

Day 0 - Sunday July 14

18:30 – 20:00 *Welcome Reception at the Politecnico di Bari*

DAY 1 - Monday July 15

***** Mo A - Monday morning *****

Great Hall (1st floor)

9.00 - 9.30 *Opening Ceremony*

9.30 - 11.00 **Mo.A - PLENARY, Chair: Francesco Prudeniano**

9.30 **Mo.A.1** [VitielloM_plenary] [Ultrafast photodetectors at Terahertz frequencies based on 2D materials: technological developments and applications in optical communications](#) (30 min)

Miriam Serena Vitiello

10.00 **Mo.A.2** [TrolesJ_plenary] [Chalcogenide microstructured optical fibers: fabrication and applications](#) (30 min)

Johann Troles, Gilles Renversez

10.30 **Mo.A.3** [CochraneP_plenary] [Future Networking -v- Energy Limits](#) (30 min)

Peter Cochrane and Felix Ngobigha

***** Mo.B - Monday noon parallel sessions *****

Aula 1 - networks, Monday July 15

11.20-13.00 **Mo.B1 - WeInTel, Chairladies: Sima Barzegar & Pantea Nadimi Goki**

11.20 **Mo.B.1.1** [BlancoCaamanoMi2] [Header Proposal for the DetNet Application Layer](#) (Invited 20 min)

Marta Blanco Caamaño, Luis M. Contreras, Rafael A. López da Silva

11.40 **Mo.B.1.2** [GemmatoVi1] [Microwave Photonics Optical Filter for ESM Systems](#) (Invited 20 min)

Valentina Gemmato, Filippo Scotti, Federico Camponeschi, Luca Rinaldi, Marco Bartocci, Claudio Porzi and Paolo Ghelfi

12.00 **Mo.B.1.3** [NadalLi1] [Towards Extending Switching Capabilities in Future Optical Networks](#) (Invited 20 min)

Laia Nadal, Josep M. Fàbrega, Mumtaz Ali, F. Javier Vílchez, and Michela Svaluto Moreolo

12.20 **Mo.B.1.4** [RadovicMi1] [Multicarrier Transmission Optimization in Elastic Optical Networks](#) (Invited 20 min)

Margita Radovic, Andrea Sgambelluri, Filippo Cugini, and Nicola Sambo

12.40 **Mo.B.1.5** [SadighiLi1] [Machine Learning Analysis of Polarization Signatures for Distinguishing Harmful from Non-harmful Fiber Events](#) (Invited 20 min)

Leyla Sadighi, Stefan Karlsson, Lena Wosinska, Marija Furdek

Aula 3 - access, Monday July 15

11.20-13.10 Mo.B2 - Access 1, Chair: Pierpaolo Boffi

11.20 **Mo.B2.1** [ArevaloGi1] [Convergence Test of LTE and OFDM-IM in Optical Access Networks](#) (Invited 20 min)

Germán V. Arévalo, Arguero T. Berenice, and Milton N. Tipán

11.40 **Mo.B2.2** [BoscoGi1] [Next Generation Coherent PONs: Technical Challenges and Outlook](#) (Invited 20 min)

Giuseppe Rizzelli, Gabriella Bosco, Dario Pileri, Mariacristina Casasco, and Roberto Gaudino

12.00 **Mo.B2.3** [CalabrettaNi1] [Photonic WDM Switches for Multi-Band Optical Networks](#) (Invited 20 min)

Shiyi Xia, Henrique Freire Santana, Marijn Rombouts, Yu Wang, Aref Rasoulzadeh Zali, Mohammad Mukit, Zhouyi Hu, Oded Raz, Nicola Calabretta

12.20 **Mo.B2.4** [KlinkowskiMi1] [Quality of Transmission-Aware Optimization of Passive WDM Optical Xhaul Access Networks](#) (Invited 20 min)

Mirosław Klinkowski

12.40 **Mo.B2.5** [ChatterjeeBCr1] [Blocking Probability Analysis Modeling in Spectrally-Spatially Elastic Optical Networks: A Crosstalk-Avoided Perspective](#) (15 min)

Imran Ahmed, Eiji Oki, and Bijoy Chand Chatterjee

12.55 **Mo.B2.6** [MasanasMr1] [Experimental assessment of photonic down-conversion techniques for analog new-radio upstream](#) (15 min)

Miquel Masanas, María C. Santos, Josep Prat

Aula 5 - systems, Monday July 15

11.20-13.35 Mo.B3 - 5GT/TECHto6G, Chair: Hamzeh Khalili

11.20 **Mo.B3.1** [VazquezCi1] [Power-over-Fiber Integration in 5G Optical Fronthauling based on Multicore Fibers](#) (Invited 20 min)

David Sánchez Montero, Rubén Altuna, Javier Barco, Juan Dayron López-Cardona, Carmen Vázquez

11.40 **Mo.B3.2** [YamanakaNi1] [Newly structured Hollow-Core Fiber and its open innovation field for Power over fiber, Radio over fiber and ultra-low latency application](#) (Invited 20 min)

Naoaki Yamanaka, Satoru Okamoto, Hiroyuki Tsuda, Motoharu Matsuura and Kazunori Mukasa

12.00 **Mo.B3.3** [CareglioDi1] [In-network Computing for Secure Distributed AI](#) (Invited 20 min)

Chiara Grasselli, Lorenzo Rinieri, Pol González, Luis Velasco, Davide Careglio, and Franco Callegati

12.20 **Mo.B3.4** [RinconDi1] [Building a 5G-TSN Testbed: Architecture and Challenges](#) (Invited 20 min)

Anna Agustí-Torra, Marc Ferré-Mancebo, David Rincón-Rivera, Cristina Cervelló-Pastor, Sebastià Sallent-Ribes

12.40 **Mo.B3.5** [Tomkosli1] [Challenges and Innovations of Transport Networks to Support 6G Use-Cases](#) (Invited 20 min)

Ioannis Tomkos

13.00 **Mo.B3.6** [MunozRi1] [Security and Trust in Open and Disaggregated 6G networks](#) (Invited 20 min)

P. Alemany, R. Munoz, R. Vilalta, Ll. Gifre, R. Martinez, R. Casellas, M. Castro, P. Ferreira, D. Moreira, J. Garcia, J. Cunha, I. Nunez, G. Gomez, S. Castro, A. Pastor, D. Lopez

13.20 **Mo.B3.7** [ZinouneJBr1] [Kerr Effect Enhanced Nonlinear Optical Correlator: Simplified Implementation for Non-Binary Matrix Multiplication](#) (15 min)

Julien-Bilal Zinoune, Christophe Cassagne, Mihaela Chis, Georges Boudebs

Aula 7 - fibres, Monday July 15

11.20-13.00 Mo.B4 - MOF 1 - Low loss hollow core fibers, Chair: Walter Bellardi

11.20 **Mo.B4.1** [MOF opening](#) (10 min)

Walter Bellardi

11.30 **Mo.B4.2** [PolettiFi1] [Hollow core fibres: the long and winding road from scientific tool to commercial product](#) (Invited 30 min)

Francesco Poletti

12.00 **Mo.B4.3** [FroszMi1] [Non-invasive techniques for measuring the microstructure of hollow-core fibres during drawing](#) (Invited 20 min)

Michael Frosz

12. 20 **Mo.B4.4** [VincettiLi1] [Hollow Core Inhibited Coupling Fibers: theoretical and real limits](#) (Invited 20 min)

F. Melli, L. Rosa, K. Vasko, F. Benabid, and L. Vincetti

12.40 **Mo.B4.5** [AlDhaybiAi1] [Hollow-core fibers with reduced surface roughness for record losses and beam delivery in the UV domain](#) (Invited 20 min)

Ali Al Dhaybi, Jonas Osorio, Frédéric Delahaye, Kostia Vasko, Foued Amrani, Gilles Tessier, Luca Vincetti, Benoit Debord, Frédéric Gérôme and Fetah Benabid

Aula 9 - SWP, Monday July 15

11.20-13.30 Mo.B5 - SWP 1 sensors, Chairlady: Crina Cojocaru

11.20 **Mo.B5.1** [JhaAi1] [Applications of Near-IR CW and Ultrafast Pulsed Lasers and Photo-active Biominerals in Reconstructive and Restorative Surgery of Hard Tissues](#) (Invited 30 min)

Sarathkumar Lognathan, Eric K Barimah, Geeta Sharma, Evangelos Daskalakis, Neelam Iqbal, Lemiha Yildizbakan, E Mostafa Raif, N Thuy Do, Peter V Giannoudis, Animesh Jha

11.50 **Mo.B5.2** [BensonTi1] [FBG-based sensors for measurement of small distances](#) (Invited 20 min)

Trevor Benson, Jacek Palmowski, Sindy Phang, Alicja Anuszkiewicz, Tomasz Osuch, Yaping Zhang, Elżbieta Bereś-Pawlik

12.10 **Mo.B5.3** [ZhangYi1] [A Weak-FBG Sensor Demodulation System Based on a DBR-SOA Tunable Laser](#) (Invited 20 min)

Chongqian Zhu, Kun Shang, Wenqian Yuan, Haikun Zhang, Yanan Zhai, Xingwei Sun, Yaping Zhang

12.30 **Mo.B5.4** [KaszubowskaAnandarajahAi1] [Dual Optical Frequency Comb for Photonic Sensing](#) (Invited 20 min)

Minghao Wei, Prince M. Anandarajah and Aleksandra Kaszubowska- Anandarajah

12.50 **Mo.B5.5** [SanipatinBi1] [Optical Vernier Effect-Based DC Piezoelectric Sensor for Low Voltage Applications](#) (Invited 20 min)

Bryan Sanipatin, Luis A. Sánchez and Salvador Sales

13.10 **Mo.B5.6** [XuHi1] [Novel 2D Glassy-Graphene for Photodetection and Sensing](#) (Invited 20 min)

Wang Na, Jiazhen Zhang, Fan Cui, Xiao Li, Kai Shen, Jiang Wu, Guifu Zou, Hao Xu

Aula 11 - D-Photon, Monday July 15

11.20-13.20 Mo.B6 - Qphot 1, Chair: Jiří Petráček

11.20 **Mo.B6.1** [RamponiRi1] [Diamond platform for Quantum Technologies: laser and ion beam writing](#) (Invited 20 min)

Roberta Ramponi, Giulio Coccia, Yanzhao Guo, Akhil Kuriakose, Sahnawaz Alam, Sajedah Shahbazi, Anthony J. Bennett, Vibhav Bharadwaj, J. P. Hadden, Ottavia Jedrkiewicz, Paweł Machnikowski, Alexander Kubanek, Shane M. Eaton

11.40 **Mo.B6.2** [JelenkovicBi1] [Quantum imaging with undetected photons](#) (Invited 20 min)

F. Krajinčić, J.R. León-Torres, M. Kumar, C. Helgert, F. Setzpfandt, and B. Jelenković

12.00 **Mo.B6.3** [BoudebsGi1] [Evaluation of fluorescence quantum yields using thermal lens Z-scan measurements: theoretical and experimental errors for low and high quantum yields](#) (Invited 20 min)

Georges Boudebs, Julien-Bilal Zinoune, Christophe Cassagne, Mihaela Chis

12.20 **Mo.B6.4** [EramoVi1] [Definition and Effectiveness Evaluation of an Analytical Model for the Dimensioning of Memory in Quantum Switches](#) (Invited 20 min)

V. Eramo, F.G. Lavacca, A. Cianfrani, M. Polverini, M. Listanti

12.40 **Mo.B6.5** [AnKi1] [Coherent Photon Statistics in a Superradiant Laser](#) (Invited 20 min)

Kyungwon An

13.00 **Mo.B6.6** [BennettAi1] [Quantum optics with aluminium nitride](#) (Invited 20 min)

Y. Guo, H. Bilge Yağcı, J. K. Cannon, S. G. Bishop, R. N. Clark, J. P. Hadden and A. J. Bennett

Aula 13 - materials&devices, Monday July 15

11.20-13.10 Mo.B7 - ESPC, Chairlady: Antonella D'Orazio

11.20 **Mo.B7.1** [BabaTi1] [Nonmechanical slow-light grating scanner loaded Si photonics FMCW LiDAR](#) (Invited 20 min)

Toshihiko Baba

11.40 **Mo.B7.2** [NotomiMi1] [Topological and non-Hermitian photonics controlled by hybrid photonic crystals](#) (Invited 20 min)

Masaya Notomi, Takahiro Uemura, Satoshi Suzuki, Yuto Moritake

12.00 **Mo.B7.3** [HoudreRi1] [Integrated photonic crystal nanotweezers for bacteria and bacteriophages viruses trapping and susceptibility testing](#) (Invited 20 min)

Nicolas Villa, Enrico Tartari, Simon Glicenstein, Emmanuel Picard, Pierre Marcoux, Marc Zelsmann, Grégory Resch, Emmanuel Hadji and Romuald Houdré

12.20 **Mo.B7.4** [KumarBi1] [Disorder-Enhanced Photonic Crystals based on-chip Spectrometer](#) (Invited 20 min)

Bhupesh Kumar and Sebastian A. Schulz

12.40 **Mo.B7.5** [OteroEr1] [Rainbow light trapping in a chirped 3D woodpile photonic crystal](#) (15 min)

E. Otero, B. Soria, D. Gailevičius, V. Mizeikis, E. Puig Vilardell, K. Staliūnas, M. Malinauskas, J. Trull, C. Cojocar

12.55 **Mo.B7.6** [MorozovGr1] [Periodic Solutions of Hill's Equation in Allowed Bands](#) (15 min)

G. V. Morozov and A. Goussev

Aula 1 - networks, Monday July 15

13.30-14.50 Mo.C1 - 6GNeO/TSN, Chair: Marc Ruiz

13.30 **Mo.C1.1** [BlancoCaamanoMi1] [Reliability in deterministic networks: Comparison of FRER \(TSN\) and PREOF \(DetNet\)](#) (20 min)

Marta Blanco Caamaño, Luis M. Contreras, Javier Velázquez Martínez, Rafael A. López da Silva

13.50 **Mo.C1.2** [SanchezGarridoJi1] [Integrating the synchronization stacks of a heterogeneous time-sensitive networking system with wired and wireless domains](#) (Invited 20 min)

Jorge Sánchez-Garrido, Emilio Florentín, Marco Fuentes, Trinidad García, Gorka Ros, Raúl Torrego

14.10 **Mo.C1.3** [VelascoLi2] [Provisioning of Time-Sensitive and non-Time-Sensitive Flows on a Common Infrastructure](#) (Invited 20 min)

L. Velasco and M. Ruiz

14.30 **Mo.C1.4** [SpadaroSi2] [The role of the TSN controller in E2E deterministic services provisioning](#) (Invited 20 min)

Salvatore Spadaro, Fernando Agraz, Albert Pagès

Aula 3 - access, Monday July 15

13.40-15.40 Mo.C2 - NOA, Chair: Paweł Rosa

13.40 **Mo.C2.1** [TuritsynSKi1] [Nonlinear science of optical fibre systems with semiconductor optical amplifiers](#) (Invited 20 min)

Sergei K. Turitsyn

14.00 **Mo.C2.2** [CarrereHi1] [Versatile global model for semiconductor optical amplifier design](#) (Invited 20 min)

Célia Cruz, Cosimo Calò, Frédéric Pommereau, Arnaud Wilk, Olivier Delorme, Nicolas Vaissière, Jean Decobert, Hélène Carrere

14.20 **Mo.C2.3** [SpiekmanLi1] [Limits to determination of polarization independence in SOAs](#) (Invited 20 min)

Leo H. Spiekman

14.40 **Mo.C2.4** [AniaCastanonJDi1] [Timing jitter in ultralong ultrafast ring fiber lasers](#) (Invited 20 min)

Alejandro Rosado, Inés Cáceres-Pablo and Juan Diego Ania Castañón

15.00 **Mo.C2.5** [CarrereHr1] [Design, Growth, and Characterization of Semiconductor Optical Amplifier Structures with Wide Spectral Bandwidth in C+L Bands](#) (15 min)

Quentin Hochart, Olivier Delorme, Cosimo Calò, Arnaud Wilk, Hélène Carrere

15.15 **Mo.C2.6** [LoconsoleAMr1] [Design of a praseodymium-doped fluoroindate fiber amplifier for medium infrared wavelength range applications](#) (15 min)

Antonella Maria Loconsole, Vito Vincenzo Francione, Andrea Annunziato, Francesco Anelli, Md. Imran Khan, Stefano Taccheo, Francesco Prudenzano

15.30 **Mo.C2.7** [RosaPr1] [Bandwidth Extension Using Raman Amplifier for Enhanced Optical Communication Systems](#) (10 min)

Paweł Rosa, Giuseppe Rizzelli Martella

Aula 5 - systems, Monday July 15

13.40-15.40 Mo.C3 - Qcomms 1, Chair: Paolo Martelli

13.40 **Mo.C3.1** [MorandottiRi1] [Quantum information and Artificial Neural Networks-based Signal Processing using Integrated Photonics](#) (Invited 20 min)

Imtiaz Alamgir, Luigi Di Lauro, Stefania Sciara, Abdul Rahim Aadhi, Celine Mazoukh, Hao Yu, Bennet Fischer, Nicolas Perron, Nicola Montaut, Mario Chemnitz, Brent E. Little, Sai T. Chu, David J. Moss, Zhiming Wang and Roberto Morandotti

14.00 **Mo.C3.2** [CincottiGi1] [Optical communications at the quantum limit](#) (Invited 20 min)

Matteo Rosati, Gabriella Cincotti

14.20 **Mo.C3.3** [BaccoDi1] [Building the Practical Foundations of a European Quantum Communication Infrastructure](#) (Invited 20 min)

Domenico Ribezzo, Mujtaba Zahidy, Clauda De Lazzari, Nicola Biagi, Ilaria Vagniluca, Cristian Antonelli, Antonio Mecozzi, Leif K. Oxenløwe, Alessandro Zavatta, Davide Bacco

14.40 **Mo.C3.4** [MartinVi1] [Towards Large Scale QKD networks](#) (Invited 20 min)

V. Martin, M. Peev, J.P. Brito, L. Ortíz, R. Brito-Méndez, R. Vicente, J. Saez-Buruaga, A.J. Sebastian-Lombráña, M.I. García-Cid, J. Faba, J. Setien, P. Salas, C. Escribano, L. Mengual, F. Fung, J. Morales, A. Muñiz, A. Pastor-Perales, D. Lopez

15.00 **Mo.C3.5** [ZavattaAi1] [Generating bound-entangled states using multicore fibres](#) (Invited 20 min)

Carlo Marconi, Elena Fanella, Davide Bacco, Alessandro Zavatta

15.20 **Mo.C3.6** [ParolariPi1] [Is the access network ready for Quantum Key Distribution?](#) (Invited 20 min)

