics Prof. Yoav Shechtman	Lasers and Applications Dr. Shaul Pearl
Invited - 30' Prof. Tal Carmon <i>Photonic Enhancement Laboratory, School of Electrical Engineering, Faculty of Engineering, Tel Aviv University</i> Introducing new phases of matter to microphotonics	Invited - 30' Prof. Barak Dayan <i>Associate Professor at the Weizmann Institute of Science, head of the Weizmann Quantum Optics group</i> TBC	Invited - 25' Dr. Ofer Neufeld Ultrafast magnetism: novel control schemes and probes	Invited - 25' Prof. Ron Kimmel <i>The Technion Montreal Chair in Sciences</i> <i>Professor of Computer Science</i> <i>Professor of Electrical & Comp. Eng. (courtesy)</i> Learning Geometry: Some Recent Bits	15' Mr. Shmuel Freudenstein Enhanced Free Space Optical Communication (FSOC) by Coherent Beam Combining with Optical Phased Array Lasers	
Invited - 30' Prof. Dan Marom <i>The Institute of Applied Physics, Hebrew University of Jerusalem</i> TBC	Invited - 30' Prof. Yaron Bromberg <i>Senior lecturer at the Racah Institute of Physics at the Hebrew University of Jerusalem</i> TBC	12' Dr. Yariv Shamir Widely Wavelength-Tunable Amplified All-Normal-Dispersion Laser aimed to excite Thorium-229 VUV transition?	Invited - 25' Prof. Natan Shaked <i>Department of Biomedical Engineering, Tel Aviv University</i> AI-aided label-free imaging flow cytometry via optical interferometry	15' Dr. Omri Wolf LightSolver's all-optical laser-based analog computer	
Invited - 20' Dr. Itai Epstein <i>Tel Aviv University</i> Nanometer-scale Phononic Resonators for Far-infrared Radiation	15' Mr. Roey Shafran Tomography of Hyperentangled Single Photon States with a Single Measurement Setup	12' Ms. Gili Scharf Coherent control of phonon anharmonicity	10' Mr. Oded Rotem <i>Ben Gurion University</i> Brightfield to fluorescence microscopy transfer via diffusion models	15' Dr. Yaniv Vidne Development of a 130kW High-Power Fiber Laser System with Enhanced Reliability and Compactness based on CBC technology	
10' Mr. Matan Slook Highly Reconfigurable Silicon-Photonic Filter Stage		12' Mr. Omri Meron Shaping exciton polarization dynamics in 2D semiconductors by tailored ultrafast pulses	10' Mr. Dafei Xiao <i>Technion – Israel Institute of Technology</i> A one-click software for PSF-engineering-based 3D localization microscopy	15' Dr. Aviran Halstuch Femtosecond inscription of fiber Bragg gratings and Fabry-Perot interferometers structures for various applications	
10' Dr. Jacob Engelberg Nature Inspired Design Methodology for a Wide Field of View Achromatic Metalens		12' Mr. Tomer Bucher Ultrafast Dynamics of Correlated Optical Singularities	10' Ms. Dana Aharoni <i>Department of Biomedical Engineering, Tel Aviv University</i> AI-aided rapid cell classification using label-free interferometric imaging flow cytometry	15' Mr. Aaron Liberman Algorithmically Measuring the Spectrally Resolved Wavefront of an Ultrashort Laser	
10' Mr. Yehuda Baum Ultra-broadband wide-angle anti-reflection scheme utilizing multi-layer resonant metasurfaces		12' Mr. Yoad Aharon Mechanism of resonant enhancement in HHG	10' Dr. Amir Handelman <i>Holon Institute of Technology</i> Flexible polymeric all-optical logic gates	15' Mr. Ya'akov Mandelbaum Advanced Optical Analysis of Focal-Point Divergence Between Surgical Neodymium-Doped Yttrium Aluminum Garnet (Nd:YAG) and Aiming Beam Lasers	

Tuesday March 11, 2025

08:00 - 09:00

Coffee and registration

09:00 - 10:00

Opening session - Plenary Hall

09:00 - 09:05

Chairperson: **Professor Abraham Katzir**, *Chairman of Oasis 2025*

09:05-09:10

Start-up session: Winner announcement ceremony

09:10- 09:50

Plenary lecture1 : Electro-Optics in Defense

Brig. Gen. (Res.) Dr. Daniel Gold, *Head of the Israeli Directorate of Defense Research & Development, at the Israeli Ministry of Defense*

