

Day 0 - Sunday July 12

Location: conference venue, Hotel Diplomat
16:00 – 18:00 : Opening of the Registration desk
18:00 – 20:00 : Welcome Reception

DAY 1 - Monday July 13

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

Plenary Hall - Prague, Monday July 13

9.00 - 9.30 Opening Ceremony

9.30 - 11.00 Mo.A - PLENARY, Chairs: Jiří Čtyrský & Pavel Peterka

9.30 **Mo.A.1** [SvejkarRplenary] [Pushing the Limits: Recent Achievements and Power Scaling of 2 \$\mu\$ m Fibre Lasers](#) (30 min)

Richard Švejkar

10.00 **Mo.A.2** [CasparyRplenary] [Judd-Ofelt Extended: Material-Specific Reduced Matrix Elements](#) (30 min)

Reinhard Caspary

10.30 **Mo.A.3** [ValloneGplenary] [Progress towards a scalable and integrated Quantum Communication Infrastructure](#) (30 min)

Giuseppe Vallone

room Prague A, Monday July 13

11.45 - 13.35 session Mo.B1: Quantum Photonics, Chairs: Ottavia Jedrkiewicz & Mauro Pereira

11.45 **Mo.B1.1** [AnKi1] [Pump-probe interferometry of picosecond superradiance from two-level atoms under direct resonant excitation](#) (20 min)

Kyungwon An

12.05 **Mo.B1.2** [LiPW1] [Vertically-stacking Germanium Quantum-dots/Si-fins for High-responsivity and Low-noise Photodetection](#) (Invited 20 min)

Hsin-Yung Cheng, Chia-Cheng Liu, Shih-Hsiang Yang, and Pei-Wen Li

12.25 **Mo.B1.3** [GalliMi1] [A Fully Integrated Silicon Quantum Frequency Processor for Biphoton State Manipulation](#) (Invited 20 min)

Sara Congia, Leopold Viro, Elena Rovetta, Antonio Fincato, Frederic Boeuf, Matteo Galli, Daniele Bajoni, and Massimo Borghi

12.45 **Mo.B1.4** [SalvoniDi1] [Correlation-Based Thermal Quantum Imaging Using SNSPDs Under Low Signal-to-Noise Conditions](#) (Invited 20 min)

Riccardo Maria Ienco, Giorgia Tortora, Fabio Auriemma, Syed Muhammad Junaid Bukhari, Alessia Sannino, Mikkel Ejrnaes, and Daniela Salvoni

13.05 **Mo.B1.5** [AsgariSr2] [Raman-free surface-emitted hyper-entangled quantum states generation in metamaterial-coated silica tapered optical nanofibers for quantum computing and cryptography](#) (regular 15 min)

Abderrahim Azzoune, Somayyeh Asgari, Houssam Hamadou, Osama Mahfoudia, Hamza Hasnaoui, Hamza Gouasmia, Hocine Medjadba, Oussama Laouedj, and Tapio Fabritius

13.20 **Mo.B1.6** [PierscinskaDr1] [Thermal effects governing facet coating degradation in quantum cascade lasers studied by thermoreflectance imaging](#) (regular 15 min)

D. Pierścińska, D. Niewczas, K. Pieniak, A. Krzostek, J. Branas, M. Nagowski, and K. Pierściński

room Prague B, Monday July 13

11.45 - 13.05 session Mo.B2: SWP 1 – metamaterials, Chair: Radu Malureanu

11.45 **Mo.B2.1** [MalureanuRi1] [Improvement of Hard Mask for Advanced Etching of Optical Structures](#) (Invited 20 min)

Henri Jansen, Jimmy Duc Tran, and Radu Malureanu

12.05 **Mo.B2.2** [AnandSi1] [Semiconductor-based Mie Resonant Hyperuniform Metasurfaces and Their Applications](#) (Invited 20 min)

S. Anand, H. Kylhammar, M. Kjellberg, S. Zayouna, and A. Iovan

12.25 **Mo.B2.3** [BaumYi1] [Ultra-broadband wide-angle anti-reflection scheme utilizing multi-layer resonant metasurfaces](#) (Invited 20 min)

Yehuda Baum, Dotan Arad, Rachel (Gringols) Yarden, and Jacob Scheuer

12.45 **Mo.B2.4** [GerkenMi1] [Period-Dependent Resonant Photocatalytic Gold Growth on Nanostructured TiO₂ Templates](#) (Invited 20 min)

Jan Schardt and Martina Gerken

room Prague C, Monday July 13

11.45 - 13.40 session Mo.B3: Novel Glasses, Chair: Jan Mrázek

11.45 **Mo.B3.1** [VigreuxCi1] [Real-time fungal spore detection via chalcogenide RIB waveguide spectroscopy and multivariate analysis](#) (Invited 20 min)

Martin Khouri, Raphaël Escalier, Claire Pascouau, Dominique Barry-Etienne, Ahmad Mehdi, Caroline Vigreux, Ryad Bendoula, and Daphné Héran

12.05 **Mo.B3.2** [VarakPi1] [Near-infrared scintillation in silicate glass and glass-ceramics](#) (Invited 20 min)

Petr Vařák, Vítězslav Jarý, Vladimír Babin, Artem Simoniakin, Jan Abrham, Jakub Volf, and Pavla Nekvindová

12.25 **Mo.B3.3** [PrudenzanoFi1] [Core-offset Mach Zehnder Interferometer Sensor Based on Cascaded Single-Mode Fluoride Optical Fibers](#) (Invited 20 min)

Federico Moscatelli, Francesco Anelli, Antonella Maria Loconsole, and Francesco Prudenzano

12.45 **Mo.B3.4** [SazioPi1] [Glass and optical fibre manufacturing repurposed for solid state battery technology](#) (Invited 20 min)

Bruno Moog, Christopher Craig, Arun S Pillai, Justin Fung, Gareth Evans, Mike Thomas, and Pier Sazio

13.05 **Mo.B3.5** [NasserKi1] [Recent advances in glass-ceramic and composite luminescent fibers](#) (Invited 20 min)

Khaldoon Nasser, Natalia Vakula, Shuvro Biswas, and Laetitia Petit

13.20 **Mo.B3.6** [BoulosSr1] [Design of a Chalcogenide Waveguide for Efficient Optical Coupling With III-V Devices On Silicon](#) (regular 15 min)

Sirine Boulos, Raphaël K. Kribich, Mikhaël Myara, Raphaël Escalier, Caroline Vigreux, Fernando Gonzalez Posada, Laurent Cerutti, Eric Tournié, and Jean-Baptiste Rodriguez

room Prague D, Monday July 13

11.45 - 13.15 session Mo.B4: NOA, Chair: Paweł Rosa

11.45 **Mo.B4.1** [CalabrettaNi1] [AI cluster networks based on distributed O-band WDM photonic integrated space and wavelength switches](#) (Invited 20 min)

N. Calabretta, B. Zheng, M. Rombouts, A. Rasoulzadeh Zali, A. Tesfa, and Z. Shi

12.05 **Mo.B4.2** [AniaCastanonJDi1] [Supercontinuum generation in highly nonlinear fibers with ultralong-ultrafast ring fiber lasers](#) (Invited 20 min)

Juan Diego Ania Castañón, Laura Hernández, Inés Cáceres, F. Gallazi, and P. Corredera

12.25 **Mo.B4.3** [CarrereHi1] [Modeling temperature effects on SOA performance](#) (Invited 20 min)

Célia Cruz, Cosimo Calò, and Hélène Carrere

12.45 **Mo.B4.4** [LozadaAr1] [Design and Evaluation of Two-Stage Six-Mode Erbium Doped Fiber Amplifiers with Varied Directional Pumping Strategies](#) (regular 15 min)

Astrid Lozada, Ricardo Olivares, Nicolás Jara, Patricia Morales, Ariel Leiva, Gabriel Saavedra, and Danilo Bórquez-Paredes

13.05 **Mo.B4.5** [MedeirosCr1] [DSP-based SOA Nonlinear Compensator: Parameter Estimation and Tolerance](#) (regular 15 min)

Guilherme L. Araújo, Gil M. Fernandes, Nelson Costa, Fernando P. Guiomar, João Pedro, Paulo P. Monteiro, and Maria C.R. Medeiros

room Vienna, Monday July 13

11.30 - 14.00 session Mo.B5: WeInTel, Chairladies: Sima Barzegar & Pantea Nadimi Goki

11.30 **Mo.B5.1** [WongEi1] [Individualized Bandwidth Allocation Leveraging Connectivity Diversity in Optical Access Networks](#) (Invited 20 min)

Lihua Ruan and Elaine Wong

11.50 **Mo.B5.2** [RimoldiCi1] [Assessing frequency and intensity noise performance in Quantum Cascade Lasers: an experimental and numerical study](#) (Invited 20 min)

Cristina Rimoldi, Irene La Penna, Daniele Nello, Tecla Gabbrielli, Davide Mazzotti, Jérôme Faist, Luigi Consolino, Simone Borri, Lorenzo L. Columbo, Francesco Cappelli, and Paolo de Natale

12.10 **Mo.B5.3** [BarreiroAi1] [Design and Implementation of the Quantum Communication Testbed NL](#) (Invited 20 min)

A. Barreiro, C. Stan, M. Álvarez Roa, T. van Duijn, I. Tafur Monroy, and S. Rommel

12.30 **Mo.B5.4** [KnapinskaAi2] [Complexity Analysis of Network Traffic Prediction under Feature Selection and Traffic Noise](#) (Invited 20 min)

Aleksandra Knapieńska

12.50 **Mo.B5.5** [BastamovaMi1] [Novel applications of fiber optical parametric amplifiers](#) (Invited 20 min)

Mariia Bastamova, Munira B. Mostafa, Andrew D. Ellis, and Vladimir Gordienko

13.10 **Mo.B5.6** [RodigheriMi1] [Influence of Fiber Length on Laser Phase Noise Estimation Using Kalman Filtering](#) (Invited 20 min)

Mareli Rodigheri, Pedro Arthur Bessa Leao, Cristiano de Mello Gallep, Tiago Sutili, and Evandro Conforti

13.30 **Mo.B5.7** [IEEE WIE Italy Section AG: an ongoing commitment to promoting women's participation in STEM fields](#) (Invited 10 min)

Ilaria Marasco

13.40 [Panel Discussion](#) (20 min)

room Cracow I, Monday July 13

11.30 - 12.50 session Mo.B6: CTS 1, Chairlady: Kira Kastell

11.30 **Mo.B6.1** [KastellKi1] [Empirical Channel Characterization of Multi-Band V2X: A Comparative Analysis from DSRC to mmWave](#) (Invited 20 min)

Antonio S. da Silva, Luis Felipe O. de Melo, João Paulo J. da Costa, Giovanni A. Santos, Kevin H. M. Gularte, Paulo Mendes, Alexey Vinel, Edison P. de Freitas, and Kira Kastell

11.50 **Mo.B6.2** [CasademontJi1] [ITS Message Distribution over Cellular Networks: MQTT vs. Socket-Based Forwarding in a Cross-Border C-ITS Deployment](#) (Invited 20 min)

Jordi Casademont, Jordi Marias-i-Parella, Marc Codina, Francisco Vázquez-Gallego, Bruno Cordero, Adrià Pons, David Porcuna, Sergio Silva, and Paul Salvati

12.10 **Mo.B6.3** [PagesAi1] [Leveraging Optical Networks for Secure Key Distribution in V2V Communications for Autonomous Driving Applications](#) (Invited 20 min)

Albert Pagès, Aleix David Martín, Fernando Agraz, and Salvatore Spadaro

12.30 **Mo.B6.4** [LaoudiasCi1] [Blockchain for Secure and Trustworthy V2X Communication in Connected Autonomous Vehicles](#) (Invited 20 min)

Leonidas Katelaris, Christos Laoudias, and Christos Panayiotou

room Cracow II, Monday July 13

11.30 - 13.25 session Mo.B7: WAOR, Chair: Salvatore Spadaro

11.30 **Mo.B7.1** [MadridMoralesAi1] [A Reproducible Container-Based Platform for IP Network Automation, Validation, Observability and Configuration Drift Detection](#) (Invited 20 min)

María-Victoria Bueno-Delgado, Antonio-Ginés Buendía López, Ángel Madrid-Morales, Enrique Fernández-Sánchez, Fco. Javier Moreno-Muro, and Pablo Pavón-Mariño

11.50 **Mo.B7.2** [KlinkowskiMi1] [Dimensioning Study of Packet-Optical Xhaul Network Architectures Based on Coherent P2MP](#) (Invited 20 min)

Miroslaw Klinkowski

12.10 **Mo.B7.3** [MeyerJi2] [Exploiting Cross-QP Ordering in RDMA over Optical Fabrics](#) (Invited 20 min)

J. Meyer, I. Tafur-Monroy, and J. J. Vegas Olmos

12.30 **Mo.B7.4** [JaumardBi1] [Transformer-Based Multi-Stage Reinforcement Learning with GNN Encoding for dynamic Routing, Modulation and Spectrum Assignment](#) (Invited 20 min)

Quang Anh Nguyen, Junior Momo Ziazet, and Brigitte Jaumard

12.50 **Mo.B7.5** [SpadaroSi1] [Enabling Distributed AI training over Optical Transport Networks](#) (Invited 20 min)

Salvatore Spadaro, Fernando Agraz, and Albert Pagès Cruz

13.10 **Mo.B7.6** [JaraNr1] [SPRINT-R: A Benchmarking Tool for Hop-by-Hop IPoWDM Networks](#) (regular 15 min)

N. Jara, I. Montiel, J. Machuca, H. Pempelfort, P. Morales, D. Bórquez-Paredes, and A. Beghelli

room Prague A, Monday July 13

14.20 - 15.45 session Mo.C1: Quantum Communications 1 -integration, Chair: Alberto Gatto

14.20 **Mo.C1.1** [SvalutoMoreoloMi1] [Flexible Strategies and Practical Guidelines Toward the Integration of Quantum and Classical Optical Communications](#) (Invited 20 min)

Michela Svaluto Moreolo, Joel Compte, Javier Vilchez, and Laia Nadal

14.40 **Mo.C1.2** [GaglianoAi1] [Securing Future Optical Networks by Integrating Quantum Communications and Interferometric Fiber Sensing](#) (Invited 20 min)

Alessandro Gagliano, Marco Fasano, Andrea Madaschi, Alberto Gatto, Pierpaolo Boffi, Paolo Martelli, and Paola Parolari

15.00 **Mo.C1.3** [UdvaryEi1] [Comparative Study of Co- and Counter Propagation in an Integrated Classical and Quantum Communication System](#) (Invited 20 min)

Eszter Udvary

15.20 **Mo.C1.4** [SebastianLombranaAr2] [A review of commercial quantum key distribution systems to assess integration in optical networks](#) (regular 15 min)

Alberto Sebastián-Lombrana, Juan José Romero, Laura Ortiz, and Vicente Martín

15.35 **Mo.C1.5** [UdvaryEpd1] [A vendor-agnostic benchmarking platform for QKD and beyond](#) (10 min post-deadline)

Eszter Udvary, Pablo Fernández, V.B. Gil-Rubio, Alberto Sebastián-Lombrana, Adrián Sacks Nogal, and Vicente Martín

room Prague B, Monday July 13

14.20 - 16.00 session Mo.C2: SWP 2 – sensors, Chairlady: Martina Gerken

14.20 **Mo.C2.1** [NicChormaicSi1] [Subwavelength Photonics with Optical Nanofibres as a Hybrid Quantum Interface](#) (Invited 20 min)

Samuel Begumya, Anna Kortel, Zohreh Shahrabifarahani, Aswathy Raj, Mohammed Zia Jalaludeen, and Síle Nic Chormaic

14.40 **Mo.C2.2** [HeitzJi1] [Ultrafast laser processing via quartz rods for biomedical applications](#) (Invited 20 min)

Johannes Heitz, Marion Widhalm, Prunella Ndjogo, Agnes Weth, and Werner Baumgartner

15.00 **Mo.C2.3** [JedrkiewiczOi1] [Laser fabrication of graphitic microelectrodes in diamond for quantum sensing applications](#) (Invited 20 min)