Alessandro Gagliano, Alberto Gatto, Paolo Martelli, Pierpaolo Boffi, and Paola Parolari

Aula 7 - fibres, Monday July 15

14.00-15.20 Mo.C4 - MOF 2: Hollow core fibers for unconventional wavelengths range, Chair: Walter Belardi

14.00 **Mo.C4.1** [FuQi1] [Advances in Mid-Infrared Low-Loss Hollow-Core Anti-Resonant Fibers](#) (Invited 20 min)

Q. Fu, G. T. Jasion, L. Xu, D. J. Richardson, F. Poletti, I. A. Davidson, and N. V. Wheeler

14.20 **Mo.C4.2** [BelardiWi1] [Designing and exploiting the properties of gas filled hollow core optical fibers](#) (Invited 20 min)

Walter Belardi, William Wadsworth, Jonathan Knight, Piotr Jaworski, Karol Krzempek, Aymeric Pastre, Geraud Bouwmans, Laurent Bigot, Luca Vincetti, Lorenzo Rosa, Annamaria Cucinotta

14.40 **Mo.C4.3** [HarringtonKi1] [Anti-resonant hollow core fibres for UV guidance](#) (Invited 20 min)

Kerriane Harrington, Robbie Mears, James M Stone, Jonathan C Knight, William J Wadsworth, Tim A Birks

15.00 **Mo.C4.4** [StefaniAi1] [Flexible hollow core waveguides for THz applications and conformal sensing](#) (Invited 20 min)

Alessio Stefani, Alessandro Tuniz, Ivan D. Rukhlenko, Maryanne C.J. Large, Simon C. Fleming

Aula 9 - SWP, Monday July 15

14.20-15.40 Mo.C5 - SWP 2 biosensors, Chair: Francesco Dell'Olio

14.20 **Mo.C5.1** [ZalevskyZi2] [Fiber based photonic sensor for sensing of vital bio-signs and of glucose concentration in blood stream as well as for its usage in smart building related applications](#) (Invited 20 min)

Jonathan Philosof, Deep Pal, Aviya Bennett, Yevgeny Beiderman, Sergey Agdarov, Yafim Beiderman and Zeev Zalevsky

14.40 **Mo.C5.2** [TossiDi1] [Enhanced-backscattering optical fibers for inline interferometers: applications to biosensing](#) (Invited 20 min)

Daniele Tosi, Wilfried Blanc, Aliya Bekmurzayeva, Marzhan Nurlankyzy, Albina Abdossova, Sabira Seipetdenova, Kuanysh Seitkamal

15.00 **Mo.C5.3** [GiannettiAi1] [Molecular switches suitably designed for optical biosensing](#) (Invited 20 min)

Ambra Giannetti

15.20 **Mo.C5.4** [MarkosCi1] [Gas-filled Hollow-core Fiber Lasers and Advanced Optoelectronic Neural Interfaces for the Brain](#) (Invited 20 min)

Christos Markos, Yazhou Wang and Marcello Meneghetti

Aula 11 - D-Photon, Monday July 15

14.00-15.55 Mo.C6 - Qphot 2, Chairlady: Roberta Ramponi

14.00 **Mo.C6.1** [deCegliaDi1] [Analog signal processing with nonlinear nonlocal flat optics](#) (Invited 20 min)

Domenico de Ceglia and Costantino De Angelis

14.20 **Mo.C6.2** [ElsaesserWi1] [Unpolarized light: Poincaré sphere engineering - From natural light via quantum optics to applications](#) (Invited 20 min)

Wolfgang Elsässer, Florian Kroh and Markus Roskopf

14.40 **Mo.C6.3** [Petracek Ji1] [Photonic waveguides with bound states in the continuum](#) (Invited 20 min)

Jiří Petráček, Jiří Čtyroký, Vladimír Kuzmiak, and Ivan Richter

15.00 **Mo.C6.4** [RottwittKi1] [Detrimental effects in four wave mixing](#) (Invited 20 min)

Karsten Rottwitt, Thjalfe Ulvenberg, Lars S. Rishøj, Jacob G. Koefoed, and Lars Grüner-Nielsen

15.20 **Mo.C6.5** [TaheriniyaSi1] [Exploring novel photonic platforms for quantum computing through Si ion implantation](#) (Invited 20 min)

Shabnam Taheriniya, Akhil Varri, Seongmin Jo, Francesco Lenzini, Wolfram Pernice

15.40 **Mo.C6.6** [CaloCr1] [Buried Heterostructure InAs/InP Quantum Dash Lasers at 1.3 \$\mu\text{m}\$](#) (15 min)

Cosimo Calò, Daniel Micha, Nicolas Vaissière, Florence Martin, Gustavo Afonso de Castro, Célia Cruz, Igor Mijovic, Karim Mekhazni, Alexandre Shen, Frédéric Pommereau, Olivier Delorme and Arnaud Wilk

Aula 13 - materials&devices, Monday July 15

14.00-15.40 Mo.C7 - PICAW 1, Chair: António Teixeira

14.00 **Mo.C7.1** [NazabalVi1] [Rare earth doped chalcogenide waveguide for mid-IR luminescence](#) (Invited 20 min)
V. Nazabal, T. Ghandawi, F. Starecki, A. Hammouti, S. Meziani, A. Benardais, R. Chahal, J. Gutwirth, J. Lemaitre, C. Bousard, Y. Dumeige, P. Němec, J. Charrier, L. Bodiou

14.20 **Mo.C7.2** [MorthierGi1] [Heterogeneously integrated laser diodes that are efficient and insensitive to external feedback](#) (Invited 20 min)
G. Morthier, Y. Xue, G. Roelkens

14.40 **Mo.C7.3** [Suarezli1] [Tin perovskites vertical cavity lasers](#) (Invited 20 min)
Hamid Pashaei Adl, Jesús Sánchez-Díaz, Giovanni Vescio, Albert Cirera, Blas Garrido, Felipe Andres Vinocour Pacheco, Wiktor Żuraw, Łukasz Przepis, Senol Öz, Iván Mora-Seró, Juan P. Martínez-Pastor and Isaac Suárez

15.00 **Mo.C7.4** [KintakaKi1] [Optically Pumped VECSEL Using Cavity-Resonator-Integrated Guided-Mode Resonance Mirror](#) (Invited 20 min)
Kenji Kintaka, Akari Watanabe, Keisuke Ozawa, Junichi Inoue, and Shogo Ura

15.20 **Mo.C7.5** [PierscinskiKi1] [Quantum Cascade Laser: key component enabling mid-IR photonics](#) (Invited 20 min)
Kamil Pierściński, Dorota Pierścińska, Artur Broda, Katarzyna Pieniak, Dominika Niewczas, Agata Krzqstek, Jan Muszalski, Krzysztof Chmielewski, Maciej Bugajski

posters & DEMOs area, Monday July 15

14.00 - 16.00 Mo.C8 - DEMO 1, Chairs: Pol González, Francesco Paolucci, Luis Velasco

Mo.C8.1 [HernandezCr1] [Experimental Validation of an Efficient DRL-based Routing and Spectrum Assignment for Optical Network Automation](#)
Carlos Hernández-Chulde, Ramon Casellas, Ricardo Martínez, Ricard Vilalta and Raul Muñoz

Mo.C8.2 [JanardhananSr1] [Improving Network Sovereignty - A minimal cut set approach](#)
Shakthivelu Janardhanan, Yousuf Moiz Ali, Ritanshi Agarwal, Carmen Mas-Machuca

Mo.C8.3 [RahimiHr1] [Enabling Cloud AR/VR Gaming Services by an Open-Source and Standards-Based Network-as-a-Service Platform for Control and Management of Optical Networks](#)
Hesam Rahimi, Lluís Gifre, Ricard Vilalta, Raul Muñoz, Henry Yu, Yanpeng Wan, Ruilin Cai, Yixiao Chen, Hao Li, Haoyu Feng, Christopher Janz

Mo.C8.4 [GuaitoliniMr1] [Virtual Try-On Application leveraging RoCE in Low-latency Edge Computing Networks](#)
Michelangelo Guaitolini, Abdul H. Khan, Emilie Le Rouzic, Francesco Paolucci, Filippo Cugini

Mo.C8.5 [PapagianniCd1] [In-network Control for Flow Steering](#)
A. Dimoglis, F. Alhamed, A. Dalgkitsis, A. Sgambelluri, F. Paolucci, C. Papagianni, P. Grosso

Aula 1 - networks, Monday July 15

15.30-17.50 Mo.D1 - 6GNeO, Chair: Luis Velasco

15.30 **Mo.D1.1** [BarzegarSi1] [Autonomous Flow Routing Based on Deep Reinforcement Learning](#) (Invited 20 min)
S. Barzegar, H. Shakespear-Miles, M. Ruiz, and L. Velasco

15.50 **Mo.D1.2** [GonzalezPi1] [Deployment of Multi-Agent System Pipelines for Near-Real-Time Operation of 6G Network Services](#) (Invited 20 min)
Pol González, Sima Barzegar, Marc Ruiz, and Luis Velasco

16.10 **Mo.D1.3** [ShakespearMilesHi1] [Distributed Network Control for QoS Assurance in Multi-Domain Networks](#) (Invited 20 min)
H. Shakespear-Miles, S. Barzegar, M. Ruiz, and L. Velasco

16.30 **Mo.D1.4** [VelascoLi1] [Towards Zero-Touch Optical Multiband Networking with the OCATA Optical Time Domain Digital Twin](#) (Invited 20 min)
Prasunika Khare, Sadeqh Ghasrizadeh, Mariano Devigili, Marc Ruiz, and Luis Velasco

16.50 **Mo.D1.5** [TroiaSi2] [Service Function Chain Resource Allocation and Offloading in Constrained Edge-Cloud Optical Networks](#) (Invited 20 min)
Jean Pierre Asdikian, Daniele Gjeka, Albert Pagès, Sebastian Troia, Guido Maier, Salvatore Spadaro

17.10 **Mo.D1.6** [RuizMi1] [Smart Operation of 6G RAN supported by Autonomous Transport Networks](#) (Invited 20 min)
Shaoxuan Wang, Marc Ruiz, and Luis Velasco

17.30 **Mo.D1.7** [BeyranvandHi1] [Optimizing Resource Allocation in Filterless Elastic Optical Networks over C+L Band: QoT-Aware Approach](#) (Invited 20 min)
Sadeqh Ghasrizadeh, Farhad Arpanaei, Luis Velasco, and Hamzeh Beyranvand

Aula 3 - access, Monday July 15

16.00-17.20 Mo.D2 - CTS, Chairlady: Kira Kastell

16.00 **Mo.D2.1** [KastellKi1] [Framework for time-varying DoA estimation and beamforming against radio jamming in V2X applications](#) (Invited 20 min)
Daniel V. de Lima, Antonio S. da Silva, João Paulo J. da Costa, Giovanni A. Santos, Kira Kastell, Auzuir R. de Alexandria, and Melissa B. da Conceição

16.20 **Mo.D2.2** [VilaltaRi1] [Network Extensions to Support Robust Secured and Efficient Connectivity Services for V2X Scenario](#) (Invited 20 min)
A. Abishek, R. Vilalta, Ll. Gifre, P. Alemany, C. Manso, R. Casellas, R. Martínez, R. Muñoz

16.40 **Mo.D2.3** [CasademontJi1] [Real-time responsive Physical and Digital Infrastructure for CCAM-enabled Traffic Management of cross-border highways](#) (Invited 20 min)
Jordi Casademont, Jordi Marias-i-Parella, Harilaos Vasiliadis, David Porcuna, Jacint Castells, Joseph Kokolo, William Diego, Ignacio López, Aristarco Tomas, Lazaros Gkatzikis

17.00 **Mo.D2.4** [MelloDi1] [Field Trial of an ML-Assisted Phase-Sensitive OTDR for Traffic Monitoring in Smart Cities](#) (Invited 20 min)
Robson A. Colares, Evandro Conforti, Leticia Rittner and Darli A. A. Mello

Aula 5 - systems, Monday July 15

16.00-18.00 Mo.D3 - Qcomms 2, Chair: Roberto Morandotti

16.00 **Mo.D3.1** [IqbalMi1] [Continuous Variable Quantum Key Distribution Coexisting with Classical Channels](#) (Invited 20 min)

Masab Iqbal, Michela Svaluto Moreolo, Arturo Villegas, Laia Nadal, Raul Muñoz

16.20 **Mo.D3.2** [SarmientoSi1] [Phase Noise Reduction in Continuous-Variable Quantum Key Distribution Using Digital Filtering](#) (Invited 20 min)

S. Sarmiento, E. Llanos, P. Adillon, J. Tabares, J. A. Lázaro, and S. Etcheverry

16.40 **Mo.D3.3** [SvalutoMoreoloMi1] [On the Adoption of Continuous-Variable QKD in Optical Networks](#) (Invited 20 min)

Michela Svaluto Moreolo, Masab Iqbal, Arturo Villegas, Laia Nadal, Raul Muñoz

17.00 **Mo.D3.4** [UdvaryEi1] [Investigation of Spontaneous Raman Scattering in Combined Classical and Quantum Communication Networks](#) (Invited 20 min)

Eszter Udvary, Flóra Kárpát

17.20 **Mo.D3.5** [AchleitnerMi1] [Optimizing Quantum Communication: A comparative analysis of InGaAs SPADs and SNSPDs in entanglement-based Quantum communications](#) (Invited 20 min)

Martin Achleitner, Mariana F. Ramos, Alessandro Trenti and Hannes Hübel

17.40 **Mo.D3.6** [SadotDi1] [Securing the Speed: Harvest-Immune Photonic Layer Security in DCI and Metro Networks](#) (Invited 20 min)

Dan Sadot, Eyal Wohlgemuth, Ido Attia, Ohad Balasiano, Isaak Jonas, Elimelech Keller, and Hamutal Shalom

Aula 7 - fibres, Monday July 15

15.40-16.55 Mo.D4 - MOF 3: Properties of hollow core fibers, Chair: Walter Belardi

15.40 **Mo.D4.1** [AmezcuCorreaRi1] [High energy laser transmission in hollow core fibers](#) (Invited 20 min)

Rodrigo Amezcu Correa

16.00 **Mo.D4.2** [YerolatsitisSi1] [Controlling the transmission bandwidth of anti-resonant hollow-core fibers](#) (Invited 20 min)

S. Yerolatsitis, J. Keohane, S. Vinta, R. Mears, K. Harrington, R. J. A. Francis-Jones, K. Kalli, K. Rusimova

16.20 **Mo.D4.3** [YuFi1] [Tailoring modal properties of photonic-bandgap hollow-core fibers](#) (Invited 20 min)

Chaochao Shen, Fei Yu and Jonathan Knight

16.40 **Mo.D4.4** [MelliFr1] [2D+1 and 3D Simulation Methods for Hollow Core Fibers Non-Idealities Analysis](#) (15 min)

Federico Melli, Kostiantyn Vasko, Lorenzo Rosa, Fetah Benabid, Luca Vincetti

Aula 9 - SWP, Monday July 15

16.00-18.00 Mo.D5 - SWP 3 metamaterials 1, Chair: Radu Malureanu

16.00 **Mo.D5.1** [BrunettiGi1] [Versatile Metasurfaces for Liquid Biopsy Applications](#) (Invited 20 min)

Giuseppe Brunetti, Carlotta Panciera, Caterina Ciminelli

16.20 **Mo.D5.2** [AndreaniLCi1] [Optical chirality in metasurfaces empowered by bound states in a continuum](#) (Invited 20 min)

Lucio Claudio Andreani, Luca Zagaglia, S. Zanotti, M. Liscidini, D. Gerace, M. Minkov

16.40 **Mo.D5.3** [ChebenPi1] [Recent advances in metamaterial silicon photonic devices and Huygens' metawaveguides](#) (Invited 20 min)

P. Cheben, J.H. Schmid, J. Zhang, M. Saad Bin-Alam, A. F. Hinesrosa, W. Fraser, R. Korček, J.M. Luque-González, C.P. Armenta, A. Sánchez-Postigo, A. Ortega-Moñux, J. G. Wangüemert-Pérez, . Molina-Fernández, R. Halir, P. Ginel-Moreno, D. Benedikovič, M. Dado, S. Khajavi, W. N. Ye, Z. Mokeddem, D. Melati, C. Alonso-Ramos, D. González-Andrade, L. Vivien, D. Sirmaci, I. Staude, D.-X. Xu, Y. Grinberg, S. Janz, S. Wang, M. Vachon, R. Cheriton, R. Fernández de Cabo, A. V. Velasco, C. Naraine, J. Bradley and A. Knights

17.00 **Mo.D5.4** [Cojocaruci1] [Tailoring gold plasmonic metasurfaces for efficient harmonic generation](#) (Invited 20 min)

S. Mukhopadhyay, C. Cojocar, M. A. Vincenti, K. Hallman, A. Mihi, M. Scalora, and J. Trull

17.20 **Mo.D5.5** [ScaloraMi1] [Hydrodynamic-Maxwell approach to light-matter interactions at the nanoscale: High Harmonic generation in Silicon](#) (Invited 20 min)

M. Scalora, K. Hallman, S. Mukhopadhyay, J. Wallace, S. Stengel, M. Ferrera, M.A. Vincenti, D. de Ceglia, C. Cojocar, J. Trull

17.40 **Mo.D5.6** [DellOlioFi1] [Strongly resonant all-dielectric metasurfaces: emerging applications in telecom and life sciences](#) (Invited 20 min)

F. Dell'Olio

Aula 11 - D-Photon, Monday July 15

16.10-17.45 Mo.D6 - DCN, Chair: Moshe Zukerman

16.10 **Mo.D6.1** [OkiEi1] [Toward Increasing Switching Capacity of Twisted and Folded Clos Network Guaranteeing Admissible Blocking Probability](#) (Invited 20 min)

Eiji Oki, Haruto Taka, and Takeru Inoue

16.30 **Mo.D6.2** [ChungYi1] [Unamplified 220-Gb/s × 20 km C-band Transmission using Simplified Heterodyne Detection System](#) (Invited 20 min)

B. G. Kim and Y. C. Chung

16.50 **Mo.D6.3** [PachnickeSi1] [Ring-Cascaded Sequential Micro-Ring Resonators Array as a Photonic Reservoir for Signal Equalization in Intra-Data Center Networks](#) (Invited 20 min)

Mohammad Seifi Laleh, Sebastian Kühn, Silas Oettinghaus, Annika Dochhan, Stephan Pachnicke

17.10 **Mo.D6.4** [CastoldiPi1] [Edge Orchestration Framework for AI-assisted Link Failure Forecasting and Recovery](#) (Invited 20 min)

