

Time	Title	Author	Affiliation
7:00–8:00	<b>Registration</b> (Registration desk will be open from 7:00 a.m. to 7:00 p.m.)		
8:00–8:05	Welcome and Introduction to Conference		
8:05–8:10	Greetings from co-organizer		
	<b>Plenary Session I: In-Orbit Demonstration</b>	Chair: Hamid Hemmati, Facebook Inc., USA	
8:10–8:40	(Invited) Alphasat and Sentinel 1A, the First 100 Links	Frank F Heine	Tesat Spacecom, Germany
8:40–9:10	(Invited) European Data Relay System – Operational Service Using Optical Communications Technology	Harald Hauschildt	ESA, Netherlands
9:10–9:30	GEO LEO Beaconless Spatial Acquisition Reality in Space	Daniel Dallmann	Tesat Spacecom, Germany
9:30–9:45	<b>Coffee Break</b>		
	<b>System Study and Analysis</b>	Chair: Bernard Edwards, NASA Goddard Space Flight Center, USA	
9:45–10:05	Optical Feeder Links for High Throughput Satellites	Bernard Roy	Airbus Defence and Space, France
10:05–10:25	A Study of the Free Space Laser Communication Experiment on the ISS Japanese Experimental Module for Space Explorations	Tatsuya Mukai	JAXA, Japan
10:25–10:45	Gaussian Beam Characterization for Laser Beam Propagation Through Translucent, Multilayer Medium with Random Indices of Refraction	Kamran Kiasaleh	University of Texas, USA
10:45–11:00	<b>Coffee Break</b>		
	<b>Atmospheric Propagation</b>	Chair: Kamran Kiasaleh, University of Texas, USA	
11:00–11:20	Ground Station Diversity Requirements for Cloud Free LOS Links to Various Satellite Orbits	Christopher Moore	US Naval Research Laboratory, USA
11:20–11:40	Feasibility Study on Estimated Frequency of LEO–Ground Station Laser Communication Using SOTA Demonstration Results, an Environmental Data Gathering System and a Weather Satellite Image Data	Yasushi Munemasa	NICT, Japan
11:40–12:00	Getting Through Fog & Clouds with FSO	John Cabaniss	Fog Optics, Inc, USA
12:00–13:30	<b>Lunch</b>		
	<b>Plenary Session II: Planned Demonstration</b>	Chair: Morio Toyoshima, NICT, Japan	
13:30–14:00	(Invited) An Overview of NASA's Latest Efforts in Near Earth Optical Communications	Bernard Edwards	NASA Goddard Space Flight Center, USA
14:00–14:30	(Invited) JAXA's Optical Data Relay Satellite Programme	Shiro Yamakawa	JAXA, Japan
14:30–15:00	(Invited) Multi-Purpose Laser Communication System for the Asteroid Impact Mission	Zoran Sodnik	ESA, Netherlands
15:00–15:20	<b>Coffee Break</b>		
	<b>Ground Station Technology</b>	Chair: Linda M Thomas, US Naval Research Laboratory, USA	
15:20–15:40	Characterization of Atmospherics in Hawaii for Free Space Optical Communications	Randal Alliss	Northrop Grumman Corporation, USA
15:40–16:00	Multi-Aperture Digital Coherent Combining for Next-Generation Optical Communication Receivers	Timothy Yarnall	MIT Lincoln Laboratory, USA
16:00–16:20	Development, Integration and Test of a Transportable Adaptive Optical Ground Station	Edgar Fischer	Synopta, Switzerland
16:20–16:40	Ground-based Gamma-ray Telescopes as Ground Stations in Deep-Space Lasercom	Alberto Carrasco-Casado	NICT, Japan
16:40–17:00	<b>Coffee Break</b>		
	<b>Modulation and Coding Technology</b>	Chair: Frank F Heine, Tesat Spacecom, Germany	
17:00–17:20	Comparison of Homodyne and Intradyne Detection for High-Order Modulation Schemes in Optical Intersatellite Communication Systems	Semjon Schaefer	University of Kiel, Germany
17:20–17:40	A Study of Optical Satellite Communication Systems Employing Rate-Adaptive Forward Error Correction	Yuta Takemoto	Mitsubishi, Japan
17:40–18:00	Sensitive Clock Recovery for Multi-Rate DPSK Optical Receivers	Neal Spellmeyer	MIT Lincoln Laboratory, USA
18:00–18:20	A Photon-Counting Multi-user Q-ary PPM Iterative Soft Detection Scheme for Space Optical Communications	Kaili Gu	Fudan University, China
18:20–19:30	<b>Poster</b>		
	Performance of Atmospheric Coherent Laser Receiver and Bandwidth for Adaptive Optics System	Jiawei Li	Chinese Academy of Sciences, China
	Single-mode, 1550nm, Gigahertz Modulation-Rate High Power Lasers for Space and Terrestrial Applications	Jeremy Thomas	Freedom Photonics, USA
	Chip Scale Package Fiber Optic Transceiver Integration for Harsh Environments	Chuck Tabbert	Ultra Communications Inc, USA
	MOEMS Devices in Future Space Laser Communication Systems	Frederic Zamkotsian	Laboratoire d'Astrophysique de Marseille, France
	Fresnel Lens Radiation Shield for Photodiode	Minoru Watanabe	Shizuoka University, Japan
	Total-Ionizing Dose Tolerance of the Serial Configuration on Cyclone II FPGA	Hiroyuki Ito	Shizuoka University, Japan
	Triple Modular Redundancy on Parallel-Operation-Oriented FPGA Architectures for Optical Communications	Minoru Watanabe	Shizuoka University, Japan
	Narrow Linewidth Semiconductor Distributed Bragg Reflector Laser for Optical Satellite Superheterodyne Receiver At 972 nm and 1064nm	Martin Kastner	Ferdinand-Braun-Institut, Germany
	100 Mrad Total-Ionizing Dose Tolerance Experiment of a Laser Array	Kouta Akagi	Shizuoka University, Japan
	Packaged Micro-Integrated Semiconductor Laser Modules for Cold Atom Experiments in Space	Martin Kastner	Ferdinand-Braun-Institut, Germany
	A Proposal of Beaconless Low Earth Orbit Satellite to Ground Laser Communication System by Using GPS Information	Keiichi Yano	Shibaura Institute of Technology, Japan

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7:00–8:00	<b>Registration</b> (Registration desk will be open from 7:00 a.m. to 7:00 p.m.)		