09:50 - 10:30

Plenary lecture 2 : High Power Laser Defence

Mr. Oded Ben David, *CTO Elbit Systems ISTAR & EW ELOP*

10:30 - 10:50

Coffee break and Posters review

10:50 - 12:20

Parallel Session 4

Hall A	Hall B	Hall C	Hall D	Hall E
Atomic and Quantum Optics Dr. Ofer Kfir	Electro-Optics Devices Prof. Ilya Goykhman	Optical Engineering Dr. Tali Hurvitz	Nonlinear Optics Prof. Avinoam Zadok	
Invited - 30' Dr. Ran Finkelstein Atomic arrays as programmable quantum sensors and processors	Invited - 25' Prof. Pavel Ginzburg <i>Tel Aviv University</i> Optics Behind Drug Screening and Delivery	Invited - 30' Dr. Shany Danieli Revealing the Hidden Universe with Telephoto Lenses	Invited - 25' Prof. Polina Bayvel <i>Professor of Optical Communications & Networks. Dept of Electronic & Electrical Eng. Faculty of Engineering Sciences, UCL, London, England</i> TBC	
15' Mr. Amir Sivan Superradiating Photon Entanglement Source with Multilevel Atoms	Invited - 25' Dr. Richard Pitwon <i>Seagate Research / Resolute Photonics</i> Heat Assisted Magnetic Recording - The Path to the Ultra-high Volume Co-packaged Optical Integration	15' Mr. Omer Luria In-situ optical surface reconstruction of liquid mirrors in microgravity experiments	15' Mr. Daniil Ansimov Enhanced Second Harmonic Generation from a Nonlinear Plasmonic Metasurface Coupled to an Optical Waveguide in a LiNbO Thin Film	
15' Mr. Ariel Ashkenazy Single-photon Raman interaction for realizing the photon-number splitting attack	Invited - 25' Dr. Roy Zekzter <i>The Hebrew University of Jerusalem</i> Electro-Optic Platforms for Precision Light-Atom Interactions	15' Mr. Mor Elgarisi Fluidic approach to corrective eyewear manufacturing	15' Mr. Yonatan Plotnik Momentum Band Gap Engineering Using Noncolinear Moving Photonic Time Crystals	
15' Mr. Ron Ziv Experimental Phase Retrieval of Atomic Matter Waves	15' Mrs. Vered Riven <i>The Institute of Applied Physics, The Hebrew University of Jerusalem</i> Line-by-line spectral amplitude/phase modulation of an optical frequency comb	15' Mr. Alon Geller Designing Zoom Lenses from Scratch: using the varifocal differential equation	15' Dr. Miri Blau Higher dimensional quantum photonics in the frequency domain	
15' Dr. Georgi Gary Rozenman Prospects of Free-Space Quantum Key Distribution using Spatial Modes of Light: Scaling-up the Dimensionality and the Distance		15' Mr. Arie Amitzi Using fluorescence for laser beam alignment and measurements	15' Mr. Yuval Reches Efficient robust spontaneous parametric down-conversion via detuning modulated composite segments designs	
			15' Mr. Barak Messika Kerr Beam Self-Cleaning of multi-millijoule pulses in large mode-area graded index fiber	