Piero Castoldi, Domenico Uomo, Andrea Sgambelluri, Filippo Cugini, Francesco Paolucci

17.30 **Mo.D6.5** [WettlinTr1] [Analysis of Four-Wave Mixing Penalties in 800G-LR4 Optical Links](#) (15 min)

Talha Rahman, Youxi Lin, Tom Wettlin, Nebojsa Stojanovic, Stefano Calabrò, Maxim Kuschnerov

Aula 13 - materials&devices, Monday July 15

16.00-17.40 Mo.D7 - PICA W 2, Chair: Geert Morthier

16.00 **Mo.D7.1** [JamshidiKi1] [Characterization of Free Carrier Nonlinearities in Silicon-on-Insulator Microring Resonators](#) (Invited 20 min)

Menglong He, Hrishikesh Vithalani, Mircea Catuneanu, Abdou Shetewy, Kambiz Jamshidi

16.20 **Mo.D7.2** [PorziCi1] [Recent Progresses in Silicon Waveguide Bragg Grating Filters](#) (Invited 20 min)

Claudio Porzi, Manuel Reza, Marc Sorel, Antonella Bogoni

16.40 **Mo.D7.3** [LuqueGonzalezJMi1] [Tailoring light spectrum in silicon photonics chips with high-performance optical filter](#) (Invited 20 min)

José Manuel Luque González, Alejandro Fernández Hinestrosa, Alejandro Sánchez-Sánchez, Carlos Pérez Armenta, Alejandro Ortega Moñux, Robert Halir, J. Gonzalo Wangüemert-Pérez, Pavel Cheben, Jens H. Schmid, Shurui Wang, Winnie N. Ye, Íñigo Molina-Fernández

17.00 **Mo.D7.4** [MendozaCastroJHi1] [Photonic Integrated Circuit Assisted Photothermal Spectroscopy of liquids and Gases](#) (Invited 20 min)

Giovanna Ricchiuti, Anton Walsh, Jesús Hernán Mendoza-Castro, Artem S. Vorobev, Maria Kotlyar, Simone Iadanza, Marco Grande, Bernhard Lendl and Liam O'Faolain

17.20 **Mo.D7.5** [AlexandropoulosDi1] [Laser written optical Physical Unclonable Functions: a route to commercialization](#) (Invited 20 min)

Dimitris Alexandropoulos, Christos Tselios, Simone Mazzucato, Panagiotis Rizomiliotis, Konstantinos Moustakas and Thomas Kamalakis

DAY 2 - Tuesday July 16

***** Tu.A - Tuesday morning parallel sessions *****

Aula 1 - networks, Tuesday July 16

8.30 - 9.50 Tu.A1 - ICTON 1, Chairlady: Laia Nadal

8.30 **Tu.A1.1** [WabnitzSi1] [Optical Entropy Maximization Leads to Spatial Beam Self-Cleaning in Multimode GRIN Fibers](#) (Invited 20 min)

Fabio Mangini, Mario Ferraro, Wasyhun A. Gemechu, Yifan Sun, Vincent Couderc, Stefan Wabnitz

8.50 **Tu.A1.2** [Bugarli1] [Cross-Switching of C-Band Pulses in Dual-Core Soft Glass Fibers with Different Measure of Asymmetry](#) (Invited 20 min)

Mattia Longobucco, Sarah Pulikottil Alex, Edgar Kaksis, Dariusz Pysz, František Uherek, Ryszard Buczyński, Andrius Baltuška, Audrius Pugžlys, Ignác Bugár

9.10 **Tu.A1.3** [BoscoloSi1] [Digital Signal Processing for Fibre-Optical Parametrically Amplified Transmission Links](#) (Invited 20 min)

Long H. Nguyen, Sonia Boscolo, and Stylianos Sygletos

9.30 **Tu.A1.4** [BoteyMi1] [Asymmetric mode-coupling in Antisymmetric non-Hermitian waveguides](#) (Invited 20 min)

M N Akhter, R Herrero, K Staliunas, M Botey

Aula 3 - access, Tuesday July 16

8.30 - 9.50 Tu.A2 - MWP 1, Chair: Robert Minasian

8.30 **Tu.A2.1** [AnandarajahPi1] [Design of an RF Synthesizer using an Optical Frequency Comb and Active Demultiplexer](#) (Invited 20 min)

Minghao Wei, Liam Lawlor, Chris McGuinness, Gaurav Jain, Frank Smyth, Aleksandra Kaszubowska-Anandarajah, and Prince M. Anandarajah

8.50 **Tu.A2.2** [KetzakiDi1] [Multi-beam Optical Beamformer PICs for LiDAR and RADAR Applications](#) (Invited 20 min)

Dimitra Ketzaki, Ronis Maximidis, Stephanos Kovaivos, Apostolos Tsakiridis, Miltiadis Moralis-Pegios, Nikolaos Pleros

9.10 **Tu.A2.3** [Gasullali1] [Tunable microwave Hilbert transformer based on a dispersion-engineered few-mode fiber](#) (Invited 20 min)

Elham Nazemosadat and Ivana Gasulla

9.30 **Tu.A2.4** [RoeloffzenCi1] [Integrated microwave photonic functionalities on a hybrid integrated InP-Si3N4 PIC platform](#) (Invited 20 min)

Chris Roeloffzen, Paul van Dijk, Peter Maat, Ilka Visscher, Marcel Hoekman, Lennart Wevers, Edwin Klein, Roelof Bernardus Timens, Charoula Mitsolidou, Ahmad Mohammad, Robert Grootjans, Furkan Şahin, Roel Botter, Carlos Ruiz Pineda, Rick Heuvink, Ronald Dekker, Dong Liang, Sami Musa, Luis Gonzalez-Guerrero, Guillermo Carpintero

Aula 5 - systems, Tuesday July 16

8.30 - 10.10 Tu.A3 - Qcomms 3, Chair: Nelson J. Muga

8.30 **Tu.A3.1** [TafurMonroyIi1] [Quantum secure communication using hybrid post-quantum cryptography and quantum key distribution](#) (Invited 20 min)

Nick Aquina, Simon Rommel, Idelfonso Tafur Monroy

8.50 **Tu.A3.2** [VegasOlmosJi1] [The zero-tax data center: a use case through quantum resilient communications](#) (Invited 20 min)

Daniel Lawo, Michal Podleś, Raphael Frantz, Abraham Cano Aguilera, Dimosthenis Iliadis-Apostolidis, Jeronimo Sanchez, Sokol Kosta, Idelfonso Tafur Monroy, José Luis Ismaña, J.J. Vegas Olmos

9.10 **Tu.A3.3** [BajoniDi1] [A source of hyperentangled photon pairs with rate exceeding Gpair/s](#) (Invited 20 min)

Daniele Bajoni

9.30 **Tu.A3.4** [KolenderskiPi1] [Applications of entangled photon pair for satellite quantum communication links](#) (Invited 20 min)

Piotr Kolenderski

9.50 **Tu.A3.5** [SilvaNi1] [Impact of Limited Classical Channel Bandwidth on the Secret Key Rate of a CV-QKD System](#) (Invited 20 min)

Nuno A. Silva, Margarida Almeida, Nelson J. Muga, Armando N. Pinto

Aula 7 - fibres, Tuesday July 16

8.30 - 9.50 Tu.A4 - MOF 4: Nonlinear and quantum phenomena in Microstructured Optical Fibers, Chair: Peter Mosley

8.30 **Tu.A4.1** [NovoaDi1] [Harnessing Light Quanta with Fibre-Based Molecular Modulators](#) (Invited 20 min)

David Novoa

8.50 **Tu.A4.2** [MosleyPi1] [Microstructured fibre technologies for quantum networks](#) (Invited 20 min)

Peter J. Mosley

9.10 **Tu.A4.3** [RosaLi1] [Hollow-core fibers as quantum photon source platform](#) (Invited 20 min)

Lorenzo Rosa

9.30 **Tu.A4.4** [LaegsgaardJi1] [Power scaling of normal-dispersion continuum generation: Merging fiber and light structuring](#) (Invited 20 min)

Jesper Lægsgaard and Federica Poli

9.50-10.05 Tu.A4 - MOF 5: Postdeadline session, Chair: Peter Mosley

9.50 **Tu.A4.5** [DavisAr1] [Tunable near-degenerate frequency conversion using doped photonic crystal fibre](#) (15 min)

Leah R Murphy, Mateusz J Olszewski, Petros Androvitsaneas, Will AM Smith, Anthony Bennett, Peter J Mosley, and Alex O C Davis

Aula 9 - SWP, Tuesday July 16

8.30 - 10.10 Tu.A5 - SWP 4 sensors, Chair: Trevor M Benson

8.30 **Tu.A5.1** [GoussarovAi1] [Experience on Fibre Optics Current Sensor operation in the JET harsh environment for the synthetic diagnostic validation](#) (Invited 20 min)

Andrei Gusarov, Perry Beaumont, Prasad Dandu, and Marc Wuilpart

8.50 **Tu.A5.2** [BeresPawlikEi1] [Topological and networking aspects of optical fiber sensor networks based on FBGs](#) (Invited 20 min)

Elżbieta Bereś-Pawlik, Jacek Palmowski, Sedy Phang, Alicja Anuszkiewicz, Tomasz Osuch, Yaping Zhang, Trevor Benson

9.10 **Tu.A5.3** [WuilpartMi1] [Plasma diagnosis for the ITER fusion reactor using a polarimetric fibre sensor](#) (Invited 20 min)

Marc Wuilpart, Sung-Moon Kim, Alessandro Danisi, Prasad Dandu, and Andrei Gusarov

9.30 **Tu.A5.4** [Goncharenkoli1] [Detectors of ionizing radiation on the base of slot waveguides filled with hyperlinked fluoropolymer](#) (Invited 20 min)

I.A. Goncharenko, A.V. Il'yushonok, M. Marciniak, V.N. Reabtsev

9.50 **Tu.A5.5** [MenduniGi1] [Natural gas composition analysis with Quartz Tuning Fork-based spectroscopic techniques](#) (Invited 20 min)

Giansergio Menduni, Andrea Zifarelli, Angelo Sampaolo, Marilena Giglio, Pietro Patimisco, Vincenzo Spagnolo

Aula 11 - D-Photon, Tuesday July 16

8.30 - 10.25 Tu.A6 - PNPA 1, Chair: Giancarlo C. Righini

8.30 **Tu.A6.1** [SumetskyMi1] [Complete inelastic transparency of time-modulated resonant photonic circuits](#) (Invited 20 min)

M. Sumetsky

8.50 **Tu.A6.2** [BarlandSi1] [Photon thermalization in semiconductor media: from lasers to Bose Einstein condensates](#) (Invited 20 min)

Stephane Barland

9.10 **Tu.A6.3** [CalvezSi1] [Visible-light modulators and power limiters based on spin crossover material thin films](#) (Invited 20 min)

Stéphane Calvez, Lijun Zhang, Jesukpego Anorld Capo Chichi, Yuteng Zhang, Lionel Salmon, Gábor Molnár, Karl Ridier, and Azzedine Bousseksou

9.30 **Tu.A6.4** [CaudanoYi1] [Probing Goos-Hänchen shifts in surface nonlinear optics by quantum weak measurements](#) (Invited 20 min)

Julien Bouchat, Julien Fagnart, and Yves Caudano

9.50 **Tu.A6.5** [SanchezFi1] [Self-starting all-fibered Erbium-doped Mamyshev oscillator](#) (Invited 20 min)

Oumaima Ougrige, Florent Bessin, Hervé Leblond, Charles Ciret, and François Sanchez

10.10 **Tu.A6.6** [FinotCr1] [Optical Waveform Sculpturing of a Frequency Kerr Comb from a Brillouin Laser Cavity with Bichromatic Pumping](#) (15 min)

Anastasiia Sheveleva, Moise Deroh, Bertrand Kibler, Christophe Finot, Erwan Lucas

Aula 13 - materials&devices, Tuesday July 16

8.30 - 9.30 Tu.A7 - PICA3, Chair: Alexandre Pohl

8.30 **Tu.A7.1** [SorbelloGi1] [Physics-based design of integrated optics accelerating structures](#) (Invited 20 min)

R. Palmeri, D. Guarnera, G. S. Mauro, A. Locatelli, A. Bacci, G. Torrisi, N. Salerno, S. C. Pavone, and G. Sorbello

8.50 **Tu.A7.2** [XuRi1] [Performance Optimization of Photonic Accelerators in Neuromorphic Computing via Structure Trimming](#) (Invited 20 min)

Rongyang Xu, Shabnam Taheriniya, Akhil Varri, Frank Brücknerhoff-Plückelmann, and Wolfram Pernice

9.10 **Tu.A7.3** [RamirezJMi1] [Heterogeneously integrated III-V/Si optical sources: Towards low cost, compact and efficient transceivers](#) (Invited 20 min)

Amin Souleiman, Delphine Néel, Claire Besancon, Nicolas Vaissiere, Stéphane Malhouitre, Valentin Ramez, Karim Hassan, Jean Decobert, David Bitauld and Joan Manel Ramirez

posters & DEMOs area, Tuesday July 16

8.30 - 10.30 Tu.A8 - DEMO 2, Chairs: Pol González, Francesco Paolucci, Luis Velasco

Tu.A8.1 [VelascoLd2] [Experimental Demonstration of Optical Encryption Using Quantum Keys: Two Scenarios](#)

Morteza Ahmadian, Jaime Buruaga, Ruben Mendez, Juan P. Brito, Antonio Pastor, Jose M. Rivas, Jaume Comellas, Marc Ruiz, Vicente Martin, and Luis Velasco

Tu.A8.2 [RuizMr1] [Demonstration of Integrated Control Plane for Service Flow Provisioning in Time Sensitive Networks](#)

M. Ruiz, A. Pagès, F. J. Moreno, A. Buendía, F. Agraz, S. Spadaro, and L. Velasco

Tu.A8.3 [VelascoLd1] [Deployment of Genuine Multi-Agent Pipelines for Near-Real-Time Control of 6G Network Services](#)

P. González, M. Angoustures, A. Zahir, S. Barzegar, M. Ruiz, M. Groshev, V. Lefebvre, and L. Velasco

Tu.A8.4 [SgambelluriAr1] [Augmented Reality App with AI-based Pervasive Latency Monitoring of RAN and Programmable Metro Packet-Optical Networks](#)

F. Alhamed, M. Guaitolini, P. González, R. Berozashvili, L. Ismail, H. Shakespear-Miles, S. Barzegar, L. Velasco, M. Ruiz, J.J. Olmos Vegas, A. Sgambelluri and F. Paolucci

Aula 1 - networks, Tuesday July 16

10.20-12.20 Tu.B1 - MALOC 1, Chair: Carlos Castro

10.20 **Tu.B1.1** [HirotaYi1] [Machine Learning-based Spectrum Resource Assignment and End-to-End Path Reconfiguration for Flexible Optical Networks](#) (Invited 20 min)

Yusuke Hirota, Yuta Goto, Hideaki Furukawa

10.40 **Tu.B1.2** [TroiaSi1] [Automated Data Ingestion Framework for Enhanced Control and Maintenance of Optical Networks](#) (Invited 20 min)

Memedhe Ibrahim, Keerthikumaran Selvamuthukumar, Sebastian Troia, Massimo Tornatore, Francesco Musumeci

11.00 **Tu.B1.3** [ZibarDi1] [Machine Learning Enabled Directly Modulated Lasers](#) (Invited 20 min)

Sergio Hernandez, Christophe Peucheret, Francesco Da Ros, Darko Zibar

11.20 **Tu.B1.4** [PellegriniGi2] [Deep convolutional autoencoders for image reconstruction from incomplete Fourier amplitude measurements](#) (Invited 20 min)

G. Pellegrini, J. Bertolotti

11.40 **Tu.B1.5** [FinotCi1] [Machine learning for ultrafast nonlinear fibre photonics](#) (Invited 20 min)

Christophe Finot, Sonia Boscolo, Junsong Peng, Andrei Ermolaev, Anastasiia Sheveleva, John. M. Dudley

12.00 **Tu.B1.6** [PanayiotouTi1] [Multi-Step Traffic Prediction for Multi-Period Planning in Optical Networks](#) (Invited 20 min)

Hafsa Maryam, Tania Panayiotou, Georgios Ellinas

Aula 3 - access, Tuesday July 16

10.40-12.15 Tu.B2 - MWP 2, Chairlady: Eszter Udvary

10.40 **Tu.B2.1** [MinasianRi1] [High-resolution integrated microwave photonics-based sensors](#) (Invited 20 min)

R. A. Minasian and X. Yi

11.00 **Tu.B2.2** [GhelfiPi1] [Photonics for satellite radars: the SPACEBEAM project](#) (Invited 20 min)

L. Rinaldi, F. Camponeschi, F. Scotti, V. Gemmato, A. Bogoni and P. Ghelfi

11.20 **Tu.B2.3** [ZarzueloAi1] [Photonic Integrated Local Oscillator Signal Generation for Satellite Communications](#) (Invited 20 min)

Alberto Zarzuelo, Jessica César, Robinson Guzmán, Luis González, José Manuel Delgado Mendinueta, Charoula Mitsolidou, Roelof B. Timens, Paul van Dijk, Chris Roeloffzen, Fernando Martín, and Guillermo Carpintero

11.40 **Tu.B2.4** [PonziniFi1] [mm-wave Distributed MIMO Radio-over-Fiber Communication Architecture Using Sigma-Delta Modulation](#) (Invited 20 min)

Husileng Bao, Filippo Ponzini, Luca Rinaldi, Christian Fager

12.00 **Tu.B2.5** [WaseemMr1] [Complexity-Reduced Estimation of the Transmitter Parameters in Radio Over PMMA Graded-Index POF](#) (15 min)

Muhammad Waseem, Alicia López, Pedro Luis Carro, María Ángeles Losada

Aula 5 - systems, Tuesday July 16

11.20-13.00 Tu.B3 - QUANCOM 1, Chairs: Alberto Gatto and Giampiero Pepe

11:20 Tu.B3.1 [Welcome & Introduction](#)

Alberto Gatto, Politecnico di Milano and Giampiero Pepe, Università degli Studi di Napoli Federico II

11:25 Tu.B3.2 [QUANCOM project description](#)

Giampiero Pepe, Università degli Studi di Napoli Federico II

11:30 Tu.B3.3 [FerrariMi1] [Flexible Blind Information Reconciliation for QKD based on Rateless Protograph LDPC codes](#)

Marco Ferrari, Alberto Tarable, Rudi P. Paganelli

11:50 Tu.B3.4 [BruscinoCi1] [Entanglement based Spontaneous Parametric Down Conversion sources for Quantum Key Distribution applications](#)

