Tokyo: 13:00-15:00 **Berlin: 06:00-08:00** **New York: 00:00-02:00**	**Monday 1A – Signal Transduction** **Presider: Onur Ferhanoglu, Istanbul Technical University, Turkey**
Tokyo: 13:00-13:45 Berlin: 06:00-06:45 New York: 00:00-00:45	 1A.1 – Keynote Lecture: Passive Plasmonic Optical to Terahertz Conversion Mona Jarrahi University of California, Los Angeles, USA
Tokyo: 13:45-14:00 Berlin: 06:45-07:00 New York: 00:45-01:00	1A.2: All-dielectric metasurface terahertz detector using enhanced two-step photon absorption Hyunseung Jung,[1] Lucy L Hale,[2] Jayson Briscoe,[1] Raktim Sarma,[1] Ting Shan Luk,[1] Sadhvikas J Addamane,[1] John L Reno,[1] Igal Brener,[1] Oleg Mitrofanov[1,2] 1 – Center for Integrated Nanotechnologies, Sandia National Laboratories, USA 2 – Electronic and Electrical Engineering, University College London, UK
Tokyo: 14:00-14:15 Berlin: 07:00-07:15 New York: 01:00-01:15	1A.3: Selective Area Molecular Beam Epitaxial Growth of GaAs/GaInNAs Core-Multishell Nanowires emitting at 1.2 µm on Silicon (111) Kaito Nakama,[1] Mitsuki Yukimune,[1] Akio Higo,[2] Fumitaro Ishikawa[3] 1 – Graduate School of Science and Engineering, Ehime University, Japan 2 – Systems Design Lab, School of Engineering, The University of Tokyo, Japan 3 – Research Center for Integrated Quantum Electronics, Hokkaido University, Japan
Tokyo: 14:15-14:30 Berlin: 07:15-07:30 New York: 01:15-01:30	1A.4: Energy-efficient Polarization-insensitive Electro-tunable Metasurface for Optical Intensity Modulation Tanmay Bhowmik, Ashish Kumar Chowdhary, Debabrata Sikdar Department of Electronics and Electrical Engineering, Indian Institute of Technology Guwahati, India
Tokyo: 14:30-15:00 Berlin: 07:30-08:00 New York: 01:30-02:00	 1A.5 – Invited Lecture: Nonlinear Photonics in Ultra-Silicon-Nitride Devices Dawn Tan Singapore University of Technology and Design, Singapore

Tokyo: 22:00-24:00 **Berlin: 15:00-17:00** **New York: 09:00-11:00**	**Monday 1B – Quantum and Communication** **Presider: Joey Talghader, University of Minnesota, USA**
Tokyo: 22:00-22:30 Berlin: 15:00-15:30 New York: 09:00-09:30	 1B.1 – Invited Lecture: Monolithically Integrated Optical Beam Scanners in a Visible Light Silicon Photonics Platform Joyce Poon Max Planck Institute of Microstructure Physics, Germany
Tokyo: 22:30-22:45 Berlin: 15:30-15:45 New York: 09:30-09:45	1B.2: Piezo-optomechanical microwave to optical signal transduction using suspended high-overtone bulk acoustic wave resonators (HBARs) Stefano Valle, Krishna Coimbatore Balram Electrical and Electronic Engineering, University of Bristol, UK
Tokyo: 22:45-23:00 Berlin: 15:45-16:00 New York: 09:45-10:00	1B.3: Performance Test of a Silicon Optomechanical Microwave Oscillator for Application in Satellite Communications Laura Mercade,[1,2] Eloy Rico,[3] Jesus Ruiz Garnica,[3] Amadeu Griol,[1] Miguel A. Piqueras,[3] Daniel Navarro-Urrios,[2] Alejandro Martínez,[1] Vanessa C. Duarte[3] 1 – Nanophotonics Technology Center, Universidad Politécnica de Valencia, Spain 2 – Facultad de Física, Universidad de Barcelona, Spain 3 – DAS Photonics S.L., DAS Photonics, Spain
Tokyo: 23:00-23:15 Berlin: 16:00-16:15 New York: 10:00-10:15	1B.4: Microscale six-mode photonic lantern multiplexer compatible with 3D nanoprinting technology Yoav Dana, Parvinder Kaur Gill, Yehudit Garcia, Dan Marom Applied Physics, Hebrew University, Israel
Tokyo: 23:15-23:30 Berlin: 16:15-16:30 New York: 10:15-10:30	1B.5: A Lens Steering Actuator for Secure Visible Light Communication Mehmet Can Erdem,[1] Oğuz Gürcüoğlu,[2] Erdal Panayırcı,[3] Güneş Karabulut Kurt,[4] Onur Ferhanoğlu[1] 1 – Electronics and Communication Engineering, Istanbul Technical University, Turkey 2 – Physics Engineering, Istanbul Technical University, Turkey 3 – Electrical and Electronics Engineering, Kadir Has University, Turkey 4 – Electrical Engineering, Polytechnique Montréal, Canada
Tokyo: 23:30-24:00 Berlin: 16:30-17:00 New York: 10:30-11:00	 1B.6 – Invited Lecture: From Metasurface to High-volume Manufacturing for Consumer Electronics and Communications Federico Capasso Harvard University, USA