A. Kuriakose, F. P. Mezzapesa, C. Gaudioso, F. Picollo, E. Bougeois, M. Petrov, M. Nesladek, and O. Jedrkiewicz

15.20 **Mo.C2.4** [HattoriHi1] [Quantum Radio-Frequency Rydberg Sensors and mid-infrared photodetectors](#) (Invited 20 min)

Muthugamage I. U. Weerasinghe, Ryan Verghese, Dinelka Somaweera, Amer Abdulghani, Andergachew Berhe, Khalil Asham, Andrey E. Miroshnichenko, and Haroldo T. Hattori

15.40 **Mo.C2.5** [ElOuedghiriIdrissiIi1] [Optical characterization of ion-implanted silicon for gravitational-wave detectors](#) (Invited 20 min)

I. El Ouedghiri-Idrissi, L. Massaro, J. Wöhler, D. Diksha, A. Amato, I. W. Martin, and J. Steinlechner

room Prague C, Monday July 13

14.20 - 15.40 session Mo.C3: MOF 1, Chair: Norbert Hanik

14.20 **Mo.C3.1** [YamanakaNi1] [Power-over and Radio-over Fiber Metro-Access Network using Hollow-core Fiber](#) (Invited 20 min)

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

14.40 **Mo.C3.2** [MearsRi1] [Multi-mode hollow core fibres](#) (Invited 20 min)

Robbie Mears, Kerrianne Harrington, William J Wadsworth, David Bird, James M Stone, and Tim A Birks

15.00 **Mo.C3.3** [PedroJi1] [Optimized Placement of Hollow-Core Fiber Spans in Optical Networks Using Flexible-Rate Interfaces](#) (Invited 20 min)

João Pedro, Diogo Morão, and Bruno Correia

15.20 **Mo.C3.4** [OspinaRi1] [Enabling High-Capacity Optical Transmission Using Support-Tube Hollow-Core Fibers](#) (Invited 20 min)

Ruby S. B. Ospina, Carina Castineiras Carrero, Haik Mardoyan, Amirhossein Ghazisaeidi, Rajiv Boddeda, Peng Li, Lei Zhang, Jie Lu, and Jérémie Renaudier

room Prague D, Monday July 13

14.20 - 16.20 session Mo.C4: RONEXT, Chair: Marcelo Luís Francisco Abbade

14.20 **Mo.C4.1** [ChenXi1] [Multimodal LLM-empowered Autonomous Fault Diagnosis in Optical Networks](#) (Invited 20 min)

Hanlei Chen, Xiaoliang Chen, and Zuqing Zhu

14.40 **Mo.C4.2** [AssisKi2] [Trusted Execution Environment for Key Relay on Quantum Key Distribution](#) (Invited 20 min)

Anderson A. Tomkelski, R. Parizotto, Nelson A. F. Neto, Marco A. Spohn, João M. S. Souza, Valéria L. da Silva, and Karcus D. R. Assis

15.00 **Mo.C4.3** [KowalczykMi1] [Detection of Weak Jamming Attacks in Optical Networks Using a Two-Stage CNN Framework](#) (Invited 20 min)

Marcin Kowalczyk

15.20 **Mo.C4.4** [AbbadeMi1] [Challenges and Practical Issues of Signal Encryption with Focus on Amplitude Encoding in Transparent Optical Networks](#) (Invited 20 min)

Victor Razze, Angelo Samonetto Neto, Renan Araujo de Carvalho, João Pedro de Lima Cassiano Pereira, Luiz Henrique Bonani, Ivan Aldaya, and Marcelo Luís Francisco Abbade

15.40 **Mo.C4.5** [RosaPi1] [On Security Vulnerabilities in Communication Networks](#) (Invited 20 min)

Paweł Rosa

16.00 **Mo.C4.6** [BiancoAi1] [Tensor Neural Network Based Optical Fault Localization](#) (Invited 20 min)

Yuxuan Gao, Cristina Rottondi, Andrea Sgambelluri, Luca Valcarengi, Emilio Paolini, Bingli Guo, Shanguo Huang, and Andrea Bianco

room Vienna, Monday July 13

14.40 - 15.55 session Mo.C5: TPLS 1, Chairlady: Pantea Nadimi Goki

14.40 **Mo.C5.1** [RommelSi1] [Advancing Security in Quantum-Enabled Optical Networks](#) (Invited 20 min)

A. Barreiro, R. Maes, A. Alvarado, and S. Rommel

15.00 **Mo.C5.2** [SandrucciMi1] [A Comparative Performance Study of Cryptographic Schemes on x86 and ARM-Based Platforms](#) (Invited 20 min)

Matteo Sandrucci, Rana Abu Bakar, Francesco Paolucci, Juan Jose Vegas Olmos, Piero Castoldi, and Filippo Cugini

15.20 **Mo.C5.3** [AlvaradoAi1] [Secret Key Agreement Over High-speed Satellite-to-ground Free-space Optical Links](#) (Invited 20 min)

Kaiquan Wu, Yunus Can Gültekin, Alex Alvarado, and Wim Korevaar

15.40 **Mo.C5.4** [AbdelliKr2] [Secure and Robust Federated Learning for Predictive Maintenance in Optical Networks](#) (regular 15 min)

Khouloud Abdelli and Joo Yeon Cho

room Cracow I, Monday July 13

14.20 - 15.25 session Mo.C6: CTS 2, Chairlady: Kira Kastell

14.20 **Mo.C6.1** [LazaroJAi1] [Evolution of NR V2X Mode 2: A Standard-Compliant Approach to Multiplexed ISAC in 6G Vehicular Networks](#) (Invited 20 min)

Javier Fernandez Ardanuy, José Antonio Lázaro, Adolfo Lerín, Daniel Sevilla, Federico Dios, Andrés Sanchez-Alcántara, Pol Becerra, María C. Santos, and Chedlia Ben Naila

14.40 **Mo.C6.2** [SgambelluriAi1] [Real-Time Graph Neural Network Security for 6G UAV and IPoWDM Networks](#) (Invited 20 min)

A. Sgambelluri, A. Ibrahim, F. Cugini, and F. Paolucci

15.00 **Mo.C6.3** [PaolucciFr1] [Cross-layer UAV Dataset for 6G AI-driven Analytics](#) (regular 15 min)

Francesco Paolucci, Emilio Paolini, Massimo Satler, Michelangelo Guaitolini, Filippo Cugini, and Andrea Sgambelluri

15.15 **Mo.C6.4** [KoeppMpd1] [A Proposal for Optical In-Vehicle Networks for Commercial Vehicles](#) (10 min, post-deadline)

Matthias Koepp, Kai Habel, Volker Jungnickel, Ahmed Yasser, Andreas Schukraft, and Ronald Freund

room Cracow II, Monday July 13

14.20 - 15.40 session Mo.C7: DCN 1, Chair: Leonid Kazovsky

14.20 **Mo.C7.1** [KazovskyLi1] [Photonics in AI Data Centers](#) (Invited 20 min)

Leonid Kazovsky

14.40 **Mo.C7.2** [CastoldiPi1] [Reconfigurable Point-to-Multipoint Digital Subcarrier to Boost Federated Large Language Model Learning in Intra-Datacenter Networks](#) (Invited 20 min)

Ahmed Salah Tawfik Ibrahim, Konstantinos Christodoulopoulos, Andrea Sgambelluri, Bashar Ali, Francesco Paolucci, Filippo Cugini, and Piero Castoldi

15.00 **Mo.C7.3** [BarreiroAi2] [Cross-Layer Observability for Intrusion Detection in Confidential AI Training Clusters](#) (Invited 20 min)

A. Barreiro, J. G. Meyer, D. C. Lawo, I. Tafur Monroy, and J. J. Vegas Olmos

15.20 **Mo.C7.4** [GifreLi1] [Open-source Multi-vendor Spine-Leaf Data Center Fabric Automation](#) (Invited 20 min)

M. Rahhal, Ll. Gifre, A. Abishek, R. Muñoz, and R. Vilalta

Prague A, Monday July 13

16.20 - 17.40 session Mo.D1: Quantum Communications 2 -space, Chair: Vincent W. S. Chan

16.20 **Mo.D1.1** [BanaszekKi1] [Photon-Efficient Classical and Quantum Communication for Space Applications](#) (Invited 20 min)

Konrad Banaszek

16.40 **Mo.D1.2** [GiannoulisGi1] [Performance Analysis of Satellite-Based Quantum Key Distribution under Time-Varying Background Noise](#) (Invited 20 min)

Marios Molla, Argiris Ntanos, Aristeidis Stathis, Panagiotis Kourelas, Hercules Avramopoulos, Giannis Giannoulis, and Athanasios D. Panagopoulos

17.00 **Mo.D1.3** [MugaNi1] [Efficient Compensation Methods for SOP Drift in Hybrid Fiber-FSO Link-Based QKD Systems](#) (Invited 20 min)

Nelson J. Muga, Sara Mantey, Hugo F. Costa, Nuno A. Silva, and Armando N. Pinto

17.20 **Mo.D1.4** [DjordjevicI1] [Degenerate Entanglement-Assisted Communication over Turbulent Optical Channels](#) (Invited 20 min)

Ivan B. Djordjevic

Prague B, Monday July 13

16.20 - 17.40 session Mo.D2: SWP 3 – sensors, Chair: David J Rowe

16.20 **Mo.D2.1** [MenduniGi1] [Direct and Indirect Absorption Gas Spectroscopy exploiting Lithium Niobate Tuning Forks as Innovative Detectors](#) (Invited 20 min)

Giansergio Menduni, Mariagrazia Olivieri, Aldo F.P. Cantatore, Vincenzo Spagnolo, and Angelo Sampaolo

16.40 **Mo.D2.2** [MedeirosCi1] [Iterative Chirp Linearization of a Directly Modulated DFB Laser for High Repetition Rate FMCW LiDAR Sensor](#) (Invited 20 min)

L.C.P. Pinto, G.M. Fernandes, and M.C.R. Medeiros

17.00 **Mo.D2.3** [HoudreRi1] [On-Chip Optical Trapping for Real-Time Monitoring of Phage-Bacterium Interaction at the Single-cell level](#) (Invited 20 min)

Louis Givélet, Khouloud Arfaoui, Hugues de Villiers de la Noue, Clément Bernard, Simon Glicenstein, Nicolas Villa, Enrico Tartari, Emmanuel Picard, Pierre Marcoux, Marc Zelsmann, Grégory Resch, Emmanuel Hadji, and Romuald Houdré

17.20 **Mo.D2.4** [CovaFi1] [Novel scintillators for radiation detection and medical imaging](#) (Invited 20 min)

Francesca Cova

Prague C, Monday July 13

16.20 - 17.00 session Mo.D3: MOF 2, Chair: Rongqing Hui

16.20 **Mo.D3.1** [NovoaDi1] [Nonlinear Raman Conversion in Birefringent Hollow-Core Fibres](#) (Invited 20 min)

David Novoa, Xianhao Qi, Pau Arcos, Yizhi Sun, Shoufei Gao, Wei Ding, and Yingying Wang

[Mo.D3.2 – cancelled by The Author]

16.40 **Mo.D3.3** [EuserTi1] [Optofluidic waveguides for operando spectroscopy](#) (Invited 20 min)

M. G. Ellis, E. Miele, S. De Bank, K. Wu, L. Koledic, C. Meng, L. Fruk, and T. G. Euser

Prague D, Monday July 13

16.40 - 17.55 session Mo.D4: MOON, Chair: Alessio Giorgetti

16.40 **Mo.D4.1** [ShenGi1] [Performance Analyses of Band Allocation Orders under Different Wavelength Assignment Algorithms in Multi-Band Optical Networks](#) (Invited 20 min)

Ningning Guo, Ruomeng Shi, Yongcheng Li, and Gangxiang Shen

17.00 **Mo.D4.2** [ArpanaeiFi1] [Techno-Economic Evaluation of Terabit-Scale S-BVTs in Multi-Band Hierarchical ALLEGRO Metro-Core Networks](#) (Invited 20 min)

M. Rafiei Forooshani, F. Arpanaei, H. Beyranvand, Juan P. Fernández-Palacios, Alfonso Sánchez-Macián, and D. Larrabeiti

17.20 **Mo.D4.3** [KnapinskaAi1] [On the Generalizability of Regression Models for Multilayer Optical Networks Across Topologies](#) (Invited 20 min)

Aleksandra Knapieńska

17.40 **Mo.D4.4** [VilchezFJr1] [Low-level Integration with SDN Control Plane, and Experimental Validation of the Programmable MBoSDM Node Prototype](#) (regular 15 min)

F. Javier Vilchez, Luca Vettori, Ramon Casellas, Laia Nadal, Michela Svaluto Moreolo, and Raúl Muñoz

Vienna, Monday July 13

16.20 - 17.30 session Mo.D5: TPLS 2 -panel discussion, Chairlady: Pantea Nadimi Goki

TPLS panel discussion

Cracow I, Monday July 13

16.00 - 18.00 session Mo.D6: OWW 1, Chair: Mike Wolf

16.00 **Mo.D6.1** [MorthierGi1] [A III-V pin- photodetector array with high responsivity and bandwidth for radio over free space optical communication](#) (Invited 20 min)

G. Morthier, Y. Yan, J. Van Kerrebrouck, N. Singh, Y. Liu, H. Salmanian, Z. Wu, and M.S. Zhao

16.20 **Mo.D6.2** [CheritonRi1] [Integrated Photonic Adaptive Optics Receiver for Free-Space Optical Communications](#) (Invited 20 min)

Ross Cheriton, Ryan Dungee, Robin Swanson, Mark Barnet, Suresh Sivanandam, John Weber, Jose Manuel Luque González, Robert Halir, Martin Vachon, Shurui Wang, Dan-Xia Xu, Jens Schmid, Jianhao Zhang, Siegfried Janz, and Pavel Cheben

16.40 **Mo.D6.3** [CiaramellaEi1] [An Innovative Technique for RF Antenna Measurements Enabled by an Optical Wireless System](#) (Invited 20 min)

E. Ciaramella, G. Cossu, L. Gilli, L. Oliviero, L. Pierfederici, A. Capozzoli, C. Curcio, and A. Liseno

17.00 **Mo.D6.4** [BottrillKi1] [Simulating Beam Propagation through Turbulent Air using Full 3D Statistics](#) (Invited 20 min)

K.R.H. Bottrill, D. Majumder, S. Liang, and P. Petropoulos

17.20 **Mo.D6.5** [ElGorashiTi1] [A Hybrid Gauss–Markov–LSTM Mobility Model for Indoor OWC](#) (Invited 20 min)

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

17.40 **Mo.D6.6** [CossuGi1] [Internet Access employing Optical Wireless supported by a Luminescent Solar Concentrator](#) (Invited 20 min)

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

Cracow II, Monday July 13

16.00 - 17.20 session Mo.D7: Access 1, Chair: Josep Segarra

16.00 **Mo.D7.1** [MasMachucaCi1] [Control-enhanced Wi-Fi Layer 2 Tunneling over XGPON for Low Latency FTTR Networks](#) (Invited 20 min)

Kaustubh Venkatesh, Christian Bluemm, and Carmen Mas-Machuca

16.20 **Mo.D7.2** [EramoVi1] [Optimal Scheduling in Hybrid Time-Sensitive Networking and Passive Optical Networks for Industrial Applications](#) (Invited 20 min)

T. Fiori, S. Tenna, F.G. Lavacca, and V. Eramo

16.40 **Mo.D7.3** [MerayoNi1] [A DRL-Based Approach for Efficient Bandwidth Management in 10G-EPON Networks](#) (Invited 20 min)

Clara Ruiz, Noemí Merayo, Ruben Ruiz-Gonzalez, Marco A. Villa, Juan C. Aguado, Ramón J. Durán, Ignacio de Miguel, Patricia Fernández, Rubén M. Lorenzo, and Evaristo J. Abril

17.00 **Mo.D7.4** [SegarraJi1] [Dimensioning of a hybrid D-RoF and A-RoF access deployment by evaluating the optical bandwidth for different traffic patterns](#) (Invited 20 min)

Josep Segarra, Vicent Sales, Víctor Polo, Rodrigo Méndez, and María C. Santos

***Monday July 13: Museum visit with panoramic view,
18:30 - 22:00 : National Museum of Agriculture,
catering dinner will be served on the 3rd floor***