	<b>Acquisition and Tracking Technology</b>	Chair: Harald Hauschildt, ESA, Netherlands	
8:00–8:20	A Novel Spatial Tracking Loop for Laser Communication Over Turbulent Unguided Optical Channels	Kamran Kiasaleh	Universsity of Texas, USA
8:20–8:40	Modelling and Analysis of Flight Dynamics Influences on the Spatial Acquisition and Tracking Performance of the TESAT Laser Communication Terminal	Uwe Sterr	ST2C, Germany
8:40–9:00	Outstanding Opto-Mechanical Stability: Design and Qualification Method for Risk Management Applied to the LMJ Target Alignment System and to MTG Imager Test Setup	Jean-Baptiste Haumonte	Bertin Technologies, France
9:00–9:20	<b>Coffee Break</b>		
	<b>Small Satellites Technology</b>	Chair: Richard Welle, Aerospace Corporation, USA	
9:20–9:40	OSIRIS Payload for Small Satellites with Miniaturized Pointing Unit	Christopher Schmidt	DLR, Germany
9:40–10:00	ATP Subsystem for Optical Communications on a Cubesat	Arturo Arvizu	CICESE, Mexico
10:00–10:20	Innovative Optical Bench of a Laser Communication System for Small LEO Satellites	Niel Truyens	TNO, Netherlands
10:20–10:40	<b>Coffee Break</b>		
	<b>Plenary Session III: Planned Demonstration</b>	Chair: Zoran Sodnik, ESA, Netherlands	
10:40–11:10	(Invited) Current and Future Status of Research and Development on Space Laser Communications Technologies in NICT	Morio Toyoshima	NICT, Japan
11:10–11:30	Free Space Optical Communications At NRL	Linda M Thomas	US Naval Research Laboratory, USA
11:30–11:50	Laser Downlink Demonstration From a 1.5U CubeSat	Richard Welle	Aerospace Corporation, USA
11:50–13:30	<b>Lunch</b>		
	<b>In-Orbit Demonstration with SOTA</b>	Chair: Randal Alliss, Northrop Grumman Corporation, USA	
13:30–13:50	Demonstration of Low-Density Generator Matrix (LDGM) Code Through Atmospheric Turbulence Channels with Small Optical TrAnponder (SOTA)	Hideki Takenaka	NICT, Japan
13:50–14:10	Overview of International Experiment Campaign with Small Optical TrAnponder (SOTA)	Dimitar R. Kolev	NICT, Japan
14:10–14:30	First Free Space Optical Communication in Europe Between SOTA and MeO Optical Ground Station	Etienne Samain	OCA-Geoazur, France
14:30–14:50	Telecom & Scintillation First Data Analysis for DOMINO – Laser Communication Between SOTA, Onboard SOCRATES Satellite, and MEO Optical Ground Station	Duy-Ha Phung	OCA-Geoazur, France
14:50–15:10	First Results of Wavefront Sensing on SOTA	Nicolas Vedrenne	OCA-Geoazur, France
15:10–15:30	Adaptive Optics Results with SOTA	Cyril Petit	ONERA, France
15:30–15:50	<b>Coffee Break</b>		
	<b>Quantum Communication Technology</b>	Chair: Xavier Lobao, ESA, Netherlands	
15:50–16:10	Satellite Quantum Communication Via the Alphasat Laser Communication Terminal	Dominique Elser	Max Planck Institute for the Science of Light, Germany
16:10–16:30	Quantum Key Distribution At Space Scale	Thomas Herbst	Austrian Academy of Sciences, Austria
16:30–16:50	SuperDense Teleportation and Quantum Key Distribution for Space Applications	Trent Graham	University of Illinois, USA
16:50–17:10	Free-space Reconfigurable Quantum Key Distribution Network	Bing Qi	Oak Ridge National Laboratory, USA
17:10–17:20	Concluding remarks		
17:20–17:30	<b>Break</b>		
	<b>Panel Discussion</b>	Moderator: Xavier Lobao, ESA, Netherlands	
17:30–19:30	Optical satcom links: what to do to have them accepted in an operational environment?		