Tokyo: 13:00-15:00 **Berlin: 06:00-08:00** **New York: 00:00-02:00**	**Tuesday 2A – Biosensing** **Presider: Niels Quack, University of Sydney, Australia**
Tokyo: 13:00-13:30 Berlin: 06:00-06:30 New York: 00:00-00:30	 2A.1 – Invited Lecture: Integrated Refractive Index Sensors: Combining Plasmonic Nanostructures with Group-IV Devices Inga Fischer BTU Cottbus-Senftenberg, Germany
Tokyo: 13:30-13:45 Berlin: 06:30-06:45 New York: 00:30-00:45	2A.2: Ultrasensitive Comb Waveguide Sensor for Long-Wave Infrared Gas Spectroscopy Weixin Liu, Xinmiao Liu, Jingkai Zhou, Cheng Xu, Yiming Ma, Chengkuo Lee Department of Electrical and Computer Engineering, National University of Singapore, Singapore
Tokyo: 13:45-14:00 Berlin: 06:45-07:00 New York: 00:45-01:00	2A.3: Dielectric and Plasmonic Metasurfaces for Refractive Index Sensing in the NIR Range Dhananjoy De,[1] R. Vijaya[2] 1 – Centre for Lasers and Photonics, India 2 – Department of Physics and Centre for Lasers and Photonics, India
Tokyo: 14:00-14:15 Berlin: 07:00-07:15 New York: 01:00-01:15	2A.4: Design of Hybrid Plasmonic - Pedestal Ta_2O_5 Waveguide for Biosensing Applications Jorge Fernandez, Hugo Hernández Computational and Applied Electromagnetism Laboratory, LEMAC UNICAMP, Brazil
Tokyo: 14:15-14:30 Berlin: 07:15-07:30 New York: 01:15-01:30	2A.5: A Stacked Multi-Sensor Platform on Fiber for Interventional MRI Parviz Zolfaghari,[1] Oguz Kaan Erden,[2] Onur Ferhanoglu,[1] Murat Tümer,[3] Arda Deniz Yalcinkaya[2] 1 – Electronics and Communication Engineering, Istanbul Technical University, Turkey 2 – Electrical and Electronics Engineering, Bogazici University, Turkey 3 – Electrical and Electronics Engineering, Turkish-German University, Turkey
Tokyo: 14:30-15:00 Berlin: 07:30-08:00 New York: 01:30-02:00	 2A.6 – Invited Lecture: Photonic Engineering via Quadratically Constrained Quadratic Programs Alejandro Rodriguez Princeton University, USA

Tokyo: 22:00-24:00 **Berlin: 15:00-17:00** **New York: 09:00-11:00**	**Tuesday 2B – Healthcare** **Presider: John Zhang, Dartmouth College, USA**
Tokyo: 22:00-22:45 Berlin: 15:00-15:45 New York: 09:00-09:45	 2B.1 – Keynote Lecture: Cancer Measurement at the Point of Care using Nanophotonics Brian Cunningham University of Illinois, USA
Tokyo: 22:45-23:00 Berlin: 15:45-16:00 New York: 09:45-10:00	2B.2: Fast tracking of pupil size and position through the eyelid using OCT Timo Villinger, Hans Zappe, Çağlar Ataman Dept. of Microsystems Engineering, University of Freiburg, Germany
Tokyo: 23:00-23:15 Berlin: 16:00-16:15 New York: 10:00-10:15	2B.3: Investigation of growth conditions of molecularly imprinted films on optical interferometric surface stress sensor for label-free neurotransmitter detection Takato Sakagami,[1] Toshiaki Takahashi,[1] Hiroyuki Ohta,[2] Toshinori Fujie,[3] Yong-Joon Choi,[1] Toshihiko Noda,[1] Kazuaki Sawada,[1] Kazuhiro Takahashi[1] 1 – Department of Electrical and Electronic Information Engineering, Toyohashi University of Technology, Japan 2 – School of Medicine, National Defense Medical College, Japan 3 – School of Life Science and Technology, Tokyo Institute of Technology, Japan
Tokyo: 23:15-23:30 Berlin: 16:15-16:30 New York: 10:15-10:30	2B.4: An Optical Sensor–Glasses Pair for measuring Intraocular Pressure in Real-time Parviz Zolfaghari,[1] Arda Deniz Yalcinkaya,[2] Onur Ferhanoğlu[1] 1 – Electronics and Communication Engineering, Istanbul Technical University, Turkey 2 – Electrical and Electronics Engineering, Bogazici University, Turkey
Tokyo: 23:30-24:00 Berlin: 16:30-17:00 New York: 10:30-11:00	 2B.5 – Invited Lecture: Optomechanical Ultrasound Sensors in Silicon Photonic Technology Wouter Westerveld Delft University of Technology, Netherlands