DAY 2 - Tuesday July 14

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

Prague A, Tuesday July 14

8.20 - 9.50 session Tu.A1: Quantum Communications 3 -QKD, Chairlady: Brigitte Jaumard

8.20 **Tu.A1.1** [ChristodouloupoulosKi1] [Spatio-Temporal Buffer Management for Relayed QKD Networks](#) (Invited 20 min)

Konstantinos Christodouloupoulos, Antonis Selentis, and George T. Kanellos

8.40 **Tu.A1.2** [PietriYi1] [Towards Versatile and Field-Ready Continuous-Variable Quantum Key Distribution Systems](#) (Invited 20 min)

Yoann Piétri

9.00 **Tu.A1.3** [VirziSi1] [INRIM contributions to metrology and standardisation for Quantum Key Distribution](#) (Invited 20 min)

Salvatore Virzi

9.20 **Tu.A1.4** [SebastianLombranaAr1] [An Evaluation of High-Performance Quantum Key Distribution Systems Under Real-World Conditions](#) (regular 15 min)

Alberto Sebastián-Lombrana, Lucía Gómez-Rincón, V.B. Gil-Rubio, Laura Ortiz, Juan José Romero, Adrián Sacks-Nogal, and Vicente Martín

9.35 **Tu.A1.5** [CiminelliCr1] [Design of an Integrated Sagnac Interferometer Transmitter for QKD Systems](#) (regular 15 min)

Parisa Khajegi, Nabarun Saha, Giuseppe Brunetti, Peppino Primiani, Carlo Liorni, Pierfrancesco Ulpiani, and Caterina Ciminelli

Prague B, Tuesday July 14

8.20 - 10.00 session Tu.A2: SWP 4 – sensors, Chair: Denis E. Tranca

8.20 **Tu.A2.1** [RoweDi1] [Recent progress in group IV mid-infrared photonic devices and applications](#) (Invited 20 min)

David J. Rowe, Siyu Chen, James V.X. Fernando, Tianhui Hu, Daniel Adeyemi, Lingshuang Zhang, Zimo Wang, Xingzhao Yan, Monika Bakalarz, Hanuushah Vizabaskaran, Glenn Churchill, Weilin Jin, Georgia Mourkioti, Martin Ebert, Colin J. Mitchell, Milos Nedeljkovic, and Goran Z. Mashanovich

8.40 **Tu.A2.2** [SalesSi1] [Optical Fiber Sensors for Underwater Acoustic Detection](#) (Invited 20 min)

Javier Madrigal, Mariaconsiglia Cuomo, Luis A. Sánchez, Ramón Miralles, and Salvador Sales

9.00 **Tu.A2.3** [GalatusRi1] [TinyML-Enabled Portable IoT Sensing Platform Based on a Miniature Spectrometer for Fruit Tree Leaf Species Classification](#) (Invited 20 min)

Ramona Galatus, Anamaria Roman, Melisa Nechita, Nicolae Bondric, Rozica Moga, Virginia Zetu, and Tiberiu Marita

9.20 **Tu.A2.4** [GiglioMi1] [A hybrid Gas Chromatography - Quartz-Enhanced Photoacoustic Spectroscopy platform for VOCs sensing](#) (Invited 20 min)

Marilena Giglio, Lavinia Anna Mongelli, Arianna Elefante, Giansergio Menduni, Vincenzo Spagnolo, and Angelo Sampaolo

9.40 **Tu.A2.5** [YuCi1] [Deep Learning-Assisted Fiber Optic Sensor System for Real-Time Sleep Monitoring and Staging](#) (Invited 20 min)

Tianyu Chen, Weimin Lyu, and Changyuan Yu

Prague C, Tuesday July 14

8.20 - 9.50 session Tu.A3: Fibre Lasers 1, Chair: Jesper Lægsgaard

8.20 **Tu.A3.1** [ZervasMi1] [STRS Stability and the Origin of Transverse Mode Instabilities in High-Power Fiber Amplifiers](#) (Invited 20 min)

Michalis N. Zervas

8.40 **Tu.A3.2** [RoyPi1] [Advanced optical fibre designs enabled by "Powder Technology" for high power fibre lasers and beam delivery](#) (Invited 20 min)

Philippe Roy, Baptiste Leconte, Hugo Tessonneau, Raphael Jamier, Yann Leventoux, Katrin Wondraczek, Pierre Deslandes, François Salin, Amélie Chervet, and Julien Didierjean

9.00 **Tu.A3.3** [ContoliCi1] [Combining Asset Administration Shell and Intelligent Traffic Analysis for a Secure Industry 4.0](#) (Invited 20 min)

Lorenzo Rinieri, Chiara Contoli, Andrea Melis, and Franco Callegati

9.20 **Tu.A3.4** [SojkaLi1] [Recent progress in actively Q-switched mid-infrared fiber lasers](#) (Invited 20 min)

Lukasz Sójka, Lukasz Pajewski, Samir Lamrini, Mark Farries, Trevor M. Benson, Angela B. Seddon, and Slawomir Sujecki

9.40 **Tu.A3.5** [DanielyanKpd1] [Exploiting Intrinsic Astigmatism and Beam Shaping for Point-by-Point Inscription of Low-Birefringence Fiber Bragg Gratings in Free-Standing Fibers](#) (10 min, post-deadline)

Karen Danielyan, Koyo Watanabe, Francis Berghmans, Martin Virte, and Tigran Baghdasaryan

Prague D, Tuesday July 14

8.20 - 10.15 session Tu.A4: PNPA 1 Nonlinear Photonics spectroscopy and devices, Chairlady: Sonia Boscolo

8.20 **Tu.A4.1** [CincottiGi1] [Arrayed Waveguide Gratings for High-Resolution Brillouin Spectroscopy](#) (Invited 20 min)
Gabriella Cincotti, Stefano Ricca, and Giuseppe Antonacci

8.40 **Tu.A4.2** [BoudebsGi1] [Streamlining Nonlinear Optical Characterization: From Scanned to Single-Shot Methods for Complex Pulsed Beams](#) (Invited 20 min)
Georges Boudebs, Julien-Bilal Zinoune, Christophe Cassagne, and Mihaela Chis

9.20 **Tu.A4.3** [CastanonGAi1] [Numerical Stability of Lyapunov Chaos Analysis in Optically Injected Semiconductor Lasers: Phase–Quadrature Comparison](#) (Invited 20 min)
Gerardo A. Castañón A., Ana M. Sarmiento-Moncada, A. Aragón-Zavala, and Ivan Aldaya G.

9.40 **Tu.A4.4** [ArgyrisAi1] [Statistical properties of physically generated masks for time delay reservoir computing](#) (Invited 20 min)
Apostolos Argyris

10.00 **Tu.A4.5** [ChisMr1] [Nonlinear Optical Response of Gold Nanoparticle Colloids: From Thermal Artifacts to Engineered Thermoplasmonic Nonlinearities](#) (regular 15 min)
Mihaela Chis

Vienna, Tuesday July 14

8.20 - 10.20 session Tu.A5: NOFSerT 1, Chair: Giuseppe Rizzelli

8.20 **Tu.A5.1** [BoffiPi1] [30-story skyscraper monitoring through FETH network exploiting an interferometric approach](#) (Invited 20 min)
M. Fasano, A. Madaschi, and P. Boffi

8.40 **Tu.A5.2** [MartinsFi1] [Impact of Sub-Spatial-Resolution Perturbations in Chirped-Pulse DAS](#) (Invited 20 min)
Saverio Pellegrini, Gonzalo de la Calle García, and Hugo F. Martins

9.00 **Tu.A5.3** [GuerrierSi1] [Sensor Fusion in Point-to-Multipoint Fiber Networks: Why and How?](#) (Invited 20 min)
Sterenn Guerrier, Sandip Das, Michael Straub, Christoph Füllner, Robbe Van Rompaey, Robert Borkowski, Kovendhan Vijayan, Vincent Houtsma, Dora Van Veen, and Jochen Maes

9.20 **Tu.A5.4** [YanSi1] [Bidirectional SOP Sensing for Infrastructure-Aware Optical Networks](#) (Invited 20 min)
Wanxin Zhao, Sen Shen, Yiran Teng, Shuangyi Yan, and Dimitra Simeonidou

9.40 **Tu.A5.5** [HuiRi1] [Comparison of Phase and SOP Measurements in Vibration Sensing Over a Microduct Fiber Cable](#) (Invited 20 min)
Rongqing Hui, Micah Broekhuizen, Maurice O'Sullivan, Charles Laperle, Dave Doucet, and Mohammad E. Mousa-Pasandi

10.00 **Tu.A5.6** [KamalovVi1] [Scaling Fiber-Optic Sensing in the Global Ocean](#) (Invited 20 min)
Valey Kamalov

Cracow I, Tuesday July 14

8.30 - 10.15 session Tu.A6: EWOC 1, Chairlady: María Santos

8.30 [Welcome Note by María Santos](#) (5min)

8.35 Keynote 1: **Tu.A6.1** [GaudinoRi2] [Breaking the 100G barrier in optical access networks: Challenges and Opportunities](#) (35 min)

Roberto Gaudino and Giuseppe Rizzelli

9.10 Keynote 2: **Tu.A6.2** [GilCastineiraFi1] [Toward Trustworthy 6G: Architectures, Security Challenges, and the Power of Experimentation](#) (35 min)

Felipe Gil-Castineira and Orestis Maraziotis

9.45 **Tu.A6.3** [AhmadNr1] [Coverage Analysis of TCP-Based RIS-assisted 3D THz Networks for Dense Urban Hotspots](#) (15 min)

Naveed Ahmad, Abdulkareem Karasuwa, Jonathan Rodriguez, and Ali Roula

10.00 **Tu.A6.4** [AbdellatifAr1] [Machine Learning Techniques for Impairment Mitigation in DSP-Assisted Analog Radio-over-Fiber Systems](#) (15 min)

Ahmed Abdellatif, Zoran Vujicic, and Cristina López-Bravo

Cracow II, Tuesday July 14

8.20 - 9.55 session Tu.A7: Access 2, Chair: Patryk Urban

8.20 **Tu.A7.1** [SunWi1] [Collaborative FTTx Network Design: Integrating Autonomous Agentic Workflows and RBAC](#) (Invited 20 min)

Xinghan Chen, Yangbao Huang, Ziye Li, and Weiqiang Sun

8.40 **Tu.A7.2** [AssisKi1] [Resilience in a Metropolitan QKDN: A Simulation Based Analysis of Brazil's REMESSA Network](#) (Invited 20 min)

Matheus R. de Araújo, Marcus E. S. Freire, Thiago L. M. de Mello, Sérgio F. S. Júnior, Maron F. Anka, Reinan S. Salazar, Anderson Tomkelski, Mark Boot, Thomas Parry, Tony Rosati, Maycon Peixoto, Michele Mosca, Karcus D. R. Assis, João M. S. Souza, and Valéria L. da Silva

9.00 **Tu.A7.3** [ChaffeJr1] [Ponlab: An Open-Source Simulator for Realistic Performance Evaluation in Passive Optical Networks](#) (regular 15 min)

Jesús Chaffe, Nicolás Jara, and Patricia Morales

9.15 **Tu.A7.4** [RossoAr1] [Assessing Pre-Emphasis Filter Effectiveness in Metro-Access Optical Networks via Digital Twin](#) (regular 15 min)

Andrea Rosso, Enrico Miotto, Emanuele Virgillito, Stefano Straullu, Andrea Bovio, Raffaele Corsini, and Vittorio Curri

9.30 **Tu.A7.5** [DondeSr1] [PONGONET-NS3: A protocol level 50G-PON simulator based on NS-3](#) (regular 15 min)

Shrinish Donde, Gabriele Di Rosa, and Martin Kuipers

9.45 **Tu.A7.6** [RodriguesFpd1] [Optical Single-Sideband Modulation for 50G-PON and beyond](#) (10 min, post-deadline)

Rafael Alves, Francisco Rodrigues, João Santos, Mário Lima, and António Teixeira

Prague A, Tuesday July 14

10.20 - 12.00 session Tu.B1: Quantum Communications 4 QKD, Chair: Nelson J. Muga

10.20 **Tu.B1.1** [GattoAi1] [Assessing Finite-Key Constraints for Discrete-and Continuous-Variable Quantum Key Distribution in Passive Optical Networks](#) (Invited 20 min)

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

10.40 **Tu.B1.2** [StroblTi1] [Sustained Secret Key Generation in BB84 QKD: Stability Measures and Experimental Results](#) (Invited 20 min)

Theodor Strobl, Florian Prawits, Michael Hentschel, and Hannes Hübel

11.00 **Tu.B1.3** [IqbalMi1] [Performance Analysis of Post-Quantum Cryptography for Resource-Constrained IoT Devices](#) (Invited 20 min)

Masab Iqbal, Angel Luis Bernaldez Pereda, Alessandra Pellegata, Doğançan Gemici, Srikanth Sailada, and Ianire Bizkarra Gorotxategi

11.20 **Tu.B1.4** [RiziotisCi1] [Direct Integration of Nanowire Quantum Dot Emitters in Laser Inscribed Waveguides: New Approaches and Insights into Photonic Quantum Circuits Scalability](#) (Invited 20 min)

Christos Riziotis

11.40 **Tu.B1.5** [AssisKi3] [Network Design in Multiple Non-Overlapping Paths within Quantum Key Distribution Networks](#) (Invited 20 min)

Ange Joel N. Njanda, Anderson Tomkelski, Paulo André, and Karcus D. R. Assis

Prague B, Tuesday July 14

10.20 - 12.20 session Tu.B2: SWP 5 – biosensors, Chair: Bruno Miranda

10.20 **Tu.B2.1** [BrunettiGi1] [Topological Photonics for Robust and High-Resolution Biosensing](#) (Invited 20 min)

Giuseppe Brunetti, Carlotta Panciera, Nabarun Saha, and Caterina Ciminelli

10.40 **Tu.B2.2** [CastanonGAi2] [Design and Numerical Evaluation of a SiN Digital Fourier Transform Spectrometer for Non-Invasive Glucose Monitoring](#) (Invited 20 min)

Miguel Ángel Nava Blanco and Gerardo Antonio Castañón Ávila

11.00 **Tu.B2.3** [ElefanteAi1] [Towards Field-Deployable Mid-IR QEPAS Systems: Enhancing Sensitivity, Temporal response, Robustness, and Portability](#) (Invited 20 min)

Arianna Elefante and Vincenzo Spagnolo

11.20 **Tu.B2.4** [LatteBovioCi1] [Integration of PEDOT:PSS-based biosensors on the edge of tapered optical fibers](#) (Invited 20 min)

Claudia Latte Bovio, Sneha Pottekkad, Barbara Spagnolo, Stella Aslanoglou, Antonio Qualtieri, Luca Fachechi, Antonio Balena, Massimo De Vittorio, and Ferruccio Pisanello

11.40 **Tu.B2.5** [AshikbayevaZi1] [Optical Fiber Single-Mode Biosensors for Detection of Cells: Latest Advances](#) (Invited 20 min)

Aigerim Omirzakova, Lyazzat Mukhangaliyeva, Marzhan Nurlankyzy, Wilfried Blanc, Daniele Tosi, and Zhannat Ashikbayeva

12.00 **Tu.B2.6** [GaliakhmetovaDi1] [Photonics Tools for Biomedical Applications: Potential for Cancer Diagnostics and Treatment](#) (Invited 20 min)

Diana Galiakhmetova, Nawal Mohamed, Fatima Khanom, Shakti Singh, Igor Meglinski, Arooj Khalid, Viktor Dremine, Sergei Sokolovski, and Edik Rafailov

Prague C, Tuesday July 14

10.20 - 11.10 session Tu.B3: Fibre Lasers 2, Chair: Peter Horak

10.20 **Tu.B3.1** [FinotCi1] [Breathing Light: Smart Fiber Lasers, Self-Synchronization, and the Road to Chaos](#) (Invited 20 min)

Junsong Peng, Xiuqi Wu, Huiyu Kang, Anran Zhou, Ying Zhang, Heping Zeng, Christophe Finot, and Sonia Boscolo