Ciro Bruscino, Matteo Di Giancamillo, Pasquale Ercolano, Mikkel Ejrnaes, Daniela Salvoni, Syed Muhammad Junaid Bukhari, Martina Peluso, Paolo Martelli, Loredana Parlato, Mario Martinelli, Giovanni Piero Pepe

12:10 Tu.B3.5 [SgobbaFi1] [Quantum interferometry via temporal quantum erasing](#)

Fabrizio Sgobba, Andrea Andrisani, Deborah Katia Pallotti, Luigi Santamaria Amato

12:35 Tu.B3.6 [ZavattaAi2] [Quantum communications for real-world use cases](#)

Alberto Zarzuelo, Jessica César, Robinson Guzmán, Luis González, José Manuel Delgado Mendinueta, Charoula Mitsolidou, Roelof B. Timens, Paul van Dijk, Chris Roeloffzen, Fernando Martín, and Guillermo Carpintero

Aula 7 - fibres, Tuesday July 16

10.40-12.20 Tu.B4 - MOF 6: Microstructured optical fiber devices, Chair: Pier Sazio

10.40 Tu.B4.1 [BigotLi1] [Some Recent Advances on Few-Mode Fibers and Multicore Fibers for Space-Division Multiplexing](#) (Invited 20 min)

Laurent Bigot, Maroun Bsaibes, Alex Chedid, Jean-Baptiste Trinel, Martin Deduytschaever, Marianne Bigot, Pierre Sillard, Esben Andresen, Yves Quiquempois

11.00 Tu.B4.2 [RicciardiAi1] [Active fibers: integration of miniaturized optoelectronic devices on optical fibers](#) (Invited 20 min)

Armando Ricciardi, Federica Piccirillo, Alberto Micco, Martino Giaquinto, Norbert Witz, Michael Zimmer, Michael Jetter, Simone Luca Portalupi, Andrea Cusano

11.20 Tu.B4.3 [SivankuttySi1] [Ultra-thin endoscopes: two-photon imaging at the tip of a bare fiber with wavefront shaping](#) (Invited 20 min)

Fatima El Moussawi, Matthias Hofer, Siddharth Sivankutty, Luca Genchi, Damien Labat, Andy Cassez, Geraud Bouwmans, Rosa Cossart, Olivier Vanvincq, Herve Rigneault, Esben Ravn Andresen

11.40 Tu.B4.4 [HonzatkoPi1] [Acoustic vibrations sensitivity of negative curvature hollow core optical fibres](#) (Invited 20 min)

Pavel Honzatko, Andrei Borodkin, Yauhen Baravets, Ondrej Moravec, Ondrej Podrazky, Ivo Barton, Ali Jasim

12.00 Tu.B4.5 [HuXi1] [Temperature measurement utilizing tilted Bragg gratings in solution-filled specialty optical fiber](#) (Invited 20 min)

Yang Liu, Hang Qu, Christophe Caucheteur, and Xuehao Hu

Aula 9 - SWP, Tuesday July 16

10.40-12.00 Tu.B5 - SWP 5 biosensors, Chairlady: Yaping Zhang

10.40 **Tu.B5.1** [YuCYi1] [Non-invasive Vital Signs Monitoring Based on Optical Fiber Mach-Zehnder Interferometer](#)
(Invited 20 min)

Yu Wang, Yaxi Yan, Weimin Lyu, Chao Lu, Lei Wei, and Changyuan Yu

11.00 **Tu.B5.2** [CelajSi1] [Semi-conductor nanocrystal emission within polymeric microcavities for whispering gallery modes observation](#) (Invited 20 min)

Sergei Celaj, Charlie Kersuzan, Willy Daney de Marcillac, Justine Laurent Gulliver, Thomas Pons, Agnès Maître

11.20 **Tu.B5.3** [GoudaMi1] [Clustering and Classification of Fungal Cells and PMMA Microparticles: Unsupervised and Supervised Learning using K-Means, PCA, Logistic Regression and Spiking Neural Networks on Event-Based Cytometry Datasets](#) (Invited 20 min)

Muhammed Gouda, Steve Abreu, and Peter Bienstman

11.40 **Tu.B5.4** [IsmailTi1] [Optical Screening System Using Biospeckle Imaging and Texture-Based Analysis for Breast Cancer Detection](#) (Invited 20 min)

Doaa Youssef, Somia A.M. Soliman, Jala El-Azab, Tawfik Ismail

Aula 11 - D-Photon, Tuesday July 16

10.40-12.40 Tu.B6 - PNPA 2, Chair: Richard De La Rue

10.40 **Tu.B6.1** [LiberaleCi1] [Novel 3D-printed fiber-based devices with two-photon lithography](#) (Invited 20 min)
Carlo Liberale

11.00 **Tu.B6.2** [RaghunathanVi1] [Two-dimensional Layered Material-Based Nonlinear Optical Upconverters](#) (Invited 20 min)

Varun Raghunathan, Rabindra Biswas, and Jyothisna K.M

11.20 **Tu.B6.3** [BoscoloSi2] [Breathing Soliton Dynamics in Ultrafast Fibre Lasers](#) (Invited 20 min)

Sonia Boscolo, Junsong Peng, Xiuqi Wu, Ying Zhang, Christophe Finot, and Heping Zeng

11.40 **Tu.B6.4** [HuttunenMi1] [Engineering properties of collective plasmonic–diffractive excitations via medium dispersion](#) (Invited 20 min)

Mikko J. Huttunen, Jussi Kelavuori, Ali Panah pour

12.00 **Tu.B6.5** [QuandtAi2] [Frequency conversion to augment power conversion efficiency in photovoltaic devices](#)
(Invited 20 min)

Sandile Kumalo, Daniel Wamwangi, Alexander Quandt and Emily Aradi

12.20 **Tu.B6.6** [AlonsoRamosCi1] [Optical and optomechanical nonlinear interactions in silicon nanostructures](#)
(Invited 20 min)

P. Nuño Ruano, J. Zhang, D. González-Andrade, H. E. B. Ferhart, T. T. D. Dinh, D. Medina-Quiroz, S. Edmond, P. Cheben, D. Marris-Morini, E. Cassan, L. Vivien, N. D. Lanzillotti-Kimura and C. Alonso-Ramos

Aula 13 - materials&devices, Tuesday July 16

10.40-12.20 Tu.B7 - NAON, Chair: Sylwester Latkowski

10.40 **Tu.B7.1** [GerkenMi1] [Nanooptical Substrates for Resonance-Enhanced Gold Growth](#) (Invited 20 min)

Jan Schardt, Moritz Paulsen, Martina Gerken

11.00 **Tu.B7.2** [HeitzJi1] [Nano-scale photonic ripples, dots, grids, and heterostructures on polymeric substrates produced by UV laser processing](#) (Invited 20 min)

Johannes Heitz, Martin Kühner, Cristina Plamadeala, Gerda Buchberger

11.20 **Tu.B7.3** [KildishevAi1] [Optimal Poloidal Multipole Expansion Centres](#) (Invited 20 min)

Alexander V. Kildishev, Karim Achouri, and Daria Smirnova

11.40 **Tu.B7.4** [StefaniukTi1] [Optical response of electric memristive systems](#) (Invited 20 min)

Alexander Korneluk, Katarzyna Brańko, Tomasz Stefaniuk

12.00 **Tu.B7.5** [KarsentyAi1] [From Passive to Active: Towards Optical Communication with Reconfigured Nanoelectronics Devices](#) (Invited 20 min)

Avi Karsenty

posters & DEMOs area, Tuesday July 16

10.20 - 10.40 Tu.P1 - MOF 7: Poster Session

Tu.P1.1 Dakun WU: [Nanosecond pulse delivery at 1064 nm in a multimode antiresonant hollow core fibre](#)
(*paper not available*)

Tu.P1.2 Xinyue ZHU: [High Power Single Frequency Fiber Gas Raman Lasers](#)
(*paper not available*)

Tu.P1.3 Si CHEN: [In-situ background-free Raman probe using double-cladding anti-resonant hollow-core fibers](#)
(*paper not available*)

12.20 - 13.00 MOF 7: Poster Session cntd.

Aula 1 - networks, Tuesday July 16

13.40-15.40 Tu.C1 - MOON 1, Chair: Andrea Fumagalli

13.40 **Tu.C1.1** [CurriVi1] [GNPy Experimental Validation in a C+L Multiband Optical Multiplex Section](#) (Invited 20 min)
Andrea D'Amico, Vittorio Gatto, Antonino Nespola, Giacomo Borraccini, Yanchao Jiang, Pierluigi Poggiolini, Esther Le Rouzic, Arturo Mayoral Lopez de Lerma, Gert Grammel, Roberto Manzotti, Vittorio Curri

14.00 **Tu.C1.2** [CasellasRi1] [Multi-Domain Transparent Service Provisioning in Multi-Band Optical Networks](#) (Invited 20 min)
Ramon Casellas, Enrique Fernández, Ricardo Martínez, Ricard Vilalta, Raül Muñoz, Antonio Buendia-López, Pablo Pavón-Marino

14.20 **Tu.C1.3** [DuranRi1] [Protection Methods Analysis in a Hybrid C/C+L Optical Network](#) (Invited 20 min)
Soheil Hosseini, Ramón J. Durán Barroso, Ignacio de Miguel, Oscar González de Dios, Noemí Merayo, Juan Carlos Aguado, Patricia Fernández, Rubén M. Lorenzo, Evaristo J. Abril

14.40 **Tu.C1.4** [HanikNi1] [Challenges in Extending the Transmission Bandwidth of SSMFs into the S- C- and L-Bands](#) (Invited 20 min)
Bensu Baran-Akin, Tasnad Kernetzky, Norbert Hanik

15.00 **Tu.C1.5** [EiraAi1] [Proactive Spectrum Assignment for Transient Mitigation in Multi-Band Networks](#) (Invited 20 min)
António Eira, André Souza, João Pedro

15.20 **Tu.C1.6** [PedroJi1] [Techno-Economic Analysis of Wideband Transmission in Optical Transport Networks](#) (Invited 20 min)
André Souza, Bruno Correia, Antonio Napoli, Vittorio Curri, Nelson Costa, João Pedro, João Pires

Aula 3 - access, Tuesday July 16

13.40-15.20 Tu.C2 - OSC/MWP, Chair: Luca Rinaldi

13.40 **Tu.C2.1** [ChanVi1] [Orchestrated Routing for Optical Satellite Networks](#) (Invited 20 min)
Vincent W. S. Chan

14.00 **Tu.C2.2** [CiminelliCi1] [Reconfigurable Optical Beam Forming Network for Telecom Payloads](#) (Invited 20 min)
Caterina Ciminelli, Nabarun Saha, Giuseppe Brunetti, Annarita di Toma, Mario N. Armenise

14.20 **Tu.C2.3** [MateraFr1] [Cross Domain Orchestration and Management of Optical Links in Terrestrial-Non Terrestrial Networks](#) (15 min)
F. Matera, P. Salvo, M. Settembre, N. Sambo, G. Cossu, E. Ciaramella, A. Rago, G. Piro, L. A. Grieco, S. Morosi

14.35 **Tu.C2.4** [AbdellatifAr1] [Optical Injection Locking Techniques for Performance Improvement in Analog mm-Wave Systems](#) (15 min)
Ahmed Abdellatif and Zoran Vujicic

14.50 **Tu.C.25** [CarroPLr1] [Experimental Single Carrier LORA-modulation performance in Analog Radio over SI-POF links for IoT applications](#) (15 min)
P. L. Carro, M.A. Losada, P. García-Dúcar, A. Valdovinos, J. de Mingo, J.A. Casao, A. López, J. Mateo

15.05 **Tu.C.26** [MendezRr1] [Photonic frequency conversion for the analog radio-over-fiber fronthaul](#) (15 min)
Rodrigo Méndez, Miquel Masanas, Josep Segarra, Vicent Sales, Víctor Polo, María C. Santos, Josep Prat

Aula 5 - systems, Tuesday July 16

14.00-15.40 Tu.C3 - QUANCOM 2, Chairs: Alberto Gatto and Giampiero Pepe

14:00 **Tu.C3.1** [CicconettiCi1] [Secure Computation Offloading with ETSI MEC+QKD](#)

Claudio Cicconetti, Marco Conti, Andrea Passarella

14:25 **Tu.C3.2** [VirziSi1] [INRiM solutions for QKD real-world network implementations](#)

Salvatore Virzi, Alice Meda, Cecilia Clivati, Gianluca Bertaina, Simone Donadello, Marco Gramegna, Ivo Pietro Degiovanni, Marco Genovese, Davide Calonico

14:50 **Tu.C3.3** [GiorgettiAi1] [Software-defined control of integrated QKD and classical optical networks](#)

N. Andriolli, E. Paolini, M. Brunero, P. Martelli, A. Gatto, M. Ferrari, A. Giorgetti

15:15 **Tu.C3.4** [PaduanelliGi1] [Quantum-assisted digital signature: a new service for future quantum-integrated optical networks](#)

Gennaro Paduanelli, Marco Ferrari, Alessio Giorgetti, Nicola Andriolli, Elisabetta Storelli, Antonino Caciccia, Rudi Paganelli, Alberto Tarable, Emilio Paolini, Giada Sajeva, Marco Brunero, Alessandro Gagliano, Paolo Martelli, Pietro Noviello, Giovanni Schmid, Alberto Gatto

Aula 7 - fibres, Tuesday July 16

13.40-15.20 Tu.C4 - Novel Glasses 1, Chair: Jan Mrázek

13.40 **Tu.C4.1** [BaldaRi1] [Near-infrared and upconversion emission of Tm³⁺ and Tm³⁺-Yb³⁺ codoped transparent oxyfluoride glass-ceramics](#) (Invited 20 min)

M. Sedano, S. Babu, J. Fernández, A. Durán, M.J. Pascual, R. Balda

14.00 **Tu.C4.2** [FerrariMaurizioi1] [Glass Photonics: a brilliant successful story](#) (Invited 20 min)

John Ballato, Wilfried Blanc, Maurizio Ferrari, Anna Lukowiak, Francesco Prudenzeno, Giancarlo C. Righini

14.20 **Tu.C4.3** [VigreuxCi1] [Design of a hybrid optical component for the early detection of plant diseases](#) (Invited 20 min)

Ali Houssein Aldrouby, Martin Khouri, Raphaël Escalier, Ryad Bendoula, Dominique Barry-Etienne, Ahmad Mehdi and Caroline Vigreux

14.40 **Tu.C4.4** [FuerbachAi1] [Femtosecond laser waveguide inscription in linear and nonlinear mid-infrared transparent glasses](#) (Invited 20 min)

Alex Fuerbach, Thuy Trong Ha, Wajahat Hussain, Toney Fernandez

15.00 **Tu.C4.5** [SazioPi1] [Repurposing optical fibre technology for renewable energy](#) (Invited 20 min)

Pier Sazio, Bruno Moog, Chris Craig, Dan Hewak, Matthew Potter, Daniel Stewart, Robert Raja and Mike Thomas

Aula 9 - SWP, Tuesday July 16

13.20-15.15 Tu.C5 - SWP 6 metamaterials 2, Chair: Giuseppe Brunetti

13.20 **Tu.C5.1** [YiYSi1] [Metasurface Lens With Artificial Focus Pattern](#) (Invited 20 min)

Mao Ye, Vishva Ray, Yasha Yi

13.40 **Tu.C5.2** [MartinOJFi1] [Hybrid metasurfaces for light processing](#) (Invited 20 min)

Debdatta Ray, Andrei Kiselev, Sergejs Boroviks, Olivier J.F. Martin

14.00 **Tu.C5.3** [DOrazioAi1] [Transparent Reflective Metasurfaces: from RIS to near-eye displays](#) (Invited 20 min)

Giovanni Magno, Iliaria Marasco, and Antonella D'Orazio

14.20 **Tu.C5.4** [MalureanuRi1] [On the use of membrane metasurfaces for high-efficiency third harmonic generation](#) (Invited 20 min)

Maxim Nikitin, Osamu Takayama, Radu Malureanu, Andrei Lavrinenko

14.40 **Tu.C5.5** [VincentiAi1] [Exploiting quasi-Bound States in the Continuum for Laser-Induced Selective Crystallization in Metasurfaces](#) (Invited 20 min)

Marco Gandolfi, Maria Eugenia Serrano Flores, Jesse Frantz, Jason Myers, Robel Bekele, Jas Sanghera, Anthony Clabeau, Natalia Litchinister, and Maria Antonietta Vincenti

15.00 **Tu.C5.6** [HattoriHTr1] [Large Rabi splitting and Purcell factor in coupled Ag metamaterial cavity and MoS₂ monolayer](#) (15 min)

Andergachew Mekonnen Berhe, A A Odebowale, Khalil As'ham, Haroldo T. Hattori, and Andrey E. Miroshnichenko

Aula 11 - D-Photon, Tuesday July 16

13.20-15.40 Tu.C6 - PNPA 3, Chair: Luigi Sirleto

13.20 **Tu.C6.1** [PasquaziAi1] [Interaction of Continuous Waves and Laser Cavity Solitons in Micro-Resonators: Enhancing Stability](#) (Invited 20 min)

A. Pasquazi, A. Cutrona, V. Ceconi, P. H. Hanzard, M. Rowley, D. Das, A. Cooper, L. Peters, L. Olivieri, B. Wetzler, R. Morandotti, S. T. Chu, B. E. Little, D. J. Moss, J. S. Toterogongora and M. Peccianti

13.40 **Tu.C6.2** [GauthierLafayeOi1] CRIGFs : [Spectral filters, but also modal filters and combiners](#) (Invited 20 min)

A. Rouxel, A. Monmayrant, P. Dubreuil, S. Calvez and O. Gauthier-Lafaye

14.00 **Tu.C6.3** [DumeigeYi1] [GaP WGM microdisks for second order nonlinear optics](#) (Invited 20 min)

Rasool Saleem-Urothodi, Pierre Guillemé, Julie Le Pouliquen, Tony Rohel, Rozenn Bernard, Laurent Bramerie, Christelle Velly, Alejandro Lorenzo-Ruiz, Alexandre Beck, Antoine Létoublon, Olivier De Sagazan, Charles Cornet, Yannick Dumeige, Yoan Léger

14.20 **Tu.C6.4** [ColumboLi1] [Solitary Structures in ring Quantum Cascade Lasers](#) (Invited 20 min)

Lorenzo Columbo

14.40 **Tu.C6.5** [KolkowskiRi1] [Probing nonradiating states of light in photonic nanostructures using nonlinear optical processes](#) (Invited 20 min)