Tokyo: 13:00-15:00 **Berlin: 06:00-08:00** **New York: 00:00-02:00**	**Wednesday 3A – MEMS Micromirrors** **Presider: Dan Marom, Hebrew University of Jerusalem, Israel**
Tokyo: 13:00-13:45 Berlin: 06:00-06:45 New York: 00:00-00:45	 3A.1 – Keynote Lecture: Tunable Metasurfaces for Display Applications and Spectral Control Uriel Levy Hebrew University, Israel
Tokyo: 13:45-14:00 Berlin: 06:45-07:00 New York: 00:45-01:00	3A.2: Rhodonea Curve Scanning with Doubly Resonant Micromirrors Jennifer Solgaard,[1] Olav Solgaard[2] 1 – Electrical Engineering, California Institute of Technology, USA 2 – Electrical Engineering, Stanford University, USA
Tokyo: 14:00-14:15 Berlin: 07:00-07:15 New York: 01:00-01:15	3A.3: 22.3 kHz Update Rate Lissajous Scanning using a Single Double Resonant MEMS Scanner Jay Christopher, Paul Janin, Deepak Uttamchandani, Ralf Bauer Electronic and Electrical Engineering, University of Strathclyde, UK
Tokyo: 14:15-14:30 Berlin: 07:15-07:30 New York: 01:15-01:30	3A.4: A 3D Printed Rotational MEMS Actuator for Scanning Capsule Endoscopy Engincan Tekin, Onur Ferhanoğlu, Mustafa Berke Yelten, Ahmet Can Erten Electronics And Communications Engineering, Istanbul Technical University
Tokyo: 14:30-15:00 Berlin: 07:30-08:00 New York: 01:30-02:00	 3A.5 – Invited Lecture: Programmable Microshutter Arrays: to the James Webb Space Telescope and Beyond Alexander Kutyrev NASA - Sciences and Exploration Directorate, USA

Tokyo: 22:00-24:00 **Berlin: 15:00-17:00** **New York: 09:00-11:00**	**Wednesday 3B – Functional Chips** **Presider: Guangya Zhou, National University of Singapore, Singapore**
Tokyo: 22:00-22:30 Berlin: 15:00-15:30 New York: 09:00-09:30	 3B.1 – Invited Lecture: Ultra-Low Power Programmable Silicon Photonic MEMS Sangyoon Han Daegu Gyeongbuk Inst. of Sci. and Tech. (DGIST), South Korea
Tokyo: 22:30-22:45 Berlin: 15:30-15:45 New York: 09:30-09:45	3B.2: Design criteria in rectangular waveguides using semi-analytical effective index methods Antonio Ganfornina-Andrades, Jaime García-Rupérez Universitat Politècnica de València, Nanophotonics Technology Center (NTC), Spain
Tokyo: 22:45-23:00 Berlin: 15:45-16:00 New York: 09:45-10:00	3B.3: Development of a Precalibration Routine for Viscosity Measuring Microfluidic Chips Ceyda Köksal, Ezgi Şentürk, Onur Ferhanoğlu, Ahmet Can Erten Electronics and Communication Engineering Department, Istanbul Technical University, Turkey
Tokyo: 23:00-23:15 Berlin: 16:00-16:15 New York: 10:00-10:15	3B.4: Integrated Si Photonics for Implementing mmWave Fiber-Wireless Phased Array Antenna Hsiang-Chih Kao,[1] Ping-Yun Hsieh,[2] Yi-Cheng Huang,[3] Yi-Chun Liu,[2] Kai-Ming Feng,[3], Ming-Chang Lee[1] 1 – Inst. of Photonics Technologies, National Tsing Hua University, Taiwan 2 – Inst. of Electronics Engineering, National Tsing Hua University, Taiwan 3 – Inst. of Communications Engineering, National Tsing Hua University, Taiwan
Tokyo: 23:15-23:30 Berlin: 16:15-16:30 New York: 10:15-10:30	3B.5: Intensity Noise Reduction for Gain-Switched Quantum Dot Lasers Nuran Dogru,[1] Erkan Cengiz,[1] Hilal S. Duranoglu Tunc[2] 1 – Electrical and Electronics Engineering, Gaziantep University, Turkey 2 – Dresden University of Technology, Dresden University of Technology, Germany
Tokyo: 23:30-24:00 Berlin: 16:30-17:00 New York: 10:30-11:00	 3B.6 – Invited Lecture: Large Scale Optical Switching in Google Data Centers Kevin Yasumura Technical Lead for MEMS and Optical Switching Development at Google, USA