10.40 **Tu.B3.2** [BessinFi1] [Comparative study of noise-like pulse emission from Mamyshev oscillator and mode-locking based on nonlinear polarization rotation in fiber lasers](#) (Invited 20 min)

Oumaima Ougrige, Florent Bessin, and François Sanchez

11.00 **Tu.B3.3** [MerlasMSpd1] [Characterisation of Mode Mixing in Double-Clad Fibres via Spectral Absorption Evolution and Coupled Power Theory](#) (10 min, post-deadline)

Mihai-Stefan Merlas, Christophe A. Codemard, and Michalis N. Zervas

Prague D, Tuesday July 14

10.40 - 12.40 session Tu.B4: PNPA 2 Nonlinear Integrated Photonics, Chair: Marco Liscidini

10.40 **Tu.B4.1** [RaghunathanVi1] [Nonlinear Optics with Sub-wavelength Patterned 2D Material Structures](#) (Invited 20 min)

Varun Raghunathan, Rabindra Biswas, and Asish Prosad

11.00 **Tu.B4.2** [BaghdasaryanHi1] [Electromagnetic Analysis of Nonlinear Self Limitation in Epsilon Near Zero \(ENZ\) Layers](#) (Invited 20 min)

H.V. Baghdasaryan, T.M. Knyazyan, T.T. Hovhannisyan, M. Marciniak, and T. Baghdasaryan

11.20 **Tu.B4.3** [KolkowskiRi1] [Frequency Mixing in High-Q Resonant III-V Nanostructures](#) (Invited 20 min)

Radoslaw Kolkowski, Huayu Bai, Timo Stolt, Seyed Ahmad Shahahmadi, Jani Oksanen, Matti Kaivola, and Andriy Shevchenko

11.40 **Tu.B4.4** [CalvezSi1] [Photonics devices based on Lithium Niobate On Insulator \(LNOI\)](#) (Invited 20 min)

C. Selva, K. Kinjalk, A. Moreau, J. Lumeau, A.-L. Fehrembach, A. Monmayrant, O. Gauthier-Lafaye, and S. Calvez

12.00 **Tu.B4.5** [DeLaRueRi1] [Phoxonic Crystals for Acoustically Tunable Photonic Biosensors](#) (Invited 20 min)

Mohsen Samadi, Martina Gerken, and Richard De La Rue

12.20 **Tu.B4.6** [AlonsoRamosCi1] [Optomechanics with silicon nanostructures](#) (Invited 20 min)

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

Vienna, Tuesday July 14

10.40 - 12.40 session Tu.B5: NOFSeT 2, Chairlady: Gabriella Cincotti

10.40 **Tu.B5.1** [BarzegarSi1] [Intelligent Data Analysis in Integrated Sensing And Communication Systems](#) (Invited 20 min)

Sima Barzegar, Jaume Comellas, Luis Velasco, and Marc Ruiz

11.00 **Tu.B5.2** [GaudinoRi1] [Coexistence between Coherent DWDM Transmission and DAS on the Same Fiber](#) (Invited 20 min)

Laura Hernández-Martín, Saverio Pellegrini, Federico Nicotra, Ann M. Rosa Brusin, Giuseppe Rizzelli, Juan Diego Ania-Castañon, Hugo F. Martins, and Roberto Gaudino

11.20 **Tu.B5.3** [SevillanoPi1] [Mutual Impairment Analysis of High-Speed Optical Transmission and DD-COTDR Co-Propagation over Standard Fiber](#) (Invited 20 min)

Pascual Sevillano, Natalia Herguedas, David Izquierdo, Ramón Cajal-Pérez, Jesús Subías, and Ignacio Garcés

11.40 **Tu.B5.4** [RuffiniMi1] [DAS–AIS Association Patterns for Vessel Monitoring on an Operational Subsea Fibre Link](#) (Invited 20 min)

Tian Tian, Agastya Raj, Lara Flanagan, Nicolas Celli, Chris Bean, John Kennedy, and Marco Ruffini

12.00 **Tu.B5.5** [KarlssonSi1] [Detectability of Harmful Fiber Vibrations Buried in Realistic Broadband Acoustic Backgrounds at Varying Intensity](#) (Invited 20 min)

Stefan Karlsson, Leyla Sadighi, Marija Furdek, and Marco Ruffini

12.20 **Tu.B5.6** [SadighiLi1] [Resilient SOP-Based ML Classification of Harmful Fiber Vibrations Buried in Realistic Broadband Acoustic Backgrounds](#) (Invited 20 min)

Leyla Sadighi, Stefan Karlsson, Marija Furdek, and Marco Ruffini

Cracow I, Tuesday July 14

10.45 - 12.15 session Tu.B6: EWOC 2, Chairlady: María Santos

10.45 **Tu.B6.1** [MendezRr1] [Assessment of Single Laser Double Sideband Modulation Effects in Photonic Dispersion-based RF Beam Steering](#) (15 min)

Rodrigo Méndez, Víctor Polo, María C. Santos, and Zoran Vujicic

11.00 **Tu.B6.2** [MaraziotisOr1] [Isolation Forest-Based Anomaly Detection of IoT Ransomware for 6G-enabled Smart Hospitals](#) (15 min)

Orestis Maraziotis, Georgios Mantas, Jonathan Rodriguez, and Felipe Gil-Castiñeira

11.15 **Tu.B6.3** [AlzoubiSr1] [Clipping and Quantization Impact in Power-Imbalanced Upstream DSCM Coherent PONs](#) (15 min)

Safana Alzoubi and Roberto Gaudino

11.30 **Tu.B6.4** [AliAr1] [Optimized Distributed Unit \(DU\) Placement under Physical Constraints for 6G x-Haul](#) (15 min)

Ahtisham Ali, Sanwal Zeb, Muhammad Umar Masood, Andrea Rosso, Gulmina Malik, Michela Pollone, Alessandro Galardini, and Vittorio Curri

11.45 **Tu.B6.5** [PousaRi1] [Inter-Domain QoS Orchestration in 5G Open RAN](#) (15 min)

Ricardo J. B. Pousa, Giang T. Nguyen, and Frank H.P. Fitzek

12.00 **Tu.B6.6** [MyshianovSr1] [On the Feasibility of ML-Based Radio Resource Scheduling in OpenAirInterface](#) (15 min)

Sergei Myshianov, Zoran Vujicic, and Roman Glazkov

Cracow II, Tuesday July 14

10.40 - 12.05 session Tu.B7: NetOrch, Chair: Alessio Giorgetti

10.40 **Tu.B7.1** [CastroAi2] [A Virtualized OpenROADM Platform for Vendor-Neutral SDN-Driven Optical Transport Network Orchestration](#) (Invited 20 min)

Joaquín Fontana, Micaela Lorenzo, Matías Vargas, Sebastián Maldonado, Claudina Rattaro, and Alberto Castro

11.00 **Tu.B7.2** [DavoliGi1] [Leveraging Agentic AI to Make Networks Fluid](#) (Invited 20 min)

Raffaele Di Tommaso, Gianluca Davoli, Davide Borsatti, Federico Tonini, and Walter Cerroni

11.20 **Tu.B7.3** [AbishekAi1] [Orchestrating Security Digital Twin-as-a-Service: The SDT Manager for Automated Cybersecurity Compliance](#) (Invited 20 min)

Allen Abishek, Lluís Gifre Renom, Raul Muñoz, Xavier Masip-Bruin, Adrian Asensio, and Ricard Vilalta

11.40 **Tu.B7.4** [VettoriLr1] [Implementation of a Hierarchical SDN Control Workflow for Autonomous Capacity Scaling in Multi-Layer Networks](#) (regular 15 min)

Luca Vettori, Ricardo Martínez, Ramon Casellas, F. Javier Vilchez, Josep Maria Fábrega, Raul Muñoz, and Ricard Vilalta

11.55 **Tu.B7.5** [XiaoLpd1] [A Fully Harnessed Open-Source OpenROADM and OpenConfig Optical Device Simulator](#) (10 min, post-deadline)

Linqi Xiao, Moojan Kamalzadeh, Aparajitha Gomathinayakam Latha, and Andrea Fumagalli

posters & DEMOs area, Tuesday July 14

10.20 - 12.20 Tu.B8 - DEMO session

Tu.B8.1 [VelascoLd1] [Demonstration of Centralized Multi-Agent AI for Telecom Network Operation](#)

Pol González and Luis Velasco

Prague A, Tuesday July 14

14.00 - 15.00 session Tu.C1: Quantum Communications 5, Chairlady: Jessica Cesar Cuello

14.00 **Tu.C1.1** [AchleitnerMi1] [Towards integrated time-bin quantum communication: Characterization of a SiN chip-based ring resonator and asymmetric Mach-Zehnder delay line](#) (Invited 20 min)

Martin Achleitner, Aaron Stadler, Alessandro Trenti, Quentin Wilmart, Emanuel Peinke, Jonathan Belhassen, Segolene Olivier, and Hannes Hübel

14.20 **Tu.C1.2** [PelusoMi1] [Mitigation of Background Dark Counts in Superconducting Nano\(Micro\)strip Single-Photon Detectors Using Cryogenic Fiber-Tip Filters](#) (Invited 20 min)

Martina Peluso, Diego Scarano, Maria Alessandra Cutolo, Francesco Colangelo, Alberto Micco, Vincenzo Romano Marrazzo, Carla Cirillo, Marco Pisco, Andrea Cusano, Giovanni Breglio, Alberto Porzio, Carmine Attanasio, Loredana Parlato, and Giovanni Piero Pepe

14.40 **Tu.C1.3** [GiacominLi1] [Adaptive Threshold Estimation for Quantum Authentication in Presence of Noise](#) (Invited 20 min)

L. Giacomini, A. Gagliano, A. Gatto, and P. Martelli

Prague B, Tuesday July 14

14.00 - 15.30 session Tu.C2: SWP 6 - materials&phenomena, Chairlady: Ilaria Marasco

14.00 **Tu.C2.1** [Civisi1] [The origin of water on Earth - infrared spectroscopy and temperature-programmed desorption investigations](#) (Invited 30 min)

Svatopluk Civiš

14.30 **Tu.C2.2** [VasilevskiyMi1] [Environment-Assisted Exciton Transport in Light Harvesting Molecular Structures](#) (Invited 20 min)

José Diogo Guimarães, Marcelo Barreiro, and Mikhail Vasilevskiy

14.50 **Tu.C2.3** [ManeaSaghinAMi1] [Linear and nonlinear optical response of Bio-based compounds](#) (Invited 20 min)

Ana-Maria Manea-Saghin, Carla-Cezarina Pădurețu, Petronela Gheorghe, and Jarosław Mysliwiec

15.10 **Tu.C2.4** [LumeauJi1] [Application of phase change materials for versatile optical components](#) (Invited 20 min)

R. Shurvinton, A. Karimbana-Kandi, P. Dominic, F. Lemarchand, A. Moreau, and J. Lumeau

Prague C, Tuesday July 14

14.00 - 15.20 session Tu.C3: MOF - Fibre Lasers - LasApp joint session, Chair: Pavel Honzátko

14.00 **Tu.C3.1** [Kasikli1] [\(Nano\)structuring of Optical Fibers - Effective Tool in Photonics](#) (Invited 20 min)
Ivan Kasik, Ivo Barton, Ondrej Podrazky, Michal Kamradek, Jan Aubrecht, Bara Svejkarova, Petr Varak, Filip Todorov, Pavel Peterka, Pavel Honzátko, Martin Grabner, and Ryszard Buczynski

14.20 **Tu.C3.2** [SlavikRi1] [Connecting hollow core fibres to SMF-based infrastructure](#) (Invited 20 min)
Radan Slavík, Matěj Komanec, and Francesco Poletti

14.40 **Tu.C3.3** [RichardsBi1] [Solar-pumped lasers: Progress, Challenges and Potential](#) (Invited 20 min)
Bryce S. Richards and Anvarjon Sherniyozov

15.00 **Tu.C3.4** [MilidonisKi1] [Optical architectures for solar-pumped lasers: concentration and coupling challenges](#) (Invited 20 min)
Kypros Milidonis and Antreas Theodosiou

Prague D, Tuesday July 14

14.00 - 15.30 session Tu.C4: PNPA 3 Nonlinear phenomena in Quantum Photonics, Chair: Luigi Sirleto

14.00 **Tu.C4.1** [RottwittKi1] [Spontaneous emission in four-wave mixing](#) (Invited 20 min)
Karsten Rottwitt

14.20 **Tu.C4.2** [LiscidiniMi1] [When \$\chi\(2\)\$ Meets \$\chi\(3\)\$: Engineering Photon-Pair Wavefunctions by Genuine Quantum Interference](#) (Invited 20 min)
Alessia Stefano, Samuel E. Fontaine, J. E. Sipe, and Marco Liscidini

14.40 **Tu.C4.3** [JelenkovicBi1] [Optical physically unclonable functions on butterfly wings](#) (Invited 20 min)
Aleksander Kovacević, Danica Pavlović, Branislav Salatić, Dejan Pantelić, and Brana Jelenković

15.00 **Tu.C4.4** [LebrunSr1] [High-efficiency multi-order Raman conversion in benzene–perfluorohexane liquid-clad tapered silica optical nanofibers for quantum photonic applications](#) (regular 15 min)
Hamza Gouasmia, Abderrahim Azzoune, Oussama Laouedj, Osama Mahfoudia, Hocine Medjadba, Abdelmadjid Maali, and Sylvie Lebrun

15.15 **Tu.C4.5** [LebrunSr2] [Comparative analysis of evanescent Kerr nonlinearity in silica tapered optical nanofibers for ultra-fast all-optical switching toward quantum communication applications](#) (regular 15 min)
Oussama Laouedj, Abderrahim Azzoune, Hamza Gouasmia, Osama Mahfoudia, Hocine Medjadba, Ferial Yasmine Latreche, and Sylvie Lebrun

Vienna, Tuesday July 14

14.00 - 15.35 session Tu.C5: NOFSeT 3, Chair: Roberto Gaudino

14.00 **Tu.C5.1** [MunsterPi1] [When Fibers Listen: Speech Detection Through Existing Optical Infrastructure](#) (Invited 20 min)

Petr Munster, Ondrej Mokry, Jan Bukovsky, and Tomas Horvath

14.20 **Tu.C5.2** [UrbanPi1] [Passive Remote Node for Reflectometry-based unambiguous Monitoring and Sensing in Passive Optical Networks](#) (Invited 20 min)

Patryk J. Urban, Bartosz Ziemniak, and Marek Młynarczyk

14.40 **Tu.C5.3** [NotarstefanoFi1] [Scalable Multi-Tech Fiber Sensing on a Live Telecom Link With Polarization and Phase Monitoring](#) (Invited 20 min)

Federico Notarstefano, Emanuele Virgillito, Cecilia Clivati, Simone Donadello, Rudi Bratovich, Raffaele Corsini, Marianna Hovsepyan, Francesco Carpentieri, and Vittorio Curri

15.00 **Tu.C5.4** [LeitgebEi1] [Integrated Sensing, Communication and Positioning: A Unified Approach Using the Existing LED Infrastructure](#) (Invited 20 min)

Christian Fragner, Christian Krutzler, Andreas P. Weiss, and Erich Leitgeb

15.20 **Tu.C5.5** [AbdelliKr1] [Two-Stage Anomaly-Aware Event Detection and Classification for Distributed Acoustic Sensing in Optical Fiber Infrastructure](#) (regular 15 min)

Khouloud Abdelli

Cracow I, Tuesday July 14

14.00 - 15.35 session Tu.C6: OWW 2, Chair: Ernesto Ciaramella

14.00 **Tu.C6.1** [ChanVWSi1] [Architecture of Fading Optical Wireless Networks](#) (Invited 20 min)

Vincent W. S. Chan

14.20 **Tu.C6.2** [WolfMi1] [Considerations on wireless light communications based on the Wi-Fi IEEE 802.11bb Amendment](#) (Invited 20 min)

Mike Wolf and Martin Haardt

14.40 **Tu.C6.3** [MonteiroPi1] [Experimental Validation of Rate-Splitting Multiple Access for Filterless MU-MISO VLC Systems](#) (Invited 20 min)