Radoslaw Kolkowski, Huayu Bai, Matti Kaivola, Andriy Shevchenko

15.00 **Tu.C6.6** [DeLuciaFi1] [Poled Fibers for Nonlinear Photonics: Recent Advances and Future Perspectives](#) (Invited 20 min)

Francesco De Lucia, Nicolas Englebert, Rex Bannerman, Muhammad I. M. Abdul Khudus, Simon-Pierre Gorza, Gilberto Brambilla, James Gates, Pier Sazio, Francois Leo

15.20 **Tu.C6.7** [WengHZi1] [Multi-color frequency combs in the Kerr microresonators](#) (Invited 20 min)
Haizhong Weng, Vikash Kumar, Huilan Tu, Qiaoyin Lu, Weihua Guo, Dmitry Skryabin, John Donegan

Aula 13 - materials&devices, Tuesday July 16

13.40-15.00 Tu.C7 - PICA4, Chairlady: Dana Seyringer

13.40 **Tu.C7.1** [DagensBi1] [Towards high-resolution all-optical spatial light modulators](#) (Invited 20 min)
Marius Crouzier, Fei Mao, Vy Yam, Giovanni Magno, Thomas Lopez, Beatrice Dagens

14.00 **Tu.C7.2** [PassaroVi1] [Sb₂S₃-based resonant non-volatile multilevel optical memory](#) (Invited 20 min)
Martino De Carlo, Francesco De Leonardis, Richard Soref and Vittorio M.N. Passaro

14.20 **Tu.C7.3** [PohlAi1] [Fabrication of Y-Branch Power Splitters using Additive Manufacturing](#) (Invited 20 min)
Francisco Cano Silva Cezar, Carlos Ernesto Morales-Alvarado, Neri Volpato, Andreia Gerniski Macedo, Paula Cristina Rodrigues, and Alexandre de Almeida Prado Pohl

14.40 **Tu.C7.4** [ThomsonDji1] [All-silicon optical modulators and detectors](#) (Invited 20 min)
D. J. Thomson, W. Zhang, K. Li, J. Zhu, T-Y. Chang, M. Ebert, B. Pant, R. S. Pokharia, C. J. Mitchell, B. Chen, S. Liu, F. Meng, X. Yan, H. Du, M. Banakar, D. T. Tran, C. G. Littlejohns, F. Gan and G. T. Reed

posters & DEMOs area, Tuesday July 16

13.30 - 16.00 Tu.P2 - Poster 2

Tu.P2.1 [AsgariSr2] [Multi-band graphene-based Terahertz Anisotropic Metamaterial Absorber](#)
Somayyeh Asgari and Tapio Fabritius

Tu.P2.2 [AssisKDRr1] [Slicing and QoS-aware Resilience in Multipath Routing Problem of Elastic Optical Networks](#)
K. D. R. Assis, R. C. Almeida Jr, R. Boutaba, Hojjat Baghban, L. Carrea, M. Reed, T. A. C. Melo, H. Li, S. Yan and D. Simeonidou

Tu.P2.3 [BartonIrr1] [Nanoceramic materials for power lasers operating in short- mid-infrared](#)
Ivo Bartoň, Ondřej Podrazký, Petr Vařák, Jana Proboštová, Jan Mrázek

Tu.P2.4 [GrecoSr1] [Advanced Electromagnetism and Nanoplasmonics in FEniCSx](#)
Stefano Greco, Michele Castriotta, Cristian Ciraci

Tu.P2.5 [Sirletolp1] [Relative intensity noise measurements in SRS microscope based on three femtosecond laser](#)
Rajeev Ranjan, Giovanni Costa, Maria Antonietta Ferrara, Mario Sansone and Luigi Sirleto

Tu.P2.6 [Sirletolp2] [Image denoising based on two widespread algorithms in femtosecond stimulated Raman scattering microscopy](#)
Giovanni Costa, Rajeev Ranjan, Maria Antonietta Ferrara, Mario Sansone and Luigi Sirleto

Aula 1 - networks, Tuesday July 16

16.00-17.55 Tu.D1 - MOON 2, Chair: Vittorio Curri

16.00 **Tu.D1.1** [FumagalliAi1] [Enhancing Optical Network Emulation \(ONE\) Engine with Multi-Container Scalability and B400G Signal Modeling](#) (Invited 20 min)

Muhammad Ridwanur Rahim, Aparajitha Gomathinayakam Latha, Tianliang Zhang, Marco Tacca, Andrea Fumagalli

16.20 **Tu.D1.2** [EtezadiEi1] [Joint Fragmentation- and QoT-Aware RBMSA in Dynamic Multi-Band Elastic Optical Networks](#) (Invited 20 min)

Ehsan Etezadi, Farhad Arpanaei, Carlos Natalino, Erik Agrell, Lena Wosinska, Paolo Monti, David Larrabeiti, Marija Furdek

16.40 **Tu.D1.3** [AmbrosoneRr1] [Optical Amplified Line Self-Healing Using GNPY as a Service by the SDN Control](#) (15 min)

Renato Ambrosone, Andrea D'Amico, Rocco D'Ingillo, Emanuele Virgillito, Stefano Straulli, Francesco Aquilino, Vittorio Curri

16.55 **Tu.D1.4** [ArpanaeiFr1] [ML-Assisted Optimal Power and GSNR Estimation in Multi-band Elastic Optical Networks](#) (15 min)

K. Ghodsifar, F. Arpanaei, H. Beyranvand, M. Ranjbar Zefreh, C. Natalino, P. Monti, S. Yan, O. Gonzalez de Dios, J. M. Rivas-Moscato, J. P. Fernandez-Palacios, A. Sanchez-Macian, D. Larrabeiti, and J. A. Hernandez

17.10 **Tu.D1.5** [GuoNr1] [Performance analyses of wavelength assignment algorithms in wideband fixed-grid/flex-rate optical networks](#) (15 min)

Ningning Guo, Bruno Correia, Gangxiang Shen, and Vittorio Curri

17.25 **Tu.D1.6** [ZitkovichMr1] [N-Try buffer allocation strategy for advanced reservation in dynamic Multiband-EON networks](#) (15 min)

Mirko Zitkovich and Danilo Borquez-Paredes

17.40 **Tu.D1.7** [MasoodMUr1] [Impact of Waveband and Wavelength Switching in the Next-Generation Optical Networks](#) (15 min)

Muhammad Umar Masood, Ihtesham Khan, Bruno Correia, Lorenzo Tunesi, Andrea Marchisio, Enrico Ghillino, Paolo Bardella, Andrea Carena, Vittorio Curri

Aula 3 - access, Tuesday July 16

16.00-16.55 Tu.D2 - SDN-NFV, Chair: Luiz Henrique Bonani

16.00 **Tu.D2.1** [CallegatiFi1] [Software Defined and Secure Industrial Networks for the Industry 4.0](#) (Invited 20 min)

Riccardo Bacca, Chiara Grasselli, Giulio Tripi, Andrea Melis, Luiz Henrique Bonani and Franco Callegati

16.20 **Tu.D2.2** [deMiguelli1] [MEC in the 5G Era: Enhancing Reliability Through Backup Strategies and Technology Integration](#) (Invited 20 min)

Maryam Masoumi, Fabrizio Brasca, Emanuele Bonfani, Gianluca Rizzi, Ignacio de Miguel and Ramón J. Durán Barroso

16.40 **Tu.D2.3** [SamboNr1] [On the Control of Multi-Function Reprogrammable Silicon Chip for ROADMs and Sliceable Transceivers](#) (15 min)

M. Lawson, M. Ali, M. Radovic, N. Sambo, R. Casellas, F. Cugini, M. Svaluto Moreolo, A. Santome-Valverde

Aula 5 - systems, Tuesday July 16

16.00-17.55 Tu.D3 - RONEXT, Chair: Piero Castoldi

16.00 **Tu.D3.1** [MasMachucaCi1] [Impact of graphs and methodologies on optical access networks planning](#) (Invited 20 min)

Cristian Bermudez Serna, Anjali Sharma and Carmen Mas-Machuca

16.20 **Tu.D3.2** [NadimiGokiPi1] [Pragmatic Authentication Technique in Fiber Optical Networks](#) (Invited 20 min)

Pantea Nadimi Goki, Ramin Solaimani, Luca Poti

16.40 **Tu.D3.3** [AbbadeMi1] [Propagation of Optical Signals Encrypted with Spectral Phase Encoding and Signal/Polarisation Shuffling](#) (Invited 20 min)

João Pedro de Lima Cassiano Pereira, Marcelo Pereira Nogueira, Eric Alberto de Mello Fagotto, Ivan Aldaya, and Marcelo Luís Francisco Abbade

17.00 **Tu.D3.4** [KowalczykMi1] [Harmful attacks threat and counteracting them in optical networks](#) (Invited 20 min)

Marcin Kowalczyk, Michal Marzecki, Jerzy Siuzdak

17.20 **Tu.D3.5** [MontiPi1] [Proactive Relocation for Survivable Cloud Services](#) (Invited 20 min)

Carlos Natalino, Paolo Monti

17.40 **Tu.D3.6** [BalsamAr1] [Comprehensive comparison between versions CVSS v2.0, CVSS v3.x and CVSS v4.0 as vulnerability severity measures](#) (15 min)

Artur Balsam, Maciej Nowak, Michał Walkowski, Jacek Oko, Sławomir Sujecki

Aula 7 - fibres, Tuesday July 16

16.00-17.35 Tu.D4 - Novel Glasses 2, Chair: Maurizio Ferrari

16.00 **Tu.D4.1** [NekvindovaPi1] [Enhancement of RE ions emission by silica glass nanostructuring](#) (Invited 20 min)

Petr Vařák, Jakub Volf, Jan Mrázek, Vítězslav Jarý, Pavla Nekvindová

16.20 **Tu.D4.2** [NemecPi1] [Low temperature synthesis of GeTe nanoparticles and their characterization](#) (Invited 20 min)

M. Bouška, Y. Milasheuskaya, M. Šlouf, P. Knotek, S. Pechev, L. Prokeš, L. Pečinka, J. Havel, R. Jambor, P. Němec

16.40 **Tu.D4.3** [TheodosiouAi1] [Low-loss fusion splicing of silica and fluoride fibers](#) (Invited 20 min)

Antreas Theodosiou, Yuhan Baravets, Ori Sapir-Henderson, Oliver T. Cobcroft, Samuel M. Sentschuk, Jack A. Stone, David J. Ottaway, Pavel Honzatko, Pavel Peterka

17.00 **Tu.D4.4** [WisniewskiKi1] [Spectroscopic properties of lead-silicate glasses with MoO₃ admixture and rare earth dopants](#) (Invited 20 min)

K. Wisniewski, M. Środa, K. Naveenkumar, P. Syam Prasad, P. Plóciennik, A. Zawadzka

17.20 **Tu.D4.5** [KhouriMi1] [Simulating and Fabricating Chalcogenide-based Waveguides for Agro-Environmental Applications](#) (15 min)

Martin Khouri, Raphaël Escalier, Daphné Heran, Mikhaël Myara, Raphaël Kribich, Caroline Vigreux, Ryad Bendoula

Aula 9 - SWP, Tuesday July 16

16.00-18.20 Tu.D5 - SWP 7 plasmonics, Chair: Olivier Martin

16.00 **Tu.D5.1** [LembrikovBi1] [Modulation of Optical Signals in a Plasmonic Waveguide with a Smectic A Liquid Crystal \(SALC\) Layer as a Core](#) (Invited 20 min)

B.I. Lembrikov, D. Ianetz, Y. Ben-Ezra

16.20 **Tu.D5.2** [PetruzzelliVi1] [Magneto-plasmonic waveguides for non-reciprocal devices](#) (Invited 20 min)

G. Calò, G. Magno, V. Petruzzelli, V. Yam, B. Dagens

16.40 **Tu.D5.3** [SmajicJi1] [Plasmonic Electro-Optic Modulators – A Review](#) (Invited 20 min)

Jasmin Smajic, Juerg Leuthold

17.00 **Tu.D5.4** [VasilevskiyMi1] [Coupled oscillators approach to modelling a graphene-based plasmonic sensor](#) (Invited 20 min)

Diogo Cunha, Yuliy Bludov, Mikhail Vasilevskiy

17.20 **Tu.D5.5** [HuangJi1] [Surface-Acoustic Waves Actuated Amplification in a Plasmonic Waveguide](#) (Invited 20 min)

Rohit Gupta, Kuntal Barman, Liang-Yun Lee, Anuj Chauhan, Cheng-Yi Cheng, Jian-Jang Huang

17.40 **Tu.D5.6** [BaghdasaryanHi1] [Reflection-mode electro-optical plasmonic modulator: electromagnetic modelling by the method of single expression](#) (Invited 20 min)

Hovik V. Baghdasaryan, Tamara M. Knyazyan, Tamara T. Hovhannisyan, Gurgen R. Mardoyan, Tigran Baghdasaryan, Erich Leitgeb, Marian Marciniak

18.00 **Tu.D5.7** [RichterIi1] [Three-dimensional Magneto-optic Rigorous Coupled Wave Analysis – Application to Nonreciprocal Guiding](#) (Invited 20 min)

Pavel Kwiecien, Ivan Richter, Vladimír Kuzmiak, and Jiří Čtyroký

Aula 11 - D-Photon, Tuesday July 16

16.00-18.00 Tu.D6 - PNPA 4, Chair: Luigi Sirleto

16.00 **Tu.D6.1** [SavoRi1] [Second-order Nonlinear Disordered Photonics: from versatile wavelength conversion to deep computing](#) (Invited 20 min)

Romolo Savo

16.20 **Tu.D6.2** [SchiattarellaCi1] [Near-field nanoscopy of THz split-ring resonators with a localized graphene layer in the gap: a new platform for efficient third harmonic generation in graphene](#) (Invited 20 min)

Chiara Schiattarella, Alessandra Di Gaspare, Leonardo Viti, M. Alejandro Justo Guerrero, Miriam S. Vitiello

15.40 **Tu.D6.3** [RimoldiCi1] [Impact of Oxide Aperture Geometry on Noise Performance Degradation in 850 nm Multimode VCSELs for Datacom Applications](#) (Invited 20 min)

Cristina Rimoldi, Lorenzo L. Columbo, Alberto Tibaldi, Pierluigi Debernardi, Sebastian Romero García, Christian Raabe, Mariangela Gioannini

17.00 **Tu.D6.4** [CincottiGi2] [Can a quantum detector surpass the non-linear Shannon limit?](#) (Invited 20 min)

Matteo Rosati and Gabriella Cincotti

17.20 **Tu.D6.5** [VenanziTi1] [Nonlinear hydrodynamic behavior of free electrons in plasmonic doped-InGaAs nanoantennas](#) (Invited 20 min)

A. Rossetti, H. Hu, T. Venanzi, A. Bousseksou, F. De Luca, T. Deckert, V. Giliberti, M. Pea, I. Sagnes, G. Beaudoin, P. Biagioni, E. Bau, S. A. Maier, A. Tittl, D. Brida, R. Colombelli, M. Ortolani, and C. Ciraci

17.40 Tu.D6.6 [SimovicPavlovicMi1] [Breaking Barriers: Molding Thermodynamics by Geometry of Nanostructures](#) (Invited 20 min)

Marina Simović Pavlović, Maja Pagnacco, Bojana Bokić, Darko Vasiljević, Marija Radmilović-Rađenović, Branislav Rađenović, Branko Kolarić

Aula 13 - materials&devices, Tuesday July 16

16.00-17.20 Tu.D7 - PICA5, Chair: Prince Anandarajah

16.00 **Tu.D7.1** [LatkowskiSi1] [Optical Alignment Optimization for High Throughput Testing of Photonic Integrated Circuits](#) (Invited 20 min)

Ruud Jansen, Dzmitry Pustakhod, Bart Combee, Xaveer Leijts, Kevin Williams, and Sylwester Latkowski

16.20 **Tu.D7.2** [TomasiunasRi1] [Green light second-harmonic generation in a planar quasi-symmetrical GaN waveguide structure](#) (Invited 20 min)

R. Tomasiunas, D. Kezys, M. Kolenda, I. Dailidenas, A. Kadys, I. Reklaitis, S. Melnikas, L. Grineviciute, R. Petruskevicius, V. Vaicaitis, A. Tarre, K. Kukli

16.40 **Tu.D7.3** [DeVittorioMi1] [Optical fiber integrated functional elements fabricated by two-photon polymerization](#) (Invited 20 min)

Stella Aslanoglou, Barbara Spagnolo, Ferruccio Pisanello, Massimo De Vittorio

17.00 **Tu.D7.4** [SeyringerDi1] [512-channel SiN-based AWG-spectrometer for OCT on a chip](#) (Invited 20 min)

Dana Seyringer, Paul Müllner, Moritz Eggeling, Anja Agneter, Quang Nguyen, Elisabet A. Rank, Martin Sagmeister, Jochen Kraft, Alejandro Maese-Novo, Wolfgang Drexler, Rainer Hainberger

DAY 3 - Wednesday July 17

***** We.A - Wednesday morning parallel sessions *****

Aula 1 - networks, Wednesday July 17

8.40-9.55 We.A1 - EWOC, Chair: Zoran Vujicic

8.40 We.A1.1 Zoran Vujčić: [Welcome and introductory talk on the EWOC project](#) (15min)

8.55 **We.A1.2** keynote1 [GaudinoRi1] [Future Evolutions of Fronthauling Architectures over Passive Optical Networks](#) (30 min)

Safana Alzoubi, Sandra Arnaout, Md Arifur Rahman, and Roberto Gaudino

9.25 **We.A1.3** keynote2 [GelabertXi1] [Redefining Next Generation Fronthaul for the Interplay Between Communication and Sensing Data](#) (30 min)

Xavier Gelabert, Bleron Klaiqi, Noè Bernadas i Busquets

Aula 3 - access, Wednesday July 17

8.40-9.40 We.A2 - NOFSerT, Chairs: Giuseppe Rizzelli & Caterina Ciminelli

8.40 **We.A2.1** [MartinsHi1] [Recent progress in calibrated optical fibre distributed sensing for full-bandwidth seismology](#) (Invited 20 min)

Hugo F. Martins, Pedro J. Vidal-Moreno, María R. Fernández-Ruiz, Sonia Martin-Lopez, Miguel Gonzalez-Herraez

9.00 **We.A2.2** [RizzelliGi1] [Overview and analysis of optical sensing techniques over deployed telecom networks](#) (Invited 20 min)

Ann Margareth Rosa Brusin, Giuseppe Rizzelli, Marco Fasano, Jacopo Morosi, Saverio Pellegrini, Valter Ferrero, Gabriella Bosco, Dario Piloni, Paola Parolari, Andrea Madaschi, Marco Brunero, Pierpaolo Boffi and Roberto Gaudino