Tokyo: 13:00-15:00 **Berlin: 06:00-08:00** **New York: 00:00-02:00**	**Thursday 4A – Environmental** **Presider: Frederic Zamkostsian, Laboratoire d'Astrophysique de Marseille, France**
Tokyo: 13:00-13:30 Berlin: 06:00-06:30 New York: 00:00-00:30	 4A.1 – Invited Lecture: Plasmon-Enhanced Visible Photocatalysis Xuming Zhang Hong Kong Polytechnic University, China
Tokyo: 13:30-13:45 Berlin: 06:30-06:45 New York: 00:30-00:45	4A.2: Zinc oxide nanophotonic sensor for machine-learning-assisted water pollutants detection and purification Junhu Zhou, Congran Jin, Ziqian Wu, John Zhang Thayer School of Engineering at Dartmouth, Dartmouth College, USA
Tokyo: 13:45-14:00 Berlin: 06:45-07:00 New York: 00:45-01:00	4A.3: Multi-point fiber-optic distance sensor for endoscopic surgery monitoring Sergio Vilches, Hans Zappe, Çağlar Ataman Dept. of Microsystems Engineering, University of Freiburg, Germany
Tokyo: 14:00-14:15 Berlin: 07:00-07:15 New York: 01:00-01:15	4A.4: Fabrication of Silicon PN Junction Based Microelectrodes for Enhanced Microbial Metabolism Tianqi Luo,[1] Daniel Bond,[2] Joseph Talghader[3] 1 – Electrical engineering, University of Minnesota, United States 2 – Microbiology and Immunology, University of Minnesota, United States 3 – Electrical engineering, University of Minnesota, United States
Tokyo: 14:15-14:30 Berlin: 07:15-07:30 New York: 01:15-01:30	4A.5: Compact Low-Cost Solution for Wavelength Sensitive Applications with Micro-Machined Tunable VCSEL Mohammed Saad Khan, Changdae Keum, Yi Xiao, Vivek Anand Menon, Keiji Isamoto, Nobuhiko Nishiyama, Hiroshi Toshiyoshi R&D group, Optical Image Sensing Company, Santec Corporation, Nenjozaka, Komaki, Aichi, Japan
Tokyo: 14:30-15:00 Berlin: 07:30-08:00 New York: 01:30-02:00	 4A.6 – Invited Lecture: Photonic Chips Bringing Quantum Computers and Communications One Step Closer Ai-Qun Liu Nanyang Technological University, Singapore

Tokyo: 22:00-24:00 **Berlin: 15:00-17:00** **New York: 09:00-11:00**	**Thursday 4B – Signal Processing in Nanophotonics** **Presider: Wibool Piyawattanametha, King Mongkut's Institute of Technology Ladkrabang, Thailand**
Tokyo: 22:00-22:45 Berlin: 15:00-15:45 New York: 09:00-09:45	 4B.1 – Keynote Lecture: New Discoveries in Whispering-Gallery-Mode Microresonators Lan Yang Washington University in St. Louis, USA
Tokyo: 22:45-23:00 Berlin: 15:45-16:00 New York: 09:45-10:00	4B.2: Investigating the Optical Properties of Arrays Composed of Sub-micron Compound Parabolic Light Concentrators Ashish Prajapati, Gil Shalev School of Electrical and Computer Engineering, Ben Gurion University of the Negev, Israel
Tokyo: 23:00-23:15 Berlin: 16:00-16:15 New York: 10:00-10:15	4B.3: Optical Hall Effect Applied to Nanoscale Amplifier Raz Mottes, Avi Karsenty Faculty of Engineering, Electro-Optics Department, Lev Academic Center - Jerusalem College of Technology (JCT), Israel
Tokyo: 23:15-23:30 Berlin: 16:15-16:30 New York: 10:15-10:30	4B.4: Bullseye Passive Metasurface for Improved Penetration Rate and Exotic Beam Shape Through Opaque Materials via Complex Wavevectors Perea Puente Sinuhé, Francisco Rodríguez-Fortuño Physics Department, King's College London, UK
Tokyo: 23:30-24:00 Berlin: 16:30-17:00 New York: 10:30-11:00	 4B.5 – Invited Lecture: Generation, Manipulation and Detection of Single Photons Val Zwiller KTH Royal Institute of Technology, Sweden