12:20 - 13:20	Lunch Break				
13:20 - 13:50	Poster Review of Topics: Micro and Nano-Optics & Artificial Intelligence in Optics				
13:50 - 15:20	Parallel Session 5				
	Hall A	Hall B	Hall C	Hall D	Hall E
	Ultrafast Phenomena Dr. Marcus Gilad	Optics in Defense Prof. Dov Oster	Spectroscopy and Optical Sensing Prof. Tal Ellenbogen	Electro-Optics in Industry Dr. Alex Ayalon	Micro and Nano Optics Prof. Alina Karabchevsky
	Invited - 25' Prof. Michael Krueger <i>Ultrafast Quantum Dynamics Group, Physics Department, Technion</i> Attosecond physics in solids goes quantum	TBA	Invited - 30' Prof. Yehonadav Bekenstein <i>'Engineering fast emitters using halide perovskite nanocrystal heterostructures and superlattices</i>	Invited - 20' Dr. Hadar Greener <i>Applied Materials</i> Tailoring light-matter interactions for optical wafer inspection	Invited - 20' Prof. Stanislav Derevyanko <i>Associate professor, School of Electrical and Computer Engineering, Ben Gurion University of the Negev, Beersheva, Israel</i> Mode locking and rogue waves in Q-switched solid-state laser
	12' Ms. Or Refaely Temporal chirpless microscope	TBA	15' Mr. Idan Kizel Stacking-Dependent Photoluminescence Modulation in Bilayer and Trilayer 3R-MoS2 via Asymmetric Dielectric Environments	Invited - 20' Dr. Igor Turovets <i>Nova Ltd.</i> Optical methods for Advanced packaging process control	20' Ms. Maya Shor Peled Super-resolution Imaging Using Photonic Nanojet through Tapered Optical Fiber
	12' Ms. Michal Elkind Intense laser interaction with micro-bars	TBA	15' Ms. Anabel Atash On the Optical Modeling of Excitons in 2D Semiconductors	Invited - 20' Dr. Shay Joseph <i>Rafael</i> Methods for Protection of Electro-Optical Seeker Heads Against Electro-Magnetic Radio Frequency Interference	15' Dr. Daniel Beitner Observation of Localized Resonant Phonon Polaritons in Biaxial α -MoO ₃ Nanoparticles
	12' Ms. Shiri Gvishi Quantum paths interference signatures in trARPES		15' Dr. Heinrich Ruser New Single-Particle TOF Mass Spectrometer coupled with Deep Learning for On-site Classification of Aerosol Particles	Invited - 15' Dr. Aviran Halstuch <i>Ben-Gurion University of the Negev</i> Femtosecond laser welding of BK7 glass to aluminium alloys for industrial applications	15' Mr. Oded Schiller Negative Index makes a Perfect Time Lens
	12' Mr. Michael Tulchinsky Saturation Model for Photonic Time Crystals		15' Mr. Tamir Shpiro 4D Near-Field Electron Tomography	15' Mr. Efi Rotem <i>MKS Instruments</i> Design of reference optical receiver with 50GHz bandwidth for use in high speed fiber optic systems	10' Mr. Amit Kam Total Angular momentum as a Pathway to Entangle Surface-Plasmon Polaritons
	12' Mr. Aaron Liberman laser wakefield acceleration with an axiparabola and spatiotemporal couplings				
15:20 - 15:50	Coffee break and Posters review of topics: Ultrafast Phenomena & Atomic and Quantum Optics				

15:50 - 17:20

Parallel Session 6

Hall A	Hall B			
Artificial Intelligence in Optics Prof. Yoav Shechtman	Optics in Medicine and Biology Prof. Yuval Garini	Quantum Computers Prof. Nadav Katz		
Invited - 25' Prof. Adrian Stern TBC	Invited - 25' Prof. Dvir Yelin <i>Faculty of Biomedical Engineering, Technion</i> Imaging tympanic membrane vibrations	TBA		
Invited - 25' Dr. Erez Yosef DifuzCam: Replacing Camera Lens with a Mask and a Diffusion Model	Invited - 25' Dr. Raya Sorkin Optical tweezers provide insight into membrane remodeling	TBA		
15' Prof. Alon Bahabad Optical inference using nonlinear optical diffraction	10' Prof. Salman Noach <i>Jerusalem College of Technology</i> Novel Ablative Tm :YAP Pulsed Laser for Dermatology Applications	15' Mr. Chen Scheim Quantum Error Correction with Adiabatic Quantum Computation		
10' Mr. Matan Kleiner Coherence Awareness in Diffractive Neural Networks	10' Dr. Ofer Bar-On <i>Luma Biophotonics Ltd.</i> Bringing In Vitro Diagnostics Closer to the Patient Using Polymer based Photonic Integrated Circuits	15' Dr. Adi Pick Hybrid quantum annealing algorithms for combinatorial optimization with Rydberg qubits		
10' Mr. Nimrod Shabtay Deep Phase Coded Image Prior	10' Mrs. Eden Dotan <i>Department of Biomedical Engineering, Tel Aviv University</i> Label-free imaging flow cytometry using a motion sensitive camera for rare cell detection			
10' Mr. Roy Maman Achromatic imaging systems with flat lenses enabled by deep learning	10' Dr. David Sinefeld <i>Jerusalem College of Technology</i> Planar objective design for multiphoton mouse brain imaging			