Roberto B. Di Renna, Vinicius N. H. Silva, Tiago D. Amorim, Bettina F. C. B. Maia, Paulo P. Monteiro, Maria C. R. Medeiros, and Ricardo M. Ribeiro

15.00 **Tu.C6.4** [DjordjevicI2] [Covert Communications over Turbulent Free-Space Optical Channels](#) (Invited 20 min)

Ivan B. Djordjevic

15.20 **Tu.C6.5** [BelghachemNr1] [Performance Comparison of 532nm and 450 nm Optical OFDM in Underwater Wireless Sensors Network Laser Communication](#) (regular 15 min)

Nabil Belghachem, Mohammed Amine Benbouzid, and Yacine Laib

Cracow II, Tuesday July 14

14.00 - 15.15 session Tu.C7: DCN 2, Chairs: Leonid Kazovsky & Alan Willner

14.00 **Tu.C7.1** [YamSi1] [Enabling 1.6T Coherent-Lite Gray Links Through DSP and Transceiver Co-Optimization](#)
(Invited 20 min)

Wing-Chau Ng and Scott Yam

14.20 **Tu.C7.2** [ZhuPi1] [Pairwise Transmission: Overcoming Fiber Dispersion in Multilane IM-DD Interconnects for AI Datacenter Networks and Beyond](#) (Invited 20 min)

Paikun Zhu, Yuki Yoshida, Satoshi Shinada, Ken-ichi Kitayama, and Bahram Jalali

14.40 **Tu.C7.3** [WillnerAi1] [Mid-Infrared Free-Space Optical Communications for High-Speed Interconnections](#)
(Invited 20 min)

Alan E. Willner

15.00 **Tu.C7.4** [DrainakisGr1] [Scalable Hybrid Fiber-Optical Wireless Data Center Networks for Application-Aware, \$\mu\$ s-Latency Support under AI Explosion](#) (regular 15 min)

Georgios Drainakis, Peristera Baziana, and Konstantinos Tsirkas

Prague A, Tuesday July 14

15.50 - 17.50 session Tu.D1: PICAW 1, Chair: Martino De Carlo

15.50 **Tu.D1.1** [CtyrokyJi1] [Nearly 50 Years of Integrated Optics at the Institute of Photonics and Electronics of the Czech Academy of Sciences](#) (Invited 20 min)

Jiří Čtyroký

16.10 **Tu.D1.2** [ChebenPi1] [New integrated photonic structures for beamforming and off-chip interfacing](#) (Invited 20 min)

P. Cheben, J.H. Schmid, J. Zhang, W. Fraser, R. Korček, S. Wang, R. Ma, M. Vachon, Y. Grinberg, R. Cheriton, I. Kandid, R. Yuan, W.N. Ye, A.F. Hinestrosa, A. Sánchez-Sánchez, A. Sánchez-Postigo, J.M. Luque-González, R. Halir, A. Ortega-Moñux, J.G. Wangüemert-Pérez, I. Molina-Fernández, D. Benedikovič, D. Melati, C. Alonso-Ramos, L. Vivien, T. Domínguez Bucio, V. Vitali, F.Y. Gardes, C. Horvath, and A. Atieh

16.30 **Tu.D1.3** [BaghdasaryanTi1] [3D-Printed Polymer Photonics for Compact Optical Interconnects and Mode Multiplexing](#) (Invited 20 min)

Tigran Baghdasaryan, Arie Nacar, Neshteh Kourian, Koen Vanmol, and Jurgen Van Erps

16.50 **Tu.D1.4** [NataleTi1] [Recent Advances Towards Miniaturized FOGs Enabled by Silicon Photonics](#) (Invited 20 min)

Teresa Natale

17.10 **Tu.D1.5** [PereiraMi1] [Progress in Mid-infrared Photonics Devices](#) (Invited 20 min)

H. Zafar and M.F. Pereira

17.30 **Tu.D1.6** [PierscinskiKi1] [Engineering of active-region designs for high-power LWIR quantum cascade lasers](#) (Invited 20 min)

K. Pierściński, D. Pierścińska, A. Krzqstek, D. Niewczas, K. Pieniak, J. Branas, A. Broda, M. Nagowski, and I. Sankowska

Prague B, Tuesday July 14

15.50 - 17.30 session Tu.D2: SWP 7 - materials&phenomena, Chair: Anand Srinivasan

15.50 **Tu.D2.1** [TomasunasRi1] [Green light second-harmonic generation in thin epitaxial GaN layers](#) (Invited 20 min)

R. Tomašiūnas, D. Kezys, I. Dailidėnas, A. Kadys, R. Petruškevičius, R. Butkus, and V. Vaičaitis

16.10 **Tu.D2.2** [PetracekJi1] [Subwavelength grating waveguides based on bound states in the continuum](#) (Invited 20 min)

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

16.30 **Tu.D2.3** [SchintkeSi2] [Optical tweezers for pick- and place robotic applications](#) (Invited 20 min)

Samuel Rechsteiner, Léonard Piguet, Stefan del Rossi, and Silvia Schintke

16.50 **Tu.D2.4** [BastosARi1] [Photonic Computing Towards Energy-Efficient AI Solutions Based on Photoactivated Materials](#) (Invited 20 min)

Lília M. S. Dias, Ana R. Bastos, Lianshe Fu, Rute A. S. Ferreira, and Paulo S. B. André

17.10 **Tu.D2.5** [DellOlioFi1] [Visible Quasi-BIC Metasurfaces](#) (Invited 20 min)

Francesco Dell'Olio

Prague C, Tuesday July 14

15.50 - 16.50 Tu.D3: MOF - Fibre Lasers - LasApp joint session, Chair: Antreas Theodosiou

15.50 **Tu.D3.1** [KamradekMi1] Highly-doped optical fibers for high-efficiency holmium lasers (Invited 20 min)

Michal Kamrádek, Jan Aubrecht, Anirban Dhar, Ivan Kašík, Debasis Pal, Josef Ander, Petr Vařák, Ondřej Podrazký, Ivo Bartoň, Pavel Peterka, and Pavel Honzátko

16.10 **Tu.D3.2** [KaufmanJi1] Hybrid Laser Shock Peening (Invited 20 min)

Jan Kaufman

16.30 **Tu.D3.3** [HauschwitzPi1] High-Productivity Laser Fabrication of Micro- and Nanostructured Functional Surfaces Across IR–UV Spectrum (Invited 20 min)

P. Hauschwitz, K. Kobliha, M. Prochazka, I. Tarant, J. Brajer, Z. Fialkova, M. Kocab, and J. Sladek

Prague D, Tuesday July 14

15.50 - 17.50 session Tu.D4: PNPA 4 Nonlinear Fiber Optics, Chair: Luigi Sirleto

15.50 **Tu.D4.1** [BoscoloSi1] [Two Regimes, One Model: Unifying Breathing Soliton Dynamics in Fiber Lasers](#) (Invited 20 min)

Ying Zhang, Bo Yuan, Junsong Peng, Xiuqi Wu, Yulin Sheng, Yuxuan Ren, Christophe Finot, Sonia Boscolo, and Heping Zeng

16.10 **Tu.D4.2** [CastelloLurbeDi1] [Ultrafast spectral characterization of nonlinear all-optical switching in long-period fiber gratings](#) (Invited 20 min)

David Castelló-Lurbe, Emmanuel Rivera-Pérez, Christian Cuadrado-Laborde, Antonio Díez, José Luis Cruz, and Miguel V. Andrés

16.30 **Tu.D4.3** [MohamedMi1] [Energy-managed fiber laser architectures for flexible and scalable pulse generation](#) (Invited 20 min)

Mostafa Mohamed, Aurélien Coillet, Vincent Couderc, and Philippe Grelu

16.50 **Tu.D4.4** [LaegsgaardJi1] [Parametric processes in multimode fibers: Theory, experiments, and new directions](#) (Invited 20 min)

Andreas Gudemoos Urskov, Rasmus Hvidberg, Lars Søgaard Rishøj, and Jesper Lægsgaard

17.10 **Tu.D4.5** [daSilvaRi1] [Laser-Driven Deposition of Carbon Nanotubes and Fabrication of Vortex Devices in Optical Fibers using Shock Waves](#) (Invited 20 min)

Ricardo E. da Silva, Marcos A. R. Franco, and Alexandre A. P. Pohl

17.30 **Tu.D4.6** [LebrunSi1] [Backward stimulated Raman scattering using a silica microfiber for optofluidic applications](#) (Invited 20 min)

Aloïs Baudry and Sylvie Lebrun

Vienna, Tuesday July 14

15.50 - 17.45 session Tu.D5: NOFSeT 4, Chair: Pascual Sevillano Reyes

15.50 **Tu.D5.1** [KaszubowskaAnandarajahAi1] [Electro-Optic Frequency Combs for Non-Disruptive Optical Network Monitoring and Fiber Sensing](#) (Invited 20 min)

Tajammul Ahmad Syed, Mariano Devigili, Tong Xie, Ines Caceres-Pablo, Dan Kilper, and Aleksandra Kaszubowska

16.10 **Tu.D5.2** [MorantMi2] [Nanoscale electrode based on single-mode optical fibre with graphene coating for neural sensing and stimulation](#) (Invited 20 min)

Carlos Martínez-Torregrosa, Maria Morant, Roberto Llorente, and Carlos Tornero

16.30 **Tu.D5.3** [PhilippTi1] [Remote Distributed Temperature Sensing on Field-Deployed SSMF Using Correlation-Based Phase-Sensitive OTDR](#) (Invited 20 min)

Tobias Philipp, Lukas Fonk, Annika Dochhan, and Stephan Pachnicke

16.50 **Tu.D5.4** [DevigiliMi1] [On the Optical Power and Q-factor Excursions due to In-band DFOS Probe Injection](#) (Invited 20 min)

Mariano Devigili, Mohammed Hassine, Sumaiya Binte Ali, and Dan Kilper

17.10 **Tu.D5.5** [FurdekMi1] [From Communication to Sensing: Deep Learning for Fiber Perturbation Detection and Classification Using Streaming Telemetry](#) (Invited 20 min)

Fehmida Usmani, Jan Bukovsky, Petr Dejdar, Wadood Ur Rehman Ranjha, Petr Munster, Tomas Horvath, Adrian Tomasov, Elaine Wong, and Marija Furdek

17.30 **Tu.D5.6** [SlapakMr1] [100 Hz Polarization-Sensitive OTDR for Submarine Cable Intrusion Detection](#) (regular 15 min)

Martin Šlapák, Jan Radil, Jaromír Šíma, Rudolf Vohnout, Josef Vojtěch, and Chris Atherton

Cracow I, Tuesday July 14

15.50 - 17.30 session Tu.D6: THz, Chair: Jasmin Smajic

15.50 **Tu.D6.1** [ShehataMi1] [Electronics or Photonics? Competing Implementation Architectures for THz Communications](#) (Invited 20 min)

Mohamed Shehata and Murat Uysal

16.10 **Tu.D6.2** [StoehrAi1] [Dual Optical Heterodyne Down-Conversion for Phase Noise Characterization of Optical RF Signals up to THz Frequency](#) (Invited 20 min)

Yılmaz Uçar, Marcel Grzeslo, Jonas Tebart, Riccardo Füllbrunn, Vitaly Rymanov, and Andreas Stöhr

16.30 **Tu.D6.3** [AsgariSi1] [Tunable Graphene-Based Terahertz Metamaterial Diode With Arc-Shaped Resonator Array](#) (Invited 20 min)

Somayyeh Asgari and Tapio Fabritius

16.50 **Tu.D6.4** [KajiTi1] [D-Band Wireless Transmission Using Antenna-Coupled Electro-Optic Polymer Optical Modulators as Terahertz Receivers](#) (Invited 20 min)

Takahiro Kaji, Isao Morohashi, Toshiki Yamada, Naoya Wada, and Akira Otomo

17.10 **Tu.D6.5** [Marascoli1] [Adaptive Beam Steering for Sub-THz Coverage Enhancement Using Graphene-Based Frequency Selective Surfaces](#) (Invited 20 min)

Carla Cantore, Gabriele Colucci, Antonella D'Orazio, and Ilaria Marasco

Cracow II, Tuesday July 14

15.50 - 17.10 session Tu.D7: GOC, Chairlady: Aleksandra Knapińska

15.50 **Tu.D7.1** [VilchezFJi1] [Enabling Energy-Efficient Programmable Multiband Transmission for High-Capacity Optical Networks](#) (Invited 20 min)

Laia Nadal, Jose Antonio Altabas, Josep Maria Fàbrega, Ricardo Martínez, José Antonio Lázaro, Francisco Javier Vilchez, Michela Svaluto Moreolo, and Jesper Bevensee

16.10 **Tu.D7.2** [ValcarengiLi1] [Shaping Distributed Training Traffic in Data Center: A Gradient Quantization and Optical Circuit Switching Perspective](#) (Invited 20 min)

Emilio Paolini and Luca Valcarengi

16.30 **Tu.D7.3** [GoscienRi1] GreeNet: [Towards Green, Resilient, and Explainable modeling and optimization of transport optical NETWORKS](#) (Invited 20 min)

Róża Goścień

16.50 **Tu.D7.4** [CastroAi1] [A T-API-Based Architecture for Data-Driven Management and Visualization of Disaggregated Optical Transport Networks](#) (Invited 20 min)

Joaquín Ramírez, Ignacio Faget, Bruno Tió, Fernando Franca, Federico Bellini, Alfredo Rodríguez, Claudina Rattaro, and Alberto Castro

social event Tuesday: Conference dinner, 18:30 – 22:00 Art Restaurant Mánes

DAY 3 - Wednesday July 15

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

Prague A, Wednesday July 15

8.20 - 10.15 session We.A1: PICAW 2, Chair: Jiří Čtyrský

8.20 **We.A1.1** [ThomsonDi1] [Precise trimming of silicon photonic devices](#) (Invited 20 min)

D. J. Thomson, A. M. Logan, B. Pant, X. Chen, C. J. Mitchell, X. Yu, W. Shen, X. Yan, W. Zhang, C. G. Littlejohns, G. Z. Mashanovich, and G. T. Reed

8.40 **We.A1.2** [KuzmiakVi1] [Non-Bloch bulk-boundary correspondence in non-Hermitian coupled waveguides](#) (Invited 20 min)

Vladimír Kuzmiak and Jiří Petráček

9.00 **We.A1.3** [CaloGi1] [Mode asymmetrization in Plasmonic Slot Waveguides Exploiting the Magneto-Optical Effect](#) (Invited 20 min)

Dalibor Javůrek, Aniq Mehboob, Renáta Praksová, Francesca Filograno, Vincenzo Petruzzelli, Giovanni Magno, Béatrice Dagens, Kamil Postava, Lukáš Halagačka, and Giovanna Calò

9.20 **We.A1.4** [LiuCNi1] [High-Efficiency Fiber-to-Silicon Photonic Packaging Enabled by 3D-Printed Micro-Lens Arrays](#) (Invited 20 min)

Chun-Nien Liu, Zhi Ting Ye, Chun-Wei Tsai, and Wood-Hi Cheng

9.40 **We.A1.5** [MorantMi1] [Photonic Integrated Circuits for Next-Generation Networks using Optical Frequency Combs](#) (Invited 20 min)

Vicente Fito, Maria Morant, and Roberto Llorente

10.00 **We.A1.6** [RodriguezLr1] [High-Power Integrated SOA Laser Source for Multi-Tbit/s Parallel Optical Interconnects](#) (regular 15 min)

Leidy Rodriguez, Lakshmi Narayanan Venkatasubramani, Ahmed Galib Reza, and Liam Barry

Prague B, Wednesday July 15

8.20 - 9.40 session We.A2: SWP 8 - plasmonics & photovoltaics, Chair: Ismail El Ouedghiri-Idrissi

8.20 **We.A2.1** [LaupretreMi1] [Electrically Injected Tamm Laser Diodes](#) (Invited 20 min)

M. Laupretre, C. Symonds, J-M. Benoit, A. Lemaître, and J. Bellessa

8.40 **We.A2.2** [SaintOliveHi1] [Enhanced Emission from Quantum Dots in Plasmonic Patch Antenna Arrays Using Surface Lattice Resonance](#) (Invited 20 min)