9.20 **We.A2.3** [CurriVi2] [A Machine Learning-Driven Smart Optical Network Grid for Earthquake Early Warning](#) (Invited 20 min)

Hasan Awad, Fehmida Usmani, Emanuele Virgillito, Rudi Bratovich, Roberto Proietti, Stefano Straullu, Rosanna Pastorelli, Vittorio Curri

Aula 5 - systems, Wednesday July 17

8.40-10.00 We.A3 - SDM for High-Capacity Transmission, Chair: Fabio Aparecido Barbosa

8.40 **We.A3.1** [BarbosaFAi1] [Modal Dispersion Performance of Mode Vector Modulation](#) (Invited 20 min)

F. Barbosa, F. Ferreira, A. Brisson, A. Biswas, M. Dadras, E. Fink, I. Roudas, and X. Jiang

9.00 **We.A3.2** [CarnielloPi1] [Is the Weak Coupling Nonlinear SDM Channel Worse Than the Strong Coupling One?](#) (Invited 20 min)

Paolo Carniello, Chiara Lasagni, Filipe M. Ferreira, Norbert Hanik

9.20 **We.A3.3** [GotoYi1] [LCOS-based Flexible Optical Switch for Heterogeneous SDM Fiber Networks](#) (Invited 20 min)

Yuta Goto, Satoshi Shinada, Yusuke Hirota, and Hideaki Furukawa

9.40 **We.A3.4** [AlvesTi1] [Neural Network-Assisted Self-Coherent MCF Systems Impaired by ICXT and Laser Phase Noise](#) (Invited 20 min)

Tiago M. F. Alves, Lucas Oliveira and Adolfo V. T. Cartaxo

Aula 7 - fibres, Wednesday July 17

8.40-10.00 We.A4 - Fibre Lasers 1, Chair: Sergey Sergeyev

8.40 **We.A4.1** [CucinottaAi1] [Yellow Fiber Laser System for the Treatment of Ocular Diseases](#) (Invited 20 min)
Annamaria Cucinotta, Foroogh Khozeymeh, Wahida Chowdry, Valentina Serafini, Guido Perrone

9.00 **We.A4.2** [VarakPi1] [Fluorescence lifetime of highly rare-earth-doped silica optical fibers – the influence of composition and fabrication processing](#) (Invited 20 min)
Petr Vařák, Pavel Peterka, Michal Kamrádek, Jan Aubrecht, Ondřej Podrazký, Ivo Bartoň, Ivan Kašík, Pavel Honzátka

9.20 **We.A4.3** [SujeckiSi1] [Energy level population dynamics in terbium doped chalcogenide selenide glass fibre under pulsed pumping](#) (Invited 20 min)
Stawomir Sujecki, Łukasz Sójka, Łukasz Pajewski, Sindy Phang, Mark Farries, David Furniss, Emma Barney, Trevor Benson, Angela Seddon

9.40 **We.A4.4** [RodriguezCuevasAi1] [Achieving Multiple-Days Stability in a Single-Cavity Dual-Comb laser for Spectroscopic Applications](#) (Invited 20 min)
Alberto Rodriguez Cuevas, Dmitrii Stoliarov, Hani Kbashi and Sergey Sergeyev

Aula 9 - SWP, Wednesday July 17

8.40-10.00 We.A5 - SWP 8 new materials & phenomena 1, Chair: Giovanni Pellegrini

8.40 **We.A5.1** [HattoriHTi1] [Active devices based on novel materials](#) (Invited 20 min)
Khalil As'ham, Sanjida Akter, Ibrahim Al'Ani and Haroldo T. Hattori

9.00 **We.A5.2** [TaboukhatSi1] [Investigating the Relationship Between Molecular Structure and Nonlinear Optical Behavior in Specific Organic and Organometallic Compounds](#) (Invited 20 min)
Said Taboukhat, Aouatif Aamoum, Dmytro Shulha, Dominique Guichaoua, Robert Wielgosz, Anatoliy Andrushchak, and Bouchta Sahraoui

9.20 **We.A5.3** [ChiappiniAi1] [Self-assembled colloidal structures for photonics](#) (Invited 20 min)
A. Chiappini, A. Carpentiero, M. Bollani, R. Mudi, B.M. Squeo, M. Pasini, L. Pasquardini, B.N. Shivakiran Bhaktha, K. Debnath, T. Virgili

9.40 **We.A5.4** [SahraouiBi1] [Unveiling the Nonlinear Optical Potential of N719 Dye-Based Thin Film](#) (Invited 20 min)
H. El Karout, A. Marjanowska, A. Zawadzka, P. Płóciennik, A. Andrushchak, R. Wielgosz and B. Sahraoui

Aula 11 - D-Photon, Wednesday July 17

9.40-10.20 We.A6 - SWP 9 microresonators, Chair: Stefano Pelli

9.40 **We.A6.1** [PopovEi1] [Extraordinary enhancement of second harmonic generation in cavity-resonator integrated grating couplers](#) (Invited 20 min)
Evgeny Popov, Anne-Laure Fehrembach, Elizabeth Hemsley, François Renaud, Antoine Monmayrant, Olivier Gauthier-Lafaye, Stéphane Calvez

10.00 **We.A6.2** [MeixnerAi1] [Strong coupling of organic semiconductors in a tuneable Fabry-Pérot microresonator](#) (Invited 20 min)
Christoph Kertzscher, Michael Mauch, Jakob Keck, Frank Wackenhut, Saeed Nosrati, Alfred J. Meixner

Aula 1 - networks, Wednesday July 17

10.40-12.40 We.B1 - OWW 1, Chairlady: Tanya Politi

10.40 **We.B1.1** [WolfMi1] [A review of advanced modulation schemes for band limited wireless optical systems based on intensity modulation and direct detection](#) (Invited 20 min)

Mike Wolf and Martin Haardt

11.00 **We.B1.2** [CiaramellaEi1] [Prospects of Optical Wireless Communications in Non-Terrestrial Networks](#) (Invited 20 min)

S. Basu, L. Oliviero, G. Cossu, C. Cantore, A. D'Orazio, and E. Ciaramella

11.20 **We.B1.3** [DjordjevicI1] [Entanglement Assisted Radars Operated over Strong Atmospheric Turbulence Channels](#) (Invited 20 min)

Ivan B. Djordjevic and Vijay Nafria

11.40 **We.B1.4** [GalzeranoGi1] [Mid-infrared free-space optical link at 10.6 \$\mu\text{m}\$](#) (Invited 20 min)

S. Graziano, D. Gatti, L. Resteghini, A. Milani, R. Nebuloni, L. Luini, G. Galzerano

12.00 **We.B1.5** [SamboNi1] [Control of free-space optical links and networks](#) (Invited 20 min)

N. Sambo, A. Sgambelluri, G. Cossu, F. Paolucci, E. Ciaramella

12.20 **We.B1.6** [CossuGi1] [Realizing an indoor OWC system by means of a Luminescent Solar Concentrator](#) (Invited 20 min)

G. Cossu, L. Oliviero, L. Gilli, A. Pucci, M. Meucci, M. Aresti, J. Catani, E. Ciaramella

Aula 3 - access, Wednesday July 17

10.40-11.40 We.B2 - THz 1, Chair: Christos Tsokos

10.40 **We.B2.1** [KawanishiTi1] [Design of dependable THz transmitters under severe weather conditions](#) (Invited 20 min)

Tetsuya Kawanishi

11.00 **We.B2.2** [KajiTi1] [Terahertz optical modulators using electro-optic polymer waveguides and non-coplanar patch antennas](#) (Invited 20 min)

Takahiro Kaji, Toshiki Yamada, Naoya Wada, Akira Otomo

11.20 **We.B2.3** [CesarCuelloJi1] [Integrated Photonic Circuits for the Detection of Millimeter and Submillimeter Radio Signals for Space Applications](#) (Invited 20 min)

Jessica César-Cuello, Alberto Zarzuelo, Gabriel Santamaría, Enderson Falcón-Gómez, Robinson Guzmán, Luis Gonzalez, José Manuel Delgado Mendinueta, Luis E. García-Muñoz and Guillermo Carpintero

Aula 5 - systems, Wednesday July 17

10.40-12.20 We.B3 - SDM-WDM 1, Chair: Mattia Longobucco

10.40 **We.B3.1** [ChovanJi1] [Coupling Properties of Asymmetric High Index Contrast Soft Glass Dual-Core Fibers in C-Band](#) (Invited 20 min)

Jozef Chovan, Ignác Bugar, Dariusz Pysz, Ryszard Buczynski, František Uherek

11.00 **We.B3.2** [NeskorniukVi1] [MIMO DSP in Direct Detection SDM Systems Based on Weakly-Coupled Multicore Fibers](#) (Invited 20 min)

Vladislav Neskorniuk, Igor Koltchanov, Artur Chaikovski, André Richter

11.20 **We.B3.3** [CartaxoAi1] [Impact of the combined effect of random core-dependent and splice losses on intercore crosstalk performance in weakly-coupled multicore fibers](#) (Invited 20 min)

João L. Rebola, Adolfo V. T. Cartaxo, Tiago M. F. Alves

11.40 **We.B3.4** [ZitelliMi1] [A thermodynamic study of low-power modal multiplexed systems](#) (Invited 20 min)

Mario Zitelli

12.00 **We.B3.5** [ShenGXi1] [Provisioning Spatial Super-Channels in Fiber Space Division Multiplexing \(FSDM\) Optical Networks: Analytical Model and Performance Analysis](#) (Invited 20 min)

Shudan Han, Yongcheng Li, Lian Xiang, Lin Sun, Gangxiang Shen

Aula 7 - fibres, Wednesday July 17

10.40-12.35 We.B4 - Fibre Lasers 2, Chair: Sławomir Sujecki

10.40 **We.B4.1** [SergeyevSi1] [Vector Subharmonic Entrainment](#) (Invited 20 min)

S. V. Sergeyev, D. Stoliarov, H. Khashi, F. Wu, Q. Huang, and C. Mou

11.00 **We.B4.2** [MrazekJi1] [Transparent ceramics for high-power infrared lasers operating above 2 \$\mu\text{m}\$](#) (Invited 20 min)

Jan Mrázek, Ondřej Podrazký, Petr Vařák, Ivo Bartoň, Jana Probošťová

11.20 **We.B4.3** [PoliFi1] [Optimizing Dysprosium-Doped Fiber Lasers for Direct Yellow Emission: A Comprehensive Numerical Analysis](#) (Invited 20 min)

Federica Poli, Michelangelo Federico

11.40 **We.B4.4** [PerroneGi1] [Novel laser structures for high-power applications](#) (Invited 20 min)

Guido Perrone

12.00 **We.B4.5** [RochetteMi1] [All-fiber devices compatible with the mid-infrared](#) (Invited 20 min)

Martin Rochette

12.20 **We.B4.6** [AnelliFr2] [Indium Fluoride Optical Fiber End-Pump Combiner for High-Power All-Fiber Sources](#) (15 min)

Francesco Anelli, Andrea Annunziato, Antonella Maria Loconsole, Vito Vincenzo Francione, Md. Imran Khan, Solenn Cozic, Samuel Poulain, and Francesco Prudeniano

Aula 9 - SWP, Wednesday July 17

10.40-12.00 We.B5 - SWP 10 new materials & phenomena 2, Chair: Bouchta Sahraoui

10.40 **We.B5.1** [InabaTi1] [Er-doped rare earth oxides for optical quantum memory on Si substrate](#) (Invited 20 min)
Tomohiro Inaba, Xuejun Xu, Yuki Wakabayashi, Takuma Otsuka, Takehiko Tawara, Hiroo Omi, Hideki Yamamoto, Katsuya Oguri and Haruki Sanada

(We.B5.2 cancelled)

11.00 **We.B5.3** [FillautJLi1] [Surface post-modifications of 3D-printed micro/nano-materials](#) (Invited 20 min)
Nicolas Fournier-Le Ray, Jean-Luc Fillaut, Rana Mhanna, Stephania Abdallah, Jean-Pierre Malval

11.20 **We.B5.4** [PellegriniGi1] [Low-contrast one-dimensional photonic crystals for optical chirality enhancement](#)
(Invited 20 min)

G. Pellegrini, F. Michelotti, A. Occhicone, M. Celebrano, M. Finazzi, and P. Biagioni

12.40 **We.B5.5** [GnilitskiyI1] [Femtosecond laser-induced periodic surface structures: a tool to create functional surfaces](#) (Invited 20 min)

Iaroslav Gnilitskiy, Dominique Guichaoua and Said Taboukhat

Aula 11 - D-Photon, Wednesday July 17

10.40-12.20 We.B6 - PAM, Chair: Misha Sumetsky

10.40 **We.B6.1** [BorghiMi1] [Squeezed light photon number statistics from a microresonator without photon number resolving detectors](#) (Invited 20 min)

Massimo Borghi, Emanuele Brusaschi, Marcello Bacchi, Marco Liscidini, Matteo Galli and Daniele Bajoni

11.00 **We.B6.2** [DaRosFi1] [Microring Resonator-based Photonic Reservoir Computing](#) (Invited 20 min)

Bernard J. Giron Castro, Christophe Peucheret, Francesco Da Ros

11.20 **We.B6.3** [PelliSi1] [Photoacustics and photothermal spectroscopy in micro-bubble optical resonators](#) (Invited 20 min)

Stefano Pelli, Gabriele Frigenti, Lucia Cavigli, Fulvio Ratto, Sonia Centi, Tupak García-Fernández, Daniele Farnesi, Silvia Soria, Gualtiero Nunzi Conti

11.40 **We.B6.4** [HorakPi1] [Alignment Properties of Finite-Size and Non-Spherical Optical Microresonators](#) (Invited 20 min)

William J. Hughes, Thomas H. Doherty, Jacob A. Blackmore, Joseph F. Goodwin, and Peter Horak

12.00 **We.B6.5** [IoppoloTi1] [Electric and Magnetic Field Sensors Based of Dielectric Resonators](#) (Invited 20 min)

Tindaro Ioppolo

Aula 13 - materials&devices, Wednesday July 17

10.40-11.55 We.B7 - DACINT, Chairlady: Aleksandra Kaszubowska-Anandarajah

10.40 **We.B7.1** [ElGorashiTi1] [Resilience in PON-based data centre architectures with two-tier cascaded AWGRs](#) (Invited 20 min)

Mohammed Alharthi, Sanaa H. Mohamed, Taisir E. H. El-Gorashi, Jaafar M. H. Elmirghani

11.00 **We.B7.2** [OzolinsOi1] [SiP Ring Resonator Modulator-based Transmitters for Short-Reach Applications](#) (Invited 20 min)

Armands Ostrovskis, Toms Salgals, Michael Koenigsmann, Azra Farid, Aleksandrs Marinins, Benjamin Krüger, Fabio Pittalà, Ryan P. Scott, Hansjoerg Haisch, Lu Zhang, Xianbin Yu, Rafael Puerta, Sandis Spolitis, Richard Schatz, Katia Gallo, Markus Gruen, Hadrien Louchet, Kazuo Yamaguchi, Vjaceslavs Bobrovs, Xiaodan Pang, Oskars Ozoliņš

11.20 **We.B7.3** [KonishiTi1] [Light path modeling using a guided light change passing through a 3D co-packaged optical device](#) (Invited 20 min)

Tsuyoshi Konishi, Shizen Nakayama, and Junpei Funatsuki

11.40 **We.B7.4** [D'IngilloRr1] [Enhancing Data Center Interconnects Efficiency with Integrated SOAs in InP Mach-Zehnder Modulators: an Experimental Validation](#) (15 min)

Rocco D'Ingillo, Stefano Straullu, Rocco Siano, Michele Belmonte, Vittorio Curri

posters & DEMOs area, Wednesday July 17

10.40-12.40 We.P3 Poster 3 - EWOC

We.P3.1 [AbdellatifAp1] [Machine Learning Methods Towards Analog mm-Wave Systems](#)

Ahmed Abdellatif and Zoran Vujicic

We.P3.2 [AhmadNp1] [Performance Analysis of UAV-Aided THz-based 6G Networks: A Stochastic Geometry Approach](#)

N. Ahmad, A. Karasuwa, J. Rodriguez, A. Roula

We.P3.3 [AlzoubiSp1] [Modelling Coherent Transmission over Passive Optical Networks for 5G/6G Mobile Fronthauling](#)

Safana Alzoubi and Roberto Gaudino

We.P3.4 [ArnaoutSp1] [Resource Scheduling for 6G Optical and Radio Converged Network Architecture](#)

Sandra Arnaout, Md Arifur Rahman, Sławomir Hausman, and Piotr Korbel

We.P3.5 [BernadasNp1] [Coverage and Fronthaul Requirements in Beyond 5G C-RAN Deployments](#)

Noè Bernadas i Busquets, Xavier Gelabert, Bleron Klaiqi, Slimane Ben Slimane, Ki Won Sung

We.P3.6 [MendezRp1] [Characterization of Photonic Frequency Conversion Techniques for mmWave Systems](#)

Rodrigo Méndez, María C. Santos

We.P3.7 [MyshianovSp1] [Simulation Framework for Radio Resource Management Design in 5G and Beyond Networks](#)

Sergei Myshianov, Alexander Pyattaev

We.P3.8 [PousaRp1] [Dynamic Functional Split Orchestration](#)

Ricardo J. B. Pousa, Mauri Seidel, Giang Nguyen, Frank Fitzek

Aula 1 - networks, Wednesday July 17

13.40-15.40 We.C1 - OWW 2, Chair: Mike Wolf

13.40 **We.C1.1** [AlvaradoAi1] [A simplified FSO Channel Model with Weak Turbulence and Pointing Errors](#) (Invited 20 min)

Carmen Álvarez Roa, Yunus Can Gültekin, Kaiquan Wu, C. Willem Korevaar, Alex Alvarado

14.00 **We.C1.2** [WohlgemuthEi1] [Robust coherent FSO using ultrashort pulses](#) (Invited 20 min)

Eyal Wohlgemuth, Roi Lesnik, Roi Cohen, Ido Attia, Florian Emaury, Thibault Michel, Olivier Jacques-Sermet, Pu Jian, Ran Vered, and Dan Sadot

14.20 **We.C1.3** [PolitiCTi1] [Integrated sensing, communication and lighting visible light communication for indoor 6G networks](#) (Invited 20 min)

Christina (Tanya) Politi, Helena Serpi, Christos Tselios, Spyros Denazis

14.40 **We.C1.4** [WenFi1] [Deep learning-based optical vector-eigenmode processing](#) (Invited 20 min)

Feng Wen, Jian-Jun Li, Shui-Qiu Diao and Feng Yang

15.00 **We.C1.5** [DixitAi1] [Irradiance Distribution and Performance Analysis of Vector Vortex Beams in Atmospheric Turbulence](#) (Invited 20 min)