Hugo Saint Olive, Amit Raj. Dhawan, Fengzhi Gu, Willy Marcillac, Thomas Pons, and Agnes Maitre

9.00 **We.A2.3** [ZawadzkaAi1] [Multifunctionality of Inorganic Perovskites in Modern Energy Technologies](#) (Invited 20 min)

Anna Zawadzka, Agnieszka Marjanowska, Mateusz Mientki, Amina Laouid, Michał Zawadzki, and Przemysław Płócennik

9.20 **We.A2.4** [PłociennikPi1] [Application of transparent, conductive layers of copper-doped zinc oxide \(Zn:Cu\) in photovoltaics and optoelectronics](#) (Invited 20 min)

P. Płóciennik, A. Laouid, M. Mientki, M. Kowalska, M. Płóciennik, Z. Łukasiak, and A. Zawadzka

Prague C, Wednesday July 15

8.20 - 10.00 session We.A3: LasApp 2, Chair: Michal Kamrádek

8.20 **We.A3.1** [GrabnerMi1] [Distribution of Temperature in Active Optical Fibers for High-Power Applications](#) (Invited 20 min)

Martin Grábner, Bára Švejkarová, Jan Aubrecht, and Pavel Peterka

8.40 **We.A3.2** [AubrechtJi1] [Thulium-Doped Optic Sources Using Fibers with Depressed Cladding for the Spectral Region Beyond the L-band](#) (Invited 20 min)

Jan Aubrecht, Jan Pokorný, Michal Kamrádek, Bára Švejkarová, Veronika Čírtková, Pavel Honzátko, and Pavel Peterka

9.00 **We.A3.3** [WinkowskiMi1] [Optofluidic dye laser based on the hollow-core antiresonant fiber](#) (Invited 20 min)

Mateusz Winkowski, Katarzyna Rechcińska, Adam Filipkowski, Monika Adamowska, Bartosz Pałuba, Dariusz Pysz, Ryszard Buczyński, and Tadeusz Stacewicz

9.20 **We.A3.4** [RechcinskaKi1] [Hybrid Quantum Dot-Hollow-Core Fiber Systems for Light Emission](#) (Invited 20 min)

K. Rechcińska, M. Winkowski, P. Hänzi, G. Nagamine, F. Giorgianni, D. Hahm, T. Stacewicz, R. Buczyński, and A. Heidt

9.40 **We.A3.5** [TheodosiouAi1] [Grating inscription in fluoride fibers and integration for mid-infrared photonics](#) (Invited 20 min)

Antreas Theodosiou

Prague D, Wednesday July 15

8.20 - 9.55 session We.A4: NAON 1, Chair: Ganapathi Subramania

8.20 **We.A4.1** [MagnoGi1] [Harnessing hotspots at the nanoscale: tapered plasmonic nanochains for localized heating and optical manipulation](#) (Invited 20 min)

F. Filograno, G. Piscopo, P. Matarrese, M. Crouzier, B. Dagens, G. Calò, and G. Magno

8.40 **We.A4.2** [YuYi1] [Semiconductor lasers in nanostructured environments](#) (Invited 20 min)

Yi Yu, Mathias Marchal, Meng Xiong, Elizaveta Semenova, Kresten Yvind, and Jesper Mork

9.00 **We.A4.3** [DumitruTG1] [Spin-orbit interaction in core-shell semiconductor-metal nanowires](#) (Invited 20 min)

Tudor-Gabriel Dumitru, Anna Sitek, Gunnar Thorgilsson, Sigurdur I. Erlingsson, and Andrei Manolescu

9.20 **We.A4.4** [PiotrowskiPi1] [Plasmonic effects in glass composites fabricated by crystal growth techniques](#) (Invited 20 min)

Piotr Piotrowski, Piotr Paszke, Rafał Nowaczyński, Hańcza Surma, Katarzyna Sadecka, Nuttawut Kongsuwan, Johann Toudert, Ortwin Hess, and Dorota A. Pawlak

9.40 **We.A4.5** [PereiraMr1] [Magnetic-field-controlled nanoparticle size as a tunable platform for photonic functionalities](#) (regular 15 min)

Y. Tawalbeh and M.F. Pereira

Vienna, Wednesday July 15

Integrating optical communication and sensing workshop

session We.A5 BLOCK I – Technical part (08:30 – 12:30), Chair: Petr Munster

08:30 – 09:15 Introduction

8.30 [Welcome & Introduction](#), Petr Munster (10 min)

8.40 [ICON a new paradigm for Integrated communication and sensing](#), Aleksandra Kaszubowska (15 min)

8.55 [Sensing and data in AI for multi-technology communication – the 6G-XCEL approach](#), Dan Kilper (20 min)

09:15 – 10:15 Session 1: Physical Layer Monitoring of Critical Infrastructure

9.15 [SoP sensing capabilities and the integration into telecom networks](#), Alvaro Doval (20 min)

9.35 [Fiber sensing using fiber Bragg gratings and Raman scattering](#), Bernhard Schmauss (20 min)

9.55 **We.A5.6** [WiniarskiPr1] [Hybrid Telemetry Correlation Framework for XGS-PON Security Threat Classification](#) (20 min)

Piotr Winiarski and Patryk J. Urban

Cracow I, Wednesday July 15

8.20 - 10.20 session We.A6: THz – MWP, Chair: Martin Hofmann

8.20 **We.A6.1** [AnandarajahPi1] [PIC based optical frequency comb and active demultiplexers for millimeter wave generation](#) (Invited 20 min)

Alejandro Rosado, M. Deseada Gutierrez-Pascual, Cristian Vargas, Frank Smyth, and Prince M. Anandarajah

8.40 **We.A6.2** [SmajicJi1] [On-Chip Plasmonic Modulator Antenna Receiver for High-Speed Communications and Field Detection](#) (Invited 20 min)

Hande Ibili, Michael Baumann, Tobias Blatter, Laurenz Kulmer, Benedikt Baeuerle, Wolfgang Heni, Antonio D'Errico, Roberto Sabella, Alberto Montanaro, Ninad Chitnis, Niels Kuster, Juerg Leuthold, and Jasmin Smajic

9.00 **We.A6.3** [MinasianRi1] [Integrated microwave photonic sensing enhanced by deep learning](#) (Invited 20 min)

R. A. Minasian and X. Yi

9.20 **We.A6.4** [AsgariSr1] [Terahertz NOR, XOR, and AND Logic Gates With Voltage-Defined States In Dual Square-Ring Graphene Metamaterial](#) (regular 15 min)

Somayyeh Asgari and Tapio Fabritius

9.35 **We.A6.5** [GrzesloMr1] [Kerr Frequency Comb Stabilization for low Close-to-Carrier Phase-Noise THz Signals](#) (regular 15 min)

Marcel Grzeslo, Yilmaz Uçar, Jonas Tebart, and Andreas Stöhr

9.50 **We.A6.6** [ZeraoulaHr1] [Toward Unified Design of Photoconductive Antennas: A Hybrid Analytical–Full-Wave and Bidirectional Optimization Approach](#) (regular 15 min)

Hamza Zeraoula, Djalal Benyahia, Mohamed Lazoul, Chellali Slimani, and Hadj Abdelkader Benzater

10.05 **We.A6.7** [BenyahiaDr1] [Design and optimization of fractal photoconductive antennas for terahertz waves generation](#) (regular 15 min)

Djalal Benyahia, Nour El-Houda Lemmouchi, Hamza Zeraoula, Hichem Arab, and Mohammed Lazoul

Cracow II, Wednesday July 15

8.20 - 10.00 session **We.A7: MALOC 1**, Chair: Luis Velasco

8.20 **We.A7.1** [OteroAi1] [Fabrication-Aware Design of a 3-Ring RAMZI Interlacer via Gaussian Process Surrogate Modeling](#) (Invited 20 min)

Alberto Otero Casado, Christos Christofidis, Dan Marom, Ioannis Tomkos, Paolo Monti, and Antonio Napoli

8.40 **We.A7.2** [SilverioTi1] [Nonlinear Interference Noise Impact for Scalable Optical Network Planning in Horseshoe Scenarios](#) (Invited 20 min)

Tiago Silvério, Mohammad Hosseini, Giuseppe Parisi, Sasipim Srivallapanondh, Luis Velasco, and Antonio Napoli

9.00 **We.A7.3** [HassanHi1] [Automated Extraction of Parameters from Optical Transceiver Datasheets using Multi-Stage LLM Pipeline](#) (Invited 20 min)

Haris Hassan, Joao Pedro, and Luís Gonçalo Cancela

9.20 **We.A7.4** [NunezKasanevaJi1] [Symbol Rate-Code Rate Trade-offs for IM/DD 200G/400G per Lane LPO Transceivers](#) (Invited 20 min)

José Núñez-Kasaneva, Yunus Can Gültekin, Stefanos Dris, Paraskevas Bakopoulos, Nikos Argyris, and Gabriele Liga

9.40 **We.A7.5** [DiptolCi1] [ML-based Physics-Guided Method for Low-Margin Nonlinear Interference Estimation in Optical Links](#) (Invited 20 min)

Imran Chowdhury Dipto, Rosario Ietro, Emanuele Virgillito, Sanwal Zeb, Sai Kishore Bhyri, Gabriele Maria Galimberti, Nelson Costa, Giuseppe Parisi, João Pedro, Antonio Napoli, and Vittorio Curri

Prague A, Wednesday July 15

10:40 – 12.00 session We.B1: PICAW 3, Chair: Tigran Baghdasaryan

10.40 **We.B1.1** [CiminelliCi1] [Ring Resonator-Based Tunable Optoelectronic Oscillator in S-band](#) (Invited 20 min)

C. Ciminelli, F. R. Nardelli, G. Brunetti, A. Florio, and G. Coviello

11.00 **We.B1.2** [CesarCuelloJi1] [Study of Thermal Interaction in an Integrated Optical Heterodyne Source](#) (Invited 20 min)

Jessica César-Cuello, Alberto Zarzuelo, Sergio Rivera Lavado, and Guillermo Carpintero

11.20 **We.B1.3** [HerguedasNi1] [Toward Scalable Integrated Coherent Receivers for PONs: Implementation and Polarization Challenges in PICs with InP technology](#) (Invited 20 min)

Natalia Herguedas, David Izquierdo, Pascual Sevillano, Ramón Cajal-Pérez, and Ignacio Garcés

11.40 **We.B1.4** [AltabasJi1] [25 Gbps C-band Quasi Coherent SFP Transceiver for 40 km SSMF reach for Metro, Access and Front-Haul Networks](#) (Invited 20 min)

Jose A. Altabas, Lorenza Amati, Onur Düzgöl, Claus H. Jørgensen, Omar Gallardo, Rakshick Shrinivas, Michele Squartecchia, Miguel C. Temboury, Arsen Turhaner, Darcy Clark, Jonas Viklund, Magnus Olson, and Jesper B. Jensen

Prague B, Wednesday July 15

10:40 – 12.15 session We.B2: Metasurfaces, Chairlady: Teresa Natale

10.40 **We.B2.1** [MirandaBi1] [Dielectric Metasurfaces Supporting Bound States in the Continuum for Real-Time Monitoring of Biomolecular Interaction Dynamics](#) (Invited 20 min)

Bruno Miranda, Gianluigi Zito, Teresa Natale, Francesco Dell'Olio, and Silvia Romano

11.00 **We.B2.2** [ZografopoulosDi1] [Fluorescent dye lasers based on bound states in the continuum in slotted dielectric metasurfaces](#) (Invited 20 min)

Georgios Nousios, Francesco Dell'Olio, José F. Algorri, Walter Fuscaldo, Thomas Christopoulos, Odysseas Tsilipakos, Emmanouil E. Kriezis, and Dimitrios C. Zografopoulos

11.20 **We.B2.3** [BiagioniPi1] [Metasurfaces for augmented reality and eye tracking in smart eyewear devices](#) (Invited 20 min)

Paolo Biagioni, Pietro Baldin, Alberto Sivera, Rafael Bellei De Carvalho, Filippo Coviello, Vittorio Bonino, Jacopo Stefano Pelli Cresi, Armando Genco, Matteo Pradal, Gianluca Valentini, Giulio Cerullo, Anna Cesaratto, Tommaso Ongarello, Giovanni Isella, Roman Sordan, and Giuseppe Della Valle

11.40 **We.B2.4** [NaikPi1] [Beyond Full Wave Simulations and Effective Medium Theory: Supermode Approach for Modelling All-Dielectric Multilayer Metasurfaces](#) (Invited 20 min)

Pooja Naik and Massimiliano Guasoni

12.00 **We.B2.5** [HattoriHr1] [Design and Fabrication of an Au Metasurface to enhance Strong Coupling in MoS₂ Monolayer](#) (regular 15 min)

Andergachew Mekonnen Berhe, Hao Wu, Haroldo T. Hattori, and Andrey E. Miroshnichenko

Prague C, Wednesday July 15

10:40 – 12.20 session We.B3: LasApp 3, Chair: Martin Smrž

10.40 **We.B3.1** [JelinkovaHi1] [Mid-infrared Solid-state Lasers](#) (20 min)

Helena Jelínková, Adam Říha, Jan Šulc, Michal Němec, David Vyhlídal, and Richard Švejkar

11.00 **We.B3.2** [MrazekJi1] [Low-phonon energy ceramics for lasers operating in short- and mid-infrared](#) (Invited 20 min)

Jan Mrázek, Jan Hostaša, Petr Vařák, Jana Proboštová, Ivo Bartoň, Andreana Piancastelli, Laura Esposito, and Valentina Biasini

11.20 **We.B3.3** [Bartonli1] [Garnet nanoparticles in the long-period grating sensors of gamma radiation](#) (Invited 20 min)

Ivo Bartoň, Flavio Esposito, Agostino Iadicicco, Andrei Stancalie, Anubhav Srivastava, Razvan Mihalcea, Daniel Negut, Stefania Campopiano, Viktor Puchý, Michal Kamrádek, Ondřej Podrazký, and Jan Mrázek

11.40 **We.B3.4** [ZidekKi1] [Second harmonic generation as a sensitive tool for thin-film characterization](#) (Invited 20 min)

Jakub Lukeš, Anmol Kumar, Vít Kanclíř, Jan Václavík, and Karel Žídek

12.00 **We.B3.5** [VeselaPi1] [Studying buried interfaces in optical thin films using ultrafast acoustics](#) (Invited 20 min)

Petra Veselá, Martina Hlubučková, Kryštof Hlinomaz, Pavel Mokřý, Vít Kanclíř, Jan Václavík, and Karel Žídek

Prague D, Wednesday July 15

10:40 – 12.00 session We.B4: NAON 2, Chair: Giovanni Magno

10.40 **We.B4.1** [SchintkeSi1] [Angular-resolved light scattering of electrospun cellulose acetate based nanofiber mats](#) (Invited 20 min)

Silvia Schintke, Nils Hellfeier, and Stefan del Rossi

11.00 **We.B4.2** [PellegriniGi1] [Differentiable Geometries for Nanophotonics: A Neural Network Framework Approach for Parametric Inverse Design](#) (Invited 20 min)

Giovanni Pellegrini

11.20 **We.B4.3** [SubramaniaGi1] [Light control and magnetic field sensing with photonic nanostructures](#) (Invited 20 min)

Ganapathi Subramania

11.40 **We.B4.4** [MorozovGi1] [Floquet Discriminants and Scattering Transitions in 1D PT-Symmetric Photonic Crystals](#) (Invited 20 min)

Gregory V Morozov

Vienna, Wednesday July 15

10:30 – 11:30 session We.B5: Session 2: Modelling & Digital Twin of DOFS Systems, Chair: Mariano Devigili

10.30 We.B5.1 [Modelling of OTDR-based sensing systems](#), (20 min)

Roman Ermakov

10.50 We.B5.2 [RennerEr1] [Concept and Implementation of a Digital Twin for Optical Fiber Sensors and Telecom Fiber Infrastructure](#) (20 min)

Lukas Bernhardt, Bernhard Schmauss, and Esther Renner

11.10 We.B5.3 [GuerrierSr1] [Distributed Acoustic Sensing Simulations of Passive Optical Networks for Enhanced Infrastructure Monitoring](#) (20 min)