Vaishali Bhatt and Abhishek Dixit

15.20 **We.C1.6** [FernandesMi1] [Flexible and Cost-Efficient Auto-Alignment for Bidirectional Optical Wireless Communications](#) (Invited 20 min)

André C. Campos, Marco A. Fernandes, Gil M. Fernandes, Paulo P. Monteiro, and Fernando P. Guiomar

Aula 3 - access, Wednesday July 17

13.40-15.15 We.C2 - THz 2, Chair: Tetsuya Kawanishi

13.40 **We.C2.1** [StoehrAi1] [Phase Noise of Optically Generated Terahertz Signals employing an InP-based Photonic IC](#) (Invited 20 min)

Y. Uçar, N. Schulz, M. Grzeslo, J. Tebart, M. Hofmann, C. Brenner, and A. Stöhr

14.00 **We.C2.2** [TsokosCi1] [Analysis of Photonics-Enabled FMCW THz Spectrometers for Non-Destructive Thickness Measurements](#) (Invited 20 min)

E. Loukisa, C. Tsokos, P. Groumas, A. Raptakis, G. Megas, E. Andrianopoulos, L. Liebermeister, Robert B. Kohlhaas, Ch. Kouloumentas, and H. Avramopoulos

14.20 **We.C2.3** [ScamarcioGi1] [Modulating graphene/electrolyte interface response in the terahertz range](#) (Invited 20 min)

Gaetano Scamarcio, Syed Muhammad Abouzar Sarfraz, Haroon Ahmad

14.40 **We.C2.4** [VogelTi1] [Roadmap for the next generation of laser-based, high-power THz-Time Domain Spectrometer](#) (Invited 20 min)

Tim Vogel, Yicheng Wang, Mohsen Khalili, Samira Mansourzadeh, and Clara J. Saraceno

15.00 **We.C2.5** [AsgariSr1] [Dual-Band Linear Polarization Converter Based on Tunable Graphene Metamaterial in Terahertz](#) (15 min)

Somayyeh Asgari and Tapio Fabritius

Aula 5 - systems, Wednesday July 17

13.40-15.40 We.C3 - SDM-WDM 2, Chair: Salvatore Spadaro

13.40 **We.C3.1** [LeivaLopezAi1] [Dynamic Multicore Elastic Optical Networks: A Comparative Study of Performance using Heuristics and Artificial Intelligence](#) (Invited 20 min)

Juan Pinto-Ríos, Ariel Leiva, Barbara Dumas Feris, Daniel Iglesias, Catalina Cuevas, Nicolas Jara, Ricardo Olivares, Patricia Morales, Danilo Borquez-Paredes, Gabriel Saavedra

14.00 **We.C3.2** [WalkowiakKi1] [Adaptive Provisioning of Time-Varying Traffic in Translucent SDM Elastic Optical Networks](#) (Invited 20 min)

Adam Włodarczyk, Aleksandra Knapińska, Piotr Lechowicz, Salvatore Spadaro, Krzysztof Walkowiak

14.20 **We.C3.3** [PerelloJi1] [Probabilistic Constellation Shaping in Flex-Grid over Multicore Fibre Optical Backbone Networks: An Energy Savings Evaluation](#) (Invited 20 min)

Jordi Perelló, Joan M. Gené, Junho Cho, and Salvatore Spadaro

14.40 **We.C3.4** [LongobuccoMr1] [Ultrafast Dual-Wavelength 1 \$\mu\text{m}\$ – 2 \$\mu\text{m}\$ All-Optical Switching Based on All-Solid Dual-Core Fiber](#) (15 min)

Mattia Longobucco, Dariusz Pysz, Ryszard Buczyński, Ignác Bugár

14.55 **We.C3.5** [deSousaAr1] [On the Trade-off between the Maximum Capacity and the Length of a Multicore Fiber Link](#) (15 min)

Amaro de Sousa, Piotr Lechowicz

15.10 **We.C3.6** [SavvaGr1] [A Fragmentation and Crosstalk-aware RMSCA Framework for SDM-EONs](#) (15 min)

Sadananda Behera, Swarup Mohapatra, Sitaram Nayak, Giannis Savva, Konstantinos Manousakis, and Georgios Ellinas

15.25 **We.C3.7** [PedroJr1] [Node Architectures for High-Capacity Multi-band Over Space Division Multiplexed \(MBoSDM\) Optical Networks](#) (15 min)

Andre Souza, Nelson Costa, Laia Nadal, Ramon Casellas, Antonio Melgar, Jose Manuel Rivas-Moscoso, Marco Quagliotti, Emilio Riccardi, Antonio Napoli, Joao Pedro

Aula 7 - fibres, Wednesday July 17

13.40-15.40 We.C4 - OMT, Chair: George A. Stanciu

13.40 **We.C4.1** [StanciuGi1] [Correlated images by using two scattering -Scanning near optical microscopy techniques](#) (Invited 20 min)

G.A. Stanciu, D. E. Tranca, S. G. Stanciu, C. Stoichita

14.00 **We.C4.2** [TrancaDEi1] [Analysis of visible and infrared spectroscopic detection in scattering scanning near-field optical microscopy](#) (Invited 20 min)

Denis E. Tranca, Stefan G. Stanciu, Radu Hristu, George A. Stanciu

14.20 **We.C4.3** [KotynskiRi1] [Single-Pixel Imaging at High Pixel-Resolutions with Nonuniform Sampling Patterns](#) (Invited 20 min)

Rafał Stojek, Anna Pastuszczak, Piotr Wróbel, Rafał Kotyński

14.40 **We.C4.4** [SzalkowskiMi1] [Photon avalanche emission in lanthanide doped nanomaterials for super-resolution imaging](#) (Invited 20 min)

Marcin Szalkowski, Artur Bednarkiewicz, Dawid Piątkowski, Sebastian Maćkowski

15.00 **We.C4.5** [PisanelloFi1] [Focusing supercontinuum laser through multimode optical fibers beyond the fiber facet: overcoming challenges with ps-pulsed sources](#) (Invited 20 min)

Linda Piscopo, Liam Collard, Filippo Pisano, Antonio Balena, Massimo De Vittorio, Ferruccio Pisanello

15.20 **We.C4.6** [FuEGi1] [Ab initio study of the electronic and optical properties of Ga intrinsic vacancies in \$\beta\$ -Ga₂O₃ by hybrid functional combined with the shell DFT-1/2 approach](#) (Invited 20 min)

Engang Fu, Liyu Hao, Shangkun Shen, Xing liu, Yufei Wang, Shuangle Zhang, Jinlong Du

Aula 9 - SWP, Wednesday July 17

13.40-15.45 We.C5 - SWP 11 new light sources, Chairlady: Maria Antonietta Vincenti

13.40 **We.C5.1** [FernandezJi1] [A simple model for a dye-based solid state random laser](#) (Invited 20 min)

I. Iparraguirre, J. Azkargorta, S. García-Revilla, Rolindes Balda, Joaquín Fernández

14.00 **We.C5.2** [HerreroRi1] [Generation of hybrid frequency combs in Kerr cavities by non-Hermitian modulations](#) (Invited 20 min)

S. B. Ivars, M. Botey, K. Staliunas, R. Herrero

14.20 **We.C5.3** [SubramaniaGi1] [Nanostructuring wide bandgap semiconductors for light manipulation](#) (Invited 20 min)

Ganapathi Subramania

14.40 **We.C5.4** [LupuAi1] [Insight on the optimal design of non-Hermitian DFB lasers and experimental results](#) (Invited 20 min)

Y. Liang, Q. Gaimard, J.R. Coudevylle, A. Garreau, A. Wilk, O. Delorme, H. Benisty, A. Ramdane, and A. Lupu

15.00 **We.C5.5** [MochalovLr2] [Structural properties and Luminescence of PECVD-prepared \$\beta\$ -Ga₂O₃:ZnO thin films](#) (15 min)

Leonid Mochalov, Mikhail Kudryashov, Sergey Telegin, Ekaterina Slapovskaya, and Edik Rafailov

15.15 **We.C5.6** [KudryashovMr1] [Structural and Optical Properties of PECVD-prepared Cadmium Telluride Thin Films](#) (15 min)

Leonid Mochalov, Maksim Vshivtsev, Mikhail Kudryashov, Ekaterina Slapovskaya, and Sophia Safronova

13.30 **We.C5.7** [KudryashovMr2] [Plasma-prepared GaSe films for visible light emitting devices](#) (15 min)
Mikhail Kudryashov, Leonid Mochalov, Sergey Telegin and Yuliya Kudryashova

Aula 11 - D-Photon, Wednesday July 17

13.40-14.55 We.C6 - GOC, Chairlady: Anjali Sharma

13.40 **We.C6.1** [ValcarengiLi1] [Coordinated vDU relocation for an Energy Efficient PON-based Open SD-RAN](#) (Invited 20 min)
L. Valcarengi

14.00 **We.C6.3** [MartinezRi1] [Autonomous Control Operations for Energy-Efficient Packet Optical Networks](#) (Invited 20 min)
Ricardo Martínez, Ramon Casellas, Carlos Hernández-Chulde, F. Javier Vilchez, Ricard Vilalta, Raül Muñoz, Óscar González de Dios, Juan Pedro Fernández-Palacios

14.20 **We.C6.4** [SunWi1] [Offloading computing from your headsets - how viable is a HomeCloud?](#) (Invited 20 min)
Xinghan Chen and Weiqiang Sun

14.40 **We.C6.5** [AlshahraniMr1] [Energy Efficient Service Placement for IoT Networks](#) (15 min)
Mohammed A. Alshahrani, Ahmad Adnan Qidan, Taisir E. H. El-Gorashi, and Jaafar M. H. Elmirghani

posters & DEMOs area, Wednesday July 17

13.40 - 15.40 We.P4 Poster 4

We.P4.1 [GuichaouaDp1] [Photophysical study of 2,3-Diphenyl Quinoxaline thin films for potential applications in optoelectronic devices](#)
I. E. Ouedghiri-Idrissi, Z. Sofiani, A. Talbi, Y. El Kouari, D. Guichaoua, A. Andrushchak, D. Shulha, R. Wielgosz, P. Płociennik, S. Taboukhat, A. Zawadzka and B. Sahraoui

We.P4.2 [KertzscherCr1] [A tunable Fabry-Pérot microcavity enables systematic investigation of strong light-matter coupling and energy transfer at distances of several \$\mu\text{m}\$](#)
Christoph Kertzscher, Michael Mauch, Jakob Keck, Alfred J. Meixner

We.P4.3 [KotynskiRp1] [Coupling Sommerfeld-Zenneck surface waves for enhancing absorption in infrared detectors with deeply subwavelength absorber layers](#)
Andrzej Janaszek, Piotr Wróbel, Maciej Dems, and Rafał Kotyński

We.P4.4 [MohamedASp1] [Enabling Enhanced In-Building Solutions Fronthaul Connectivity: The Role of Mode Division Multiple Access in Mobile Networks](#)
Ahmed S. Mohamed, Eszter Udvary

We.P4.5 [NiewczasDp1] [Modelling, Fabrication and Optimization of Anti-reflective coatings Designed for Mid-infrared Quantum Cascade Lasers](#)
Dominika Niewczas, Krzysztof Hejduk, Dorota Pierścińska, Agata Krząstek, Paweł Kozłowski, Grzegorz Sobczak, Tomasz Stefaniuk, Kamil Pierściński

We.P4.6 [ProbostovaJr1] [Yttrium aluminium garnet doped fiber lasers operating at 2 \$\mu\text{m}\$](#)
Jana Proboštová, Michal Kamrádek, Ivo Bartoň, Ondřej Podrazký, Jan Aubrecht, Petr Vařák, Jan Mrázek

We.P4.7 [SorianoDiazSr1] [Amplified spontaneous emission and lasing in perovskite nanocomposites](#)
Sandra Soriano-Díaz, Jaume Noguera-Gómez, Juan P. Martínez-Pastor, Pablo P. Boix, Rafael Abargues and Isaac Suárez

Aula 1 - networks, Wednesday July 17

16.00-17.40 We.D1 - OWW 3, Chair: Ernesto Ciaramella

16.00 **We.D1.1** [ZamingaSi1] [Securing free-space optical communication link with a robust programmable photonic processor](#) (Invited 20 min)

F. Grillot, S. Zaminga, A. Martinez, H. Huang, F. Morichetti, and A. Melloni

16.20 **We.D1.2** [PetruzzelliVi2] [Thin-Film Lithium Niobate Optical Phased Arrays for reconfigurable on-chip communications](#) (Invited 20 min)

Muhammad Khalid, Simone Ferraresi, Gaetano Bellanca, Vincenzo Petruzzelli and Giovanna Calò

16.40 **We.D1.3** [CantoreCr1] [Laboratory emulation of LEO downlink optical feeder link employing commercial transceivers](#) (15 min)

Carla Cantore, Iaria Marasco, Davide Monopoli, Giovanni Magno, Antonella D'Orazio

16.55 **We.D1.4** [DjordjevicBr1] [Amplified Entanglement Assisted Communication Outperforming Classical Laser Communication in Strong Atmospheric Turbulence Regime](#) (15 min)

Vijay Nafria and Ivan B. Djordjevic

17.10 **We.D1.5** [HamadAr1] [Intelligent Reflecting Surfaces assisted Laser-based Optical Wireless Communication Networks](#) (15 min)

Ahrar N. Hamad, Walter Zibusiso Ncube, Ahmad Adnan Qidan, Taisir E.H. El-Gorashi and Jaafar M. H. Elmirghani

17.25 **We.D1.6** [MonopoliDr1] [BPM-based atmospheric turbulence propagator for optical ground-to-space links through extended Rayleigh Sommerfeld theory and phase screen generation](#) (15 min)

Davide Monopoli, Carla Cantore, Giovanni Magno, Antonella D'Orazio

Aula 3 - access, Wednesday July 17

16.00-17.40 We.D2 - Access 2, Chair: Nicola Calabretta

16.00 **We.D2.1** [SegarraJi1] [Converged 5G/6G access-metro network combining RoF and coherent PONs](#) (Invited 20 min)

Josep Segarra, Vicent Sales, Víctor Polo, Miquel Masanas, Rodrigo Méndez, María C. Santos, Josep Prat, J. Camilo Velásquez

16.20 **We.D2.2** [CastroAi1] [Integrating Optical and Mobile Networks: A Comprehensive End-to-End Simulation Platform](#) (Invited 20 min)

M. Rodriguez, M. Pirri, L. Ingles, C. Rattaro, and A. Castro

16.40 **We.D2.3** [NapoliAi1] [Design of Scalable Filterless Horseshoe-and-Spur Networks with Coherent Point-to-Multipoint Transceivers](#) (Invited 20 min)

Mohammad M. Hosseini, Joao Pedro, Carlos Castro, Antonio Napoli

17.00 **We.D2.4** [SantosJi1] [Enabling Cost-Effective Fiber Sensing with Quasi-Coherent Detection for PON Infrastructure](#) (Invited 20 min)

João Santos, Carla Rodrigues, Francisco Rodrigues, Paulo Duarte, Patrícia Carvalho, António Teixeira

17.20 **We.D2.5** [BoffiPi1] [Sensing in-service PON infrastructure by a sustainable interferometric sensor](#) (Invited 20 min)

M. Fasano, A. Madaschi, P. Parolari, M. Hovsepyan, F. Carpentieri, P. Boffi

Aula 5 - systems, Wednesday July 17

16.00-17.00 We.D3 - NetOrch, Chair: Lluís Gifre

16.00 **We.D3.1** [GifreLi1] [Transport DataPlane-in-a-box: Using the TeraFlowSDN Controller to Manage Packet-Optical Transport Networks](#) (Invited 20 min)

Ll. Gifre, R. Vilalta, R. Muñoz

16.20 **We.D3.2** [RaffaelliCi1] [Challenges and Solutions towards Practical End-to-End Service Orchestration](#) (Invited 20 min)

Gianluca Davoli, Gaetano Francesco Pittalà, Davide Borsatti, Walter Cerroni, Carla Raffaelli

16.40 **We.D3.3** [FumagalliAi2] [An IPoDWDM Implementation Leveraging OpenROADM Standards for Enhanced Service Orchestration](#) (Invited 20 min)

Moojan Kamalzadeh, Tianliang Zhang, Andrea Fumagalli, and Roberto Manzotti

Aula 7 - fibres, Wednesday July 17

16.00-17.20 We.D4 - SRIS, Chair: Rafał Kotyński

16.00 **We.D4.1** [ZalevskyZi1] [Quantum-adapted all-optical time multiplexing super-resolved imaging](#) (Invited 20 min)

Ariel Ashkenazy, Nadav Shabairou, Dror Fixler, Eliahu Cohen and Zeev Zalevsky

16.20 **We.D4.2** [NarimanovEi1] [Fundamental resolution limit of label-free far-field microscopy](#) (Invited 20 min)

Evgenii Narimanov

16.40 **We.D4.3** [PoffoLi1] [High-quality factor microsphere as sensors](#) (Invited 20 min)

Luiz Poffo, El Metouy Et-Tijani, Christelle Velly, Laetitia Abel-Tiberini

17.00 **We.D4.4** [AlexandrovSi1] [Label free nano-sensitive optical imaging beyond resolution limit of the imaging system](#) (Invited 20 min)

Sergey Alexandrov, Ryan McAuley, Rajib Dey, and Martin Leahy

Aula 9 - SWP, Wednesday July 17

16.00-17.30 We.D5 - SWP 12 photovoltaics, Chair: Krzysztof Wiśniewski

16.00 **We.D5.1** [QuandtAi1] [Some Interesting Analytical Approaches to Simulate Photovoltaic Devices](#) (Invited 20 min)

Alexander Quandt and Daniel Wamwangi

16.20 **We.D5.2** [ZawadzkaAi1] [Low-temperature hybrid perovskites thin films solar cell](#) (Invited 20 min)

Anna Zawadzka, Agnieszka Marjanowska, Amina Laouid, Krzysztof Wiśniewski, Michał Zawadzki, Przemysław Płóciennik

16.40 **We.D5.3** [PłociennikPi1] [ZnO-based thin-film transparent contacts for applications in perovskite solar cells](#) (Invited 20 min)

P. Płóciennik, A. Zawadzka, Ismail Elouedghiri Idrissi, Zouhair Sofiani, K. Wiśniewski, A. Laouid, A. Marjanowska and Z. Łukasiak

17.00 **We.D5.4** [MarjanowskaAr1] [Argon Environment Influence on Perovskite Thin Film Durability](#) (15 min)