Sterenn Guerrier, Michael Straub, and Sandip Das

Cracow I, Wednesday July 15

10:40 – 12.00 session We.B6: SDM-WDM 1, Chair: Joan M. Gené

10.40 We.B6.1 [Gasullali1] [Exploiting Dispersion Diversity in SDM Fibers for Adaptive Optical Beamforming](#) (Invited 20 min)

Mario A. González, Sergi García, Elham Nazemosadat, and Ivana Gasulla

11.00 We.B6.2 [PerelloJi1] [Impact of Practical PCS Transceiver Limitations on Traffic Throughput in Flex-Grid over Multicore Fiber Optical Backbone Networks](#) (Invited 20 min)

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

11.20 We.B6.3 [LongobuccoMi1] [Nonlinear dual-wavelength switching of ultrashort pulses in slightly asymmetric dual-core fibers](#) (Invited 20 min)

M. Longobucco, I. Astrauskas, A. Pugžlys, A. Baltuška, R. Buczyński, and I. Bugár

11.40 We.B6.4 [AlvesTi1] [LUMIRing: the Multicore Fiber Testbed Deployed in Lisbon Subway](#) (Invited 20 min)

Tiago M. F. Alves, João L. Rebola, Adolfo V. T. Cartaxo, Luis Cancela, Tobias Tiess, Kay Schuster, Martin Böttcher, Paulo Leal, Mirko Gori, Eduardo de Mingo, Leonardo Burchini, and A. Morais Santos

Cracow II, Wednesday July 15

10:40 – 12.00 session We.B7: MALOC 2, Chair: Luis Velasco

10.40 We.B7.1 [GhasrizadehSi1] [OCATA Optical Time-Domain Digital Twin: Continuous Model Tuning with Signal-Domain Fidelity Assessment](#) (Invited 20 min)

Sadegh Ghasrizadeh, Marc Ruiz, and Luis Velasco

11.00 We.B7.2 [BahooGi1] [Isolated Control and Monitoring for Multi-operator IPoWDM Networks](#) (Invited 20 min)

Ghulam Bahoo, A. Sgambelluri, and N. Sambo

11.20 We.B7.3 [ZebSi1] [LLM-Orchestrated Digital Twin for Smart Optical Network Operations](#) (Invited 20 min)

Sanwal Zeb, Imran Chowdhury Dipto, Muhammad Umar Masood, João Pedro, Antonio Napoli, and Vittorio Curri

11.40 We.B7.4 [LuXi1] [QoS-Aware Cooperative Bandwidth Allocation for Mobile Fronthaul Traffic in TDM-PON](#) (Invited 20 min)

Xiang Lu, Luis Velasco, and Marc Ruiz

posters & DEMO area, Wednesday July 14

10.30 - 12.30

Poster 1 Wednesday morning session We.P1

We.P1.01 [KokkinosPp1] [Joint Training and Deployment Hub Selection for Concurrent LLM Jobs over Metro P2MP Networks](#)

Polyzois Soumplis, Panagiotis Kokkinos, Konstantinos Yiannopoulos, and Emmanouel Varvarigos

We.P1.02 [AimagambetovaRr1] [Physical-Mathematical Model of Opto-Mechanical Processes in a Distributed Fiber-Optic Sensor](#)

Raushan Aimagambetova and Dinara Mukasheva

We.P1.03 [WuGp1] [Double-Random Walk to Fit a Deterministic Curve](#)

Guang Wu and Shaomin Yan

We.P1.04 [WuGp2] [Random Walk to Fit a Function in Periods](#)

Shaomin Yan and Guang Wu

We.P1.05 [BanerjeeAr2] [Predicting Controller Remaining Useful Life in Software-Defined Networks Through Telemetry-Based Prognostics](#)

Sakshi Pandey, Upendra Prajapati, Bijoy Chand Chatterjee, and Amit Banerjee

We.P1.06 [CostaJp1] [Oblivious Transfer from Continuous-Variables QKD with Heterodyne Detection](#)

João Costa, Mariano Lemus, Nuno A. Silva, and Armando N. Pinto

We.P1.07 [PaolucciFp1] [Semantic P4 In-Network Processing for 6G Smart Cities](#)

Layal Ismail, Andrea Sgambelluri, Filippo Cugini, and Francesco Paolucci

We.P1.08 [ZeraoulaHp1] [Wideband Full-Wave Design and Optimization of a 4-Element Photoconductive Antenna Array for THz Beam Steering Applications](#)

Hamza Zeraoula, Djalal Benyahia, Mohamed Lazoul, Abdelheq Boukarkar, Hadj Abdelkader Benzater, and Chellali Slimani

We.P1.09 [JabbarAr1] [A Graphene-Based Tunable Dual Band THz Meta-Biosensor for Hemoglobin Detection](#)

Abdul Jabbar, Somayyeh Asgari, and Tapio Fabritius

We.P1.10 [FinotCp1] [Decoding Nonlinear Dynamics: Physical Classification from Raw Intensity Profiles](#)

Anastasiia Sheveleva, Andrei Ermolaev, John. M. Dudley, and Christophe Finot

We.P1.11 [MelalkiaMFr1] [Companding-based QRNGs beyond entropy improvement: enhanced robustness, stability and operational flexibility](#)

Mohamed Faouzi Melalkia and Bachir Madani

We.P1.12 [OmirzakovaAp1] [Fiber-Optic Biosensor with PDMS-Au Interface for Targeted Detection of Triple-Negative Breast Cancer Cells](#)

Aigerim Omirzakova, Lyazzat Mukhangaliyeva, Marzhan Nurlankyzy, Ramazan Ashirkhan, Wilfried Blanc, Daniele Tosi, and Zhannat Ashikbayeva

We.P1.13 [NurlankyzyMp1] [Interferometric Optical Fiber Biosensor for Label-Free Detection of Breast and Colon Cancer Cells](#)

Marzhan Nurlankyzy, Kanagat Kantoreyeva, Aida Zhakypbekova, Zhannat Ashikbayeva, Wilfried Blanc, Aliya Bekmurzayeva, and Daniele Tosi

We.P1.14 [MochalovLr2] [Vacuum preparation of high-purity polycrystalline GaSb](#)

L.A. Mochalov and E.A. Slapovskaya

We.P1.15 [BelousovAr2] [Synthesis of high-purity polycrystalline gallium arsenide](#)

A.S. Belousov, L.A. Mochalov, and E.A. Slapovskaya

Prague A, Wednesday July 15

14.00 - 15.30 session We.C1: PICA4, Chair: Kamil Pierściński

14.00 **We.C1.1** [BienstmanPi1] [Processing information using recurrent neural networks in silicon photonics](#) (Invited 20 min)

P. Bienstman, R. Van Assche, F. Marchesin, A. Vit, E. Gooskens, S. Masaad, J. Van Kerrebrouck, and X. Yin

14.20 **We.C1.2** [Tomkosli1] [Analogue Optical Signal Processing Building Blocks for Energy-Efficient Beyond-1.6 Tb/s Single-Carrier Transceivers](#) (Invited 20 min)

Ioannis Tomkos, Christos Christofidis, Konstantinos Moschopoulos, Dimitrios Vrachatis, Georgios Tsakalis, Stylianos Sygletos, and Moshe Nazarathy

14.40 **We.C1.3** [DeCarloMi1] [Non-volatile electrically programmable photonic integrated circuit](#) (Invited 20 min)

Martino De Carlo, Francesco De Leonardis, and Vittorio M. N. Passaro

15.00 **We.C1.4** [MaTr1] [Investigation of Programmability in MZI-based Clements Meshes for Photonic Logical Operations](#) (regular 15 min)

Teng Ma, Andrea Marchisio, Vittorio Curri, Paolo Bardella, and Andrea Carena

15.15 **We.C1.5** [ColmanPr1] [Filter Shaping in Integrated Photonics using Non-Adiabatic Control](#) (regular 15 min)

Abdullah Al-Abiad and Pierre Colman

Prague B, Wednesday July 15

14.00 - 15.55 session We.C2: TECHto6G, Chair: Seyed Morteza Ahmadian

14.00 **We.C2.1** [SatiánGuamanDi1] [Experimental Evaluation of Tunable Delays induced by Dual-Resonance Photonic Crystal Cavities](#) (Invited 20 min)

Daniela Satián-Guamán, Maria Morant, Laura Mercadé, Alejandro Martínez, and Roberto Llorente

14.20 **We.C2.2** [NanniJi1] [Joint Communication and Computation in Low-Cost and Low-Consumption 850nm VCSEL-SSMF Communication Systems](#) (Invited 20 min)

Jacopo Nanni, Siqi Wang, Aziz Benlarbi-Delai, and Giovanni Tartarini

14.40 **We.C2.3** [JukanAi1] [How Lasercom Non-Terrestrial Networks will Shape the Next Generation Mobile Networks](#) (Invited 20 min)

Admela Jukan and Xavi Masip

15.00 **We.C2.4** [RagoAi1] [Energy-Efficient and Scalable 6G Networks through XAI-Driven Edge Intelligence](#) (Invited 20 min)

Arcangela Rago, Alessio Fascista, Giuseppe Piro, Gennaro Boggia, and Luigi Alfredo Grieco

15.20 **We.C2.5** [MosahebfardRi1] [Analytical Dimensioning of Network Slices for Cost-Efficient MVNO Resource Planning](#) (Invited 20 min)

Mohammadreza Mosahebfard, Andrés Cárdenas, and Pouria Sayyad Khodasenas

15.40 **We.C2.6** [HernandezJAR1] [An AI Agent for Upper-Bound Latency Percentiles: An Empirical M/M/1 Envelope Model](#) (regular 15 min)

Nataliia Brikali, Alfonso Sánchez-Macián, José Alberto Hernández, Farhad Arpanaei, Gabriel Otero, David Larrabeiti, and Óscar González de Dios

Prague C, Wednesday July 15

14.00 - 15.20 session We.C3: LasApp 4, Chair: Pavel Peterka

14.00 **We.C3.1** [KubecekVi1] [Progress in CaF₂/SrF₂ lasers for generation of femtosecond pulses in 1-3 \$\mu\text{m}\$ spectral region](#) (Invited 20 min)

Václav Kubeček and Liangbi Su

14.20 **We.C3.2** [PodrazkyOi1] [Pedestal-free Tm-doped Fiber with Segmented Core for Fiber Lasers in 1.9 \$\mu\text{m}\$ Region](#) (Invited 20 min)

Ondřej Podrazký, Ivo Bartoň, Jan Aubrecht, Bára Švejkarová, Jan Pokorný, Michal Kamrádek, Ivan Kašík, Pavel Peterka, and Martin Grábner

14.40 **We.C3.3** [SmrzMi1] [Progress in Ultrashort-Pulse Thin-Disk Laser Technology at HiLASE](#) (Invited 20 min)

M. Smrž, J. Mužík, M. Chyla, P. Sikocinski, Y. Koshiba, H. Jo, O. Novák, M. Žáček, D. Vojna, M. Sawicka-Chyla, J. Huynh, G. Chayran, A. Fajstavr, S. Kudělková, and U. Sezer

15.00 **We.C3.4** [SvejkarRi1] [Core Propagation Loss in All-glass Triple-clad Holmium-doped Active Fibre at 2 \$\mu\text{m}\$ Wavelength Range](#) (Invited 20 min)

Richard Švejkar, Bára Švejkarová, Peter C. Shardlow, and W. Andrew Clarkson

Prague D, Wednesday July 15

14.00 - 15.40 session We.C4: PMRD 1, Chair: Gregory Morozov

14.00 **We.C4.1** [BianucciPi1] [Backscattering in surface nanoscale axial photonic resonators](#) (Invited 20 min)

Pablo Bianucci

14.20 **We.C4.2** [ChenYi1] [Whispering-gallery microcavities for nanoparticle detection and directional light emission](#) (Invited 20 min)

Youling Chen, Wei Wang, Ke Yang, Yuede Yang, and Yongzhen Huang

14.40 **We.C4.3** [HorakPi1] [Optimising Optical Microresonators for Quantum Technology](#) (Invited 20 min)

William J. Hughes and Peter Horak

15.00 **We.C4.4** [MeyerJi1] [Simulation-Driven Optimization of Dual-Coupled Micro-Ring Entanglement Sources for Quantum Optical Networks](#) (Invited 20 min)

J. G. Meyer, A. Barreiro, A. Grebenchukov, E. Mentovich, J. A. Jaramillo-Villegas, J. J. Vegas Olmos, I. Tafur Monroy

15.20 **We.C4.5** [DevarapuCi1] [Fabry–Pérot Resonators: From Dispersion-Engineering to Hybrid Lasing and Nonlinear Applications via Micro-Transfer Printing](#) (Invited 20 min)

G. C. R. Devarapu, D. Monopoli, N. Maraviglia, A. S. Vorobev, S. H. Badri, F. B. Atar, S. Gosh, N. G. Pruitt, M. S. I. Sumon, G. Calò, M. Sorel, C. Maddi, R. M. Bowman, B. Corbett, S. Arafat, and L. O'Faolain

Vienna, Wednesday July 15

OFS 3 session We.C5

13:00 – 14:00 Session 3: From Physical Layer to Network Intelligence, Chairlady: Esther Renner

13.00 **We.C5.1** [BukovskyJr1] [Toward Self-Learning Optical Fiber Sensing Grids: Self-Supervised and Distilled Intelligence from Coherent Transceiver Telemetry](#) (20 min)

Jan Bukovsky

13.20 **We.C5.2** [NatalinoDaSilvaCr1] [Closing the Loop in Optical Networking: From Sensing and Monitoring to AI/ML-Driven Decisions](#) (20 min)

Carlos Natalino Da Silva

13.40 **We.C5.3** [RuffiniMr1] [Beyond the Link: Scalable Network-Wide Fibre Sensing with AI](#) (20 min)

Marco Ruffini

OFS 4 BLOCK II – Strategy, Diversity & Horizon Europe (14.15 – 17:00), , Chair: Dan Kilper

14:15 – 15:15 Own the Horizon: Women Leading Europe Panel discussion: Meet the Leaders (and their allies) shaping the future of EU projects

15:15 – 16:00 Horizon Europe & National Contact Points, Lenka Švejcarová (National Information Centre for European Research)

Cracow I, Wednesday July 15

14.00 - 15.20 session We.C6: OMT, Chair: George Stanciu

14.00 **We.C6.1** [BuenoJMi1] [Improved multiphoton imaging supported by polarization, dispersion compensation and wavefront correction](#) (Invited 20 min)

Juan M. Bueno, Martin Skorsetz, Rosa M. Martínez-Ojeda, and Pablo Artal

14.20 **We.C6.2** [TrancaDi1] [Wide-angle surface plasmon polariton coupling on gold thin films via multi-period nano-indented gratings](#) (Invited 20 min)

Denis E. Tranca, Stefan G. Stanciu, Radu Hristu, Adrian M. Ionescu, and George A. Stanciu

14.40 **We.C6.3** [AntonSi1] [Microscopic analysis of MBBA nematic liquid crystal with carbon nanoparticle insertions](#) (Invited 20 min)

Stefan R. Anton, Teodora Maria Danciu, Stefan G. Stanciu, and Cristina Cîrtoaje

15.00 **We.C6.4** [HristuRi1] [Second harmonic generation imaging of collagen organization for the assessment of urinary bladder lesions](#) (Invited 20 min)

Radu Hristu, Lucian G. Eftimie, Stefan R. Anton, Stefan G. Stanciu, Denis E. Tranca, Engang Fu, and George A. Stanciu

Cracow II, Wednesday July 15

14.00 - 16.00 session We.C7: ICTON 1, Chair: Giovanni Tartarini

14.00 **We.C7.1** [YoshidaYi1] [Quaternion Retrieval for Optical Fiber Communications](#) (20 min)

Yuki Yoshida and Satoshi Shinada

14.20 **We.C7.2** [HanikNi1] [Numerical Evaluation of the Nonlinear Degradation of Optical WDM-Channels in the O-band and a Method for its Reduction](#) (20 min)

Bensu Baran-Akin, Stephan Hellerbrand, and Norbert Hanik

14.40 **We.C7.3** [Aldayali1] [Numerical Investigation of Nonlinear Distortion in 400ZR-Based WDM Transmission Systems](#) (20 min)