A. Marjanowska, H. El Karout, A. Zawadzka, P. Płóciennik, D. Guichaoua, B. Sahraoui

17.15 **We.D5.5** [LaouidAr1] [Investigation of the Physical Properties of Doped ZnS Thin Films Manufactured by PVD](#) (15 min)

Amina Laouid, Amine Alaoui Belghiti, Krzysztof Wisniewski, Przemyslaw Płociennik, Abdelwahed Hajjaji, Anna Zawadzka

DAY 4 - Thursday July 18

***** Th.A - Thursday morning parallel sessions *****

Aula 1 - networks, Thursday July 18

8.40 - 10.00 Th.A1 - MALOC 2, Chair: Sebastian Troia

8.40 **Th.A1.1** [AibinMi1] [Cloud Resource Allocation Recommendation Based on Machine Learning](#) (Invited 20 min)

Arpit Semwal, Xiaofeng Yue, Yuzhe Shen, Michal Aibin

9.00 **Th.A1.2** [AbdelliKi1] [Computer Vision for Anomaly Detection in Optical Networks with State of Polarization Image Data: Opportunities and Challenges](#) (Invited 20 min)

Khouloud Abdelli, Matteo Lonardi, Jurgen Gripp, Samuel Olsson, Fabien Boitier, and Patricia Layec

9.20 **Th.A1.3** [BiancoAi1] [Synthetic Data Generation using Diffusion Models for ML-based Lightpath Quality of Transmission Estimation Under Extreme Data Scarcity](#) (Invited 20 min)

Davide Andreoletti, Cristina Rottondi, Omran Ayoub, Andrea Bianco

9.40 **Th.A1.4** [YanSi1] [Unified Monitoring and Telemetry Platform for Future Intelligent Optical Networks](#) (Invited 20 min)

Sen Shen, Jing Han, Haiyuan Li, Yiran Teng, Shuangyi Yan, Dimitra Simeonidou

Aula 3 - access, Thursday July 18

8.40 - 10.15 Th.A2 - WAOR 1, Chair: Salvatore Spadaro

8.40 **Th.A2.1** [VarvarigosEi1] [Optimizing Light-Tree and Edge Resource Placement for Diverse Latency Needs](#) (Invited 20 min)

P. Soumplis, K. Yiannopoulos, K. Christodouloupoulos, E. Varvarigos

9.00 **Th.A2.2** [WaldmanHi1] [A Comparison between the Erlang and Engset Traffic Models in the Provisioning of an Optical Link](#) (Invited 20 min)

Helio Waldman, Rodrigo C. Bortoletto, Vinicius F. de Souza

9.20 **Th.A2.3** [AibinMi2] [Reinforcement Learning for Power Management in Low-margin Optical Networks](#) (Invited 20 min)

Sze Ka Tse, Xiaoyang Zhao, Anita Chan, Di Tang, Aanchan Mohan, Carlos Natalino, Michal Aibin

9.40 **Th.A2.4** [BonaniLHi1] [Improving the Performance of C/C+L Optical Networks with All-optical Wideband Wavelength Converters and Route Segmentation](#) (Invited 20 min)

Felipe A. S. Tavares, , Eric A. M. Fagotto, Franco Callegati, Luiz H. Bonani

10.00 **Th.A2.5** [RinconDr1] [Deep Reinforcement Learning-Based Joint Scheduling and Routing for Time-Sensitive Networks](#) (15 min)

Sergi Garcia-Cantón, Cristina Cervelló-Pastor, David Rincón-Rivera, Sebastià Sallent-Ribes

Aula 5 - systems, Thursday July 18

8.40 - 10.25 Th.A3 - Qcomms 4, Chair: Jaume Comellas

8.40 **Th.A3.1** [MartelliPi1] [Role of the uncertainty principle in observing interference](#) (Invited 20 min)

Paolo Martelli

9.00 **Th.A3.2** [MugaNi1] [Coexistence of Classical and Quantum Signals in Hybrid Fiber and Free-Space Optics Links for QKD Integration](#) (Invited 20 min)

Nelson J. Muga, Sara Mantey, Diogo Cruz, Ana Rocha, Nuno A. Silva, Marco A. Fernandes, Gil M. Fernandes, Fernando P. Guiomar, Paulo Monteiro, Armando N. Pinto

9.20 **Th.A3.3** [ValloneGi1] [Recent advances in quantum communication and random number generation](#) (Invited 20 min)

Giuseppe Vallone

9.40 **Th.A3.4** [SebastianLombranaAr1] [A purpose-specific design for the next iteration of the Madrid quantum network](#) (15 min)

Alberto Sebastián-Lombrana, David Rincón, Juan P. Brito, Laura Ortiz and Vicente Martín

9.55 **Th.A3.5** [AdillonPr1] [CV-QKD in Coexistence with 1 Gb/s Classical Channel Using Electrical Frequency Division Multiplexing](#) (15 min)

P. Adillon, S. Sarmiento, J. Tabares, E. Llanos, H. de Riedmatten, and S. Etcheverry

10.10 **Th.A3.6** [IsmailTr2] [Exploring Quantum Key Distribution for Secure Communication in High-Altitude Platforms](#) (15 min)

Nancy Alshaer and Tawfik Ismail

Aula 7 - fibres, Thursday July 18

8.40 - 10.10 Th.A4 - ICTON 2, Chair: Farhad Arpanaei

8.40 **Th.A4.1** [CastelloLurbeDi1] [Supercontinuum for accurate nonlinearity measurements](#) (Invited 20 min)

David Castelló-Lurbe, Christian Cuadrado-Laborde, Enrique Silvestre, Antonio Díez, and Miguel V. Andrés

9.00 **Th.A4.2** [XuTi1] [GMI Optimisation for End-to-End Learning-based Probabilistic Constellation Shaping in 400-Gbits/s/ \$\lambda\$ DP-64QAM Optical Communication System](#) (Invited 20 min)

Fengyuan Tian, Zheng Liu, Ji Qi, Mark Leeson, Gan Zheng, Tianhua Xu

9.20 **Th.A4.3** [VirgillitoEi1] [Observation and Modeling of Filtering Penalties in Optical Switched Networks](#) (Invited 20 min)

Emanuele Virgillito, Stefano Straullu, Andrea Castoldi, Francisco M. Rodriguez, Rosanna Pastorelli, Vittorio Curri

9.40 **Th.A4.4** [YankovMi1] [Rate adaptive constellation shaping for heterogeneous optical networks with variable QoT](#) (Invited 20 min)

Metodi P. Yankov, Smaranika Swan, Ognjen Jovanovic, Darko Zibar and Francesco Da Ros

10.00 **Th.A4.5** [TorresFerrerar1] [Analytical Model for Performance Estimation of Coherent Digital Subcarrier Multiplexing Systems Affected by Filtering, Optical and Electrical Noise](#) (post-deadline, 10 min)

Pablo Torres-Ferrera, Giuseppe Parisi, Giuseppe Rizzelli, Roberto Gaudino, Antonio Napoli

Aula 9 - SWP, Thursday July 18

8.40 - 10.10 Th.A5 - SWP 13 sensors & biosensors, Chairlady: Anna Zawadzka

8.40 **Th.A5.1** [ZhangYr1] [A High-speed Scanning Module Based on a DBR Tunable Laser for FBG Sensor Systems](#) (15 min)

Wenqian Yuan, Kun Shang, Chongqian Zhu Haikun Zhang, Yanan Zhai, Xingwei Sun, Yaping Zhang

8.55 **Th.A5.2** [AnelliFr1] [Enhancing Sensing Capabilities: Fabrication of Tapered Optical Fiber Sensors in Fluoride Glasses](#) (15 min)

Francesco Anelli, Andrea Annunziato, Antonella Maria Loconsole, Vito Vincenzo Francione, Md. Imran Khan, Solenn Cozic, Samuel Poulain, and Francesco Prudeniano

9.10 **Th.A5.3** [IsmailTr1] [Telecom Tower Stability Monitoring System: Integration of Environmental Sensors for Structural Health Assessment](#) (15 min)

Irene S. Fahim, Mohamed Tawfik, Tawfik Ismail

9.25 **Th.A5.4** [MochalovLr1] [CVD-prepared PbSe films for mid-IR photodetectors with high detectivity](#) (15 min)

Ekaterina Slapovskaya, Leonid Mochalov, Mikhail Kudryashov and Edik Rafailov

9.40 **Th.A5.5** [MendozaCastroJHr1] [Polycrystalline Silicon metasurfaces enabling multi-scenario sensing applications in the mid-infrared](#) (15 min)

J.H. Mendoza-Castro, A.S. Vorobev, S. Iadanza, G. Malvicini, A. D'Orazio, M. Grande, G. Magno, B. Lendl, and L. O'Faolain

9.55 **Th.A5.6** [DellOlioFr1] [Performance Assessment of Silicon Nitride Ring Resonators for Biosensing Applications](#) (15 min)

A. la Grasta, M. I. Gómez-Gómez, A. Griol, M. De Carlo, V.M.N. Passaro, A. Martínez, F. Dell'Olio

Aula 11 - D-Photon, Thursday July 18

8.40-9.30 Th.A6 - Re-scheduled Presentations session 1, Chair: Marian Marciniak

8.40 **Th.A6.1** [WuGi1] [Implementation of Time Zone in China to Save Energy](#) (Invited 20 min)

Guang Wu, Shaomin Yan

9.00 **Th.A6.2** [WuGp1] [Alignments and Trimmed Alignments: Their Characteristics and Phylogenetic Trees](#) (10 min)

Guang Wu, Shaomin Yan

9.10 **Th.A6.3** [WuGp2] [Effects of Substitution Matrices, Trimming and Outliers on Alignments and Phylogenetic Tree Constructions of Big Dataset](#) (10 min)

Guang Wu, Shaomin Yan

9.20 **Th.A6.4** [WuGp3] [N-terminal Domain \(NTD\) of Spike Protein from SARS-CoV-2 May Cause COVID-19 Multiple Tropisms and Serve as a Potential Drug Target](#) (10 min)

Guang Wu, Shaomin Yan

Aula 13 - materials&devices, Thursday July 18

8.40 - 10.10 Th.A7 - PICA6, Chair: Kamil Pierściński

8.40 **Th.A7.1** [CabritaPr1] [Experimental Validation of Ring-Assisted Mach-Zehnder Interferometers for Optical Communications](#) (15 min)

Pedro Cabrita, Maria Carvalhais, Inês Venâncio, António Figueiredo, Mário Lima, António Teixeira

8.55 **Th.A7.2** [CaloGr1] [Thin Film Lithium Niobate 1xN Multimode Interference Splitters](#) (15 min)

Pezhman Yousefi, Muhammad Khalid, Vincenzo Petruzzelli, Giovanna Calò

9.10 **Th.A7.3** [DeCarloMr1] [Bragg-grating-coupled Fano resonator with dissipative coupling for anti-PT-symmetric gyroscopes](#) (15 min)

Martino De Carlo, Francesco De Leonardis, Francesco Dell'Olio, Pietro Peliti, Fabrizio Berton, Mario Lucchesini, Vittorio M.N. Passaro

9.25 **Th.A7.4** [MarquesAr1] [Parametrization study of SiP Optical Ring Resonators as add-drop filters](#) (15 min)

Ana Marques, Maria João Carvalhais, Inês Venâncio, António Figueiredo, António Teixeira

9.40 **Th.A7.5** [PierscinskaDr1] [Thermoreflectance Spectroscopy Technique: An Advanced Tool for Investigation of Thermal Phenomena in Semiconductor Devices](#) (15 min)

Dorota Pierścińska, Agata Krzqstek, Michał Nagowski, Katarzyna Pieniak, Dominika Niewczas, Artur Broda, Kamil Pierściński

9.55 **Th.A7.6** [VenancioIr1] [Influence of contra-directional couplers' design parameters in optical filtering for telecommunications](#) (15 min)

Inês Venâncio, Maria João Carvalhais, Joana Tátá, João Santos, Francisco Rodrigues, Mário Lima, António Teixeira

Aula 3 - access, Thursday July 18

11.55-12.15 Th.B2 - WAOR 2, Chair: Emmanouel Varvarigos

10.40 **Th.B2.1** [SpadaroSi1] [On the Path Computation for E2E deterministic services in future 6G networks](#) (Invited 20 min)

Salvatore Spadaro, Albert Pagès, Enric Guasch, Fernando Agraz

11.00 **Th.B2.2** [PavonMarinoPi1] [An evaluation of Flex- Algo traffic engineering techniques in Segment-Routing networks](#) (Invited 20 min)

A. G. Buendía-López, F.J. Moreno-Muro, L. M. Contreras, J. Folgueira, P. Pavon

11.20 **Th.B2.3** [RomeroReyesRi1] [Robust Restoration of IP Traffic from Optical Failures by Deep Reinforcement Learning and Graph Neural Networks](#) (Invited 20 min)

Malek Bekri, Ronald Romero Reyes, Thomas Bauschert

11.40 **Th.B2.4** [KnapinskaAr1] [Impact of Geographical Constraints on the Performance of Intent-Based Networks](#) (15 min)

Aleksandra Knapieńska, Piotr Lechowicz, Krzysztof Walkowiak

Aula 7 - fibres, Thursday July 18

10.40-12.30 Th.B4 - ICTON 3, Chair: Emanuele Virgillito

10.40 **Th.B4.1** [LarrabeitiDi1] [On the impact of VR/AR applications on optical transport networks: First experiments with Meta Quest 3 gaming and conferencing applications](#) (Invited 20 min)

C. de Quinto, A. Navarro, G. Otero, N. Koneva, J. A. Hernández, M. Quagliotti, A. Sanchez-Macian, F. Arpanaei, P. Reviriego, O. González de Dios, J. M. Rivas-Moscoso, E. Riccardi, D. Larrabeiti

11.00 **Th.B4.2** [SgambelluriAi1] [Open Optical Software Development Kit \(OpenOSDK\) for Optical Line System Components](#) (Invited 20 min)

Andrea Sgambelluri, Piero Castoldi, Filippo Cugini

11.20 **Th.B4.3** [FabregaJi1] [Non Intrusive Optical Performance Monitoring in Fiber Optic Networks Using Coherent Receivers as Spectrum Analyzers](#) (Invited 20 min)

Josep M. Fabrega, Laia Nadal, Javier Vilchez, Michela Svaluto Moreolo, Mumtaz Ali, Raül Muñoz

11.40 **Th.B4.4** [WangXi1] [Undersea Cable Path Planning with Curvature Constraints: Undersea Cable Path Planning with Curvature Constraints](#) (Invited 20 min)

Xinyu Wang, Fahan Chen, Zengfu Wang, Tianjiao Wang, Elias Tahchi, Bill Moran, Moshe Zukerman

12.00 **Th.B4.5** [BessinFr1] [Parametric Modulation Instability in Dual Polarization Driven Passive Fiber Cavities Induced by Periodic Polarization Rotation](#) (15 min)

Florent Bessin, Auro Perego

12.15 **Th.B4.6** [GuerreroJr1] [System-level Simulation of Pulse Amplitude Modulation \(PAM\) Transmission through PMMA-POFs with Various Index Profiles](#) (15 min)

Jorge Guerrero, Dwight Richards, M. Angeles Losada, Alicia Lopez, Javier Mateo, N. Antoniadis, Nicholas Madamopoulos, and Xin Jiang

Aula 9 - SWP, Thursday July 18

10.40-12.25 Th.B5 - SWP 14 metasurfaces, Chairlady: Crina Cojocaru

10.40 **Th.B5.1** [CiminelliCr1] [Trapping and destruction of virus through dielectric-plasmonic hybrid nanobowtie dimer](#) (15 min)

Paola Colapietro, Giuseppe Brunetti, Aurora Elicio, Francesco Ferrara, Caterina Ciminelli

10.55 **Th.B5.2** [WrobelPr1] [Ellipsometric characterization of chiral plasmonic nanostructures](#) (15 min)

Piotr Wróbel, N. Scott Lynn Jr.

11.10 **Th.B5.3** [FilogranoFr1] [Selective Color Reflection through Guided Mode Resonance Transparent Metasurfaces](#) (15 min)

Francesca Filograno, Ilaria Marasco, Béatrice Dagens, Olivier Gauthier-Lafaye, Vincenzo Petruzzelli, Giovanna Calò, and Giovanni Magno

11.25 **Th.B5.4** [PiscopoGr1] [Dielectric meta-platform for Mid-IR enhancing applications](#) (15 min)

Giovanni Piscopo, Artem S. Vorobev, Giovanni Magno, Liam O'Faolain

11.40 **Th.B5.5** [MagnoGr1] [Transparent antenna with reconfigurable pattern based on programmable graphene parasitic elements](#) (15 min)

Sana Ullah, Ilaria Marasco, Antonella D'Orazio, Giovanni Magno

11.55 **Th.B5.6** [MarascoIr1] [Design and analysis of a graphene-based metasurface modulator for 6G wireless communications](#) (15 min)

Ilaria Marasco, Carla Cantore, Antonella D'Orazio, Giovanni Magno

12.10 **Th.B5.7** [KhanMlr1] [Ultra-Thin Metasurface for High Gain and Beam Steering at 5G Millimeter Wave Applications](#) (15 min)

Md. Imran Khan, Francesco Anelli, Antonella Maria Loconsole, Vito Vincenzo Francione, Francesco Prudeniano

Aula 11 - D-Photon, Thursday July 18

10.40-12.15 Th.B6 - Re-scheduled Presentations sessions 2, Chair: Marian Marciniak

10.40 **Th.B6.1** [ThylenLi1] [Integrated Nanophotonics and Nanoelectronics and the Quest for Novel Photonics and Electronics Materials](#) (Invited 20 min)

Lars Thylén

11.00 **Th.B6.2** [ObayyaSi1] [Novel Finite Element Complex Domain Beam Propagation Method for Photonic Devices](#) (Invited 20 min)

Salah S. A. Obayya

11.20 **Th.B6.3** [GhalaiiMi1] [Multiple-Antenna Continuous-Variable Quantum Cryptography](#) (Invited 20 min)

Masoud Ghalaii, Ahmed Q. Lawey, and Mohsen Razavi

11.40 **Th.B6.4** [GonzalezEstebanezLi1] [Multi-AGV load transport: a TSN use case](#) (Invited 20 min)

Jesús Enrique Sierra García, Laura González Estébanez

12.00 **Th.B6.5** [AlhazmiASr1] [Access-Point to Access-Point Connectivity for PON-based OWC Spine and Leaf Data Centre Architecture](#) (15 min)

Abrar S. Alhazmi, Sanaa H. Mohamed, Ahmad Qidan, T. E. H. El-Gorashi, and Jaafar M. H. Elmirghani

12.30 Closing Ceremony & Announcement of ICTON 2025