João Pedro Gosmin, Marcelo L. F. Abbade, Plínio Dester, Jinlong Wei, Leandra Abreu, and Ivan Aldaya

15.00 **We.C7.4** [BarryLi1] [Transmission of 16×75 GBaud PAM-4 Signals Using a 16-Channel O-Band Distributed Feedback Laser Array and SOA-Filter-PIN Receiver Architecture](#) (20 min)

Ahmed Galib Reza, Lakshmi Narayanan Venkatasubramani, Janina Rautert, Vladimir S. Mikhrin, Shane Duggan, Gaurav Jain, Amol Delmade, Frank Smyth, Alexey Gubenko, and Liam P. Barry

15.20 **We.C7.5** [LenchnerAi1] [Exposing RDMA Read Reordering on x86: An Empirical Litmus Test](#) (20 min)

Alla Lenchner, Haggai Eran, J.J. Vegas Olmos, and Stefan Schmid

15.40 **We.C7.6** [SubramaniamSi1] [Scalable Backbone Optical Network Planning Under Power and Demand Uncertainty](#) (20 min)

Egemen Erbayat, Priyanshu, Shrinivas Petale, Bijoy C. Chatterjee, Varun Gupta, Alexander Nikolaidis, and Suresh Subramaniam

Prague A, Wednesday July 15

16.10 - 17.50 session We.D1: 6GNeO, Chair: Marc Ruiz

16.10 **We.D1.1** [CavdarCi1] [Rethinking Energy Efficiency in Cell-Free Massive MIMO: The Role of Processing and Optical Fronthaul](#) (Invited 20 min)

Ozan Alp Topal, Özlem Tuğfe Demir, and Cicek Cavdar

16.30 **We.D1.2** [ShakespearMilesHi1] [Proactive Performance Assurance for 6G Network Service Using Multi-Agent Systems](#) (Invited 20 min)

Hailey Shakespear-Miles, Sima Barzegar, Marc Ruiz, and Luis Velasco

16.50 **We.D1.3** [VelascoLi1] [Coordination of AI Workloads and Telecom Infrastructures: The Way to Sustainability](#) (Invited 20 min)

Luis Velasco, Pol González, Jaume Comellas, and Marc Ruiz

17.10 **We.D1.4** [RuizMi1] [Analysis and Mitigation of Adversarial Noise Attacks in Autonomous Optical Networks](#) (Invited 20 min)

Marc Ruiz, Jaume Comellas, and Luis Velasco

17.30 **We.D1.5** [GonzalezPi1] [Deployment and Orchestration of Quantum-Secured Federated Learning workloads](#) (Invited 20 min)

Pol González, Marc Ruiz, Jaume Comellas, and Luis Velasco

Prague B, Wednesday July 15

16.10 - 17.50 session We.D2: AI, Chairlady: Arcangela Rago

16.10 **We.D2.1** [AhmadianMi1] [Agentic AI in Optical Networks: Navigating the Autonomy and Abstraction Trade-offs](#) (Invited 20 min)

Morteza Ahmadian, Carlos Natalino, and Paolo Monti

16.30 **We.D2.2** [AbdelliKi1] [Toward Unified, Interoperable, and Generalizable AI Frameworks for Cognitive and Autonomous Optical Networks](#) (Invited 20 min)

Khouloud Abdelli

16.50 **We.D2.3** [ZhuZi1] [MiGOCS: A Mixed-Grained Optical Circuit Switching Fabric for Hyper-Scale AI Clusters](#) (Invited 20 min)

Binjun Tang, Xiaoliang Chen, and Zuqing Zhu

17.10 **We.D2.4** [GharbaouiMi1] [Next-Generation eHealth Networking: AI-Driven Intent-Based Resilience for IoMT](#) (Invited 20 min)

M. Gharbaoui, S.K. Sahu, and P. Castoldi

17.30 **We.D2.5** [MaierGi1] [AI-driven Event Management in a Far-Edge/Edge/Cloud Monitoring System for Rural Environments](#) (Invited 20 min)

Jean Pierre Asdikian, Giacomo Sguotti, Lorenzo Chiroli, Matteo Franken, Pierluigi Grossi, Chiara Puggelli, Marco Beccari, Sebastian Troia, Marco Marcon, Marco Del Frate, Fabrizio Bianchi, Alfredo Salvatore, Antonio Albanese, and Guido Maier

Prague C, Wednesday July 15

16.10 - 17.30 session We.D3: SDM-WDM 2, Chairlady: Ivana Gasulla

16.10 **We.D3.1** [VillavicencioPazAi1] [Multi-Band and Multi-Core Capacity Upgrade Costs with Transponders and Coherent Pluggables](#) (Invited 20 min)

Arantxa Villavicencio Paz and Ronald Romero Reyes

16.30 **We.D3.2** [LeivaLopezAi1] [Performance Evaluation of Modulation Format and Mode-Group Allocation Approaches across Multiple Network Topologies in MGDM-WDM Networks](#) (Invited 20 min)

Juan Pinto-Ríos, Ariel Leiva, Astrid Lozada, Nicolás Jara, Ricardo Olivares, Danilo Bórquez-Paredes, Gabriel Saavedra, Ramón Durán, and Ignacio de Miguel

16.50 **We.D3.3** [PapafilippouKr1] [Core Arrangement Optimization of a 12-core Weakly-Coupled Fibre for Unidirectional Transmission](#) (regular 15 min)

Konstantinos Papafilippou, João L. Rebola, and Adolfo V. T. Cartaxo

17.05 **We.D3.4** [SelmyHr1] [Effect of ASE Signal Bandwidth on the Temporal Variations of Inter-Core Crosstalk across C-Band in WC-MCFs](#) (regular 15 min)

Hossam Selmy, Tiago M. F. Alves, Joao L. Rebola, and Adolfo V. T. Cartaxo

17.20 **We.D3.5** [RezaeeApd1] [Frequency-Dependent Inter-Core Crosstalk Overturns C-Band Preference in Single-Band 19-Core MCF Networks](#) (10 min, post-deadline)

Arash Rezaee, Farhad Arpanaei, Hami Rabbani, Ryan McCann, José Alberto Hernández, Maïte Brandt-Pearce, and Vinod M. Vokkarane

Prague D, Wednesday July 15

16.10 - 17.30 session We.D4: PMRD 2, Chair: Pablo Bianucci

16.10 **We.D4.1** [DOrazioAi1] [Resonant Devices Based on Waves: Principles and Applications](#) (Invited 20 min)

Ilaria Marasco, Giovanni Magno, and Antonella D'Orazio

16.30 **We.D4.2** [LatkowskiSi1] [Guided-Mode Resonance Scatterometry Targets for Inline Process Monitoring and Functional Testing of Integrated Photonics Monitoring](#) (Invited 20 min)

Ruud Jansen, Kevin Williams, and Sylwester Latkowski

16.50 **We.D4.3** [ShetewyAi1] [Induced Second-Order Nonlinearity in Silicon Nitride Waveguides](#) (Invited 20 min)

Abdou Shetewy, Madalena Oliveira, and Kambiz Jamshidi

17.10 **We.D4.4** [HuangJji1] [Probing Anisotropic Surface Conduction and Electrodynamics in Bi₂Se₃ via Hybrid Plasmonic Resonators](#) (Invited 20 min)

Rohit Gupta, Bo-Chien Liao, and Jian-Jang Huang

Vienna, Wednesday July 15

16:00 – 17:30 session We.D5: OFS 4 cntd.

Networking & Demo Session

Live demo of sensing systems

Informal collaboration discussion

Cracow I

16.10 - 16.50 session We.D6: SDN/Neural Networks, Chair: Marian Marciniak

16.10 **We.D6.1** [TaccaMi1] [An OpenROADM Network Emulator with Device Persona and Physical Transmission Awareness](#) (Invited 20 min)

Aparaajitha Gomathinayakam Latha, Linqi Xiao, Muhammad Ridwanur Rahim, Nathan Ellsworth, Tianliang Zhang, Venkateswarlu Gudepu, Marco Tacca, and Andrea Fumagalli

16.30 **We.D6.2** [FumagalliAi1] [Where Hardware Limitations Break Optical Neural Networks: A Stepwise Incremental Feature Pruning Study](#) (Invited 20 min)

Muhammad Ridwanur Rahim, Linqi Xiao, Ron Hui, and Andrea Fumagalli

Cracow II, Wednesday July 15

16.10 - 17.50 session We.D7: ICTON 2, Chairlady: Róża Goścień

16.10 **We.D7.1** [TartariniGi1] [Enabling quasi-Single-Mode Operation in Low-Cost 850nm VCSEL-over-SSMF Optical Links](#) (Invited 20 min)

Jacopo Nanni, Iris Rizzi, Yifan Bian, and Giovanni Tartarini

16.30 **We.D7.2** [HenkerRi1] [High-speed VCSEL Modulation Schemes by Tailored Integrated Driver Circuits](#) (Invited 20 min)

Ronny Henker, Maximilian Froitzheim, Guido Belfiore, Alexandru Giuglea, and Frank Ellinger

16.50 **We.D7.3** [HofmannMi1] [New VCSEL concepts for ultrafast optical data communication](#) (Invited 20 min)

Martin R. Hofmann and Markus Lindemann

17.10 **We.D7.4** [RizzelliGi1] [Next generation high speed passive optical networks enabled by digital CD pre-compensation](#) (Invited 20 min)

Hanane Kharbich, Gabriella Bosco, Dario Piloni, Valter Ferrero, Ivan Cano, Roberto Gaudino, and Giuseppe Rizzelli

17.30 **We.D7.5** [VojtechJi1] [Coherent Data Transfers with Parallel Long-haul White Rabbit Transmission](#) (Invited 20 min)

Josef Vojtech, Jaromir Sima, Tomas Novak, Ondrej Havlis, Michal Spacek, Jan Radil, Rudolf Vohnout, Martin Slapak, Michal Hazlinsky, Vladimir Smotlacha, Lada Altmannova, Radek Velc, Elisabeth Andriantsarazo, Petr Pospisil, Jan Kundrat, Michal Spacek, Tomas Novak, Elisabeth Andriantsarazo, and Jaroslav Roztocil

Poster area, Wednesday July 15

16.00 - 17.50 session We.P2 Poster 2 LasApp

We.P2.01 [FialkovaZp1] [Laser-Induced Functional Surfaces for Biological Applications](#)

Zuzana Fialková, Miroslava Flimelova, Alice Čápková, Petr Hauschwitz, Helena Jelínková, and Tomáš Mocek

We.P2.02 [KoblihaKp1] [Overcoming Optical Distortions in Phase Mask Generation via Iterative Target Pre-Compensation](#)

Kryštof Kobliha, Petr Hauschwitz, Ivan Tarant, Juraj Sládek, Vilém Boušek, Martin Procházka, Jan Brajer, and Tomáš Mocek

We.P2.03 [ChayranGp1] [High-energy 1.5 \$\mu\text{m}\$ fiber laser source for space LIDAR](#)

Great Chayran and Jaroslav Huynh

We.P2.04 [BousekVp1] [Multimodal In-Situ Diagnostics and Data Homogenization for Laser-Material Interaction](#)

Vilém Boušek, Ivan Tarant, Petr Hauschwitz, Jovana Babić, Martin Procházka, Jan Brajer, and Tomáš Mocek

We.P2.05 [FlimelovaMp1] [Ultrashort Pulsed Laser Texturing of Metals: Control of Surface Morphology for Potential Antibacterial Applications](#)

Miroslava Flimelová, Zuzana Fialková, Alice Čápková, Kryštof Kobliha, Martin Procházka, Petr Hauschwitz, Jan Brajer, and Tomáš Mocek

We.P2.06 [NovotnyJp1] [Coaxial spectral analysis for ultrafast laser micro processing monitoring](#)

Jan Novotny, Demir Ali Gokhan, and Libor Mrna

We.P2.07 [HudakIp1] [Towards Large-Radius Fiber Fabry–Pérot Cavities: Multishot Laser Ablation with In-Situ Interferometry](#)

Ivan Hudák

We.P2.08 [SvejkarovaBp1] [Challenges of Determination of Rare-Earth Concentration from Absorption Spectra of Active Silica-Based Optical Fibers](#)

Bára Švejkarová, Jan Aubrecht, Richard Švejkar, and Pavel Peterka

We.P2.09 [AnderJp1] [Spectroscopic Properties of Holmium-Doped Silica Fibers and Their Dependence on Temperature](#)

Josef Ander, Jan Aubrecht, Bára Švejkarová, Michal Kamrádek, and Pavel Peterka

We.P2.10 [SherniyozovAp1] [Multiphysics digital twin for the design and optimization of solar-pumped fiber lasers](#)

Anvarjon Sherniyozov, Dmitry Busko, Eduard Madirov, Kypros Milidonis, Antreas Theodosiou, Pavel Peterka, and Bryce S. Richards

We.P2.11 [SeyringerDp1] [Optimization of 4-Channel Polymer-Based AWG for Direct Laser Writing Lithography](#)

Dana Seyringer, Peter Gašo, Fadi Dohnal, and Dušan Pudiš

We.P2.12 [MochalovLr1] [Modification of chalcogenide films by laser irradiation](#)

Leonid Mochalov and Ekaterina Slapovskaya

We.P2.13 [BelousovAr1] [Behaviour of impurities during plasma-chemical purification of antimony](#)

A.S. Belousov, L.A. Mochalov, and E.A. Slapovskaya

We.P2.14 [MydlarMp1] [Optical Design for Fiber Bundle Coupling of a Nanosecond Rod Laser in a Flexible Laser Shock Peening System](#)

Martin Mydlář, Jan Šmaus, Jan Vanda, and Jan Kaufman

We.P2.15 [DvorakIp1] [Laser Helical Drilling](#)

Jan Dvořák, Petr Hauschwitz, Karolina Macúchová, Šárka Němcová, and Martin Procházka

***social event Wednesday:
18:30-22:00 Minorite friary of St. James, The Prague Academy Chamber Orchestra.
Catering dinner will be served in the monastery premises***

DAY 4 - Thursday July 16

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

Prague C, Thursday July 16

8.20 - 9.40 session Th.A3: Flex-ON 1, Chair: Georgios Ellinas

8.20 **Th.A3.1** [DuranRi1] [Secure Multipath Routing in Elastic Optical Networks: Modeling and Performance Analysis](#) (Invited 20 min)

Ramón J. Durán Barroso, Ignacio de Miguel, Noemí Merayo, Juan Carlos Aguado, Ariel Leiva, Miguel Silva, Marco A. Villa, Alfonso Bahillo, Patricia Fernández, Rubén M. Lorenzo, and Evaristo J. Abril

8.40 **Th.A3.2** [ComellasJi1] [Dimensioning Flex-Grid optical Nodes: Correlation with Network Topological Parameters](#) (Invited 20 min)

Jaume Comellas, Marc Ruiz, and Luis Velasco

9.00 **Th.A3.3** [GiorgettiAi1] [Enabling Routing and Spectrum Assignment with Parallel Links in the TeraFlow SDN Ecosystem](#) (Invited 20 min)

Asm Chafiullah Bhuiyan, Andrea Sgambelluri, Filippo Cugini, and Alessio Giorgetti

9.20 **Th.A3.4** [SamboNi1] [Optical SDN controller based on TeraFlowSDN architecture for next generation optical networks](#) (Invited 20 min)

N. Sambo, A. Sgambelluri, M. Radovic, M. Lawson, W. Akbar, L. Gifre, R. Vilalta, H. Zaid, C. Schmidt-Langhorst, N. Psaromanolakis, O. Gonzalez-de-Dios, C. Schubert, R. Freund, and R. Munoz

Prague D, Thursday July 16

8.20 - 9.20 session Th.A4: SDM 1, Chair: Weiqiang Sun

8.20 **Th.A4.1** [JainDi1] [Hollow-Core Fibers: Enabling the Next Leap in Optical Communications](#) (Invited 20 min)
Deepak Jain

8.40 **Th.A4.2** [LiangSi1] [SDM Fiber Components and Optical Amplifier Technologies](#) (Invited 20 min)
Sijing Liang, John D. Downie, Lidia Galdino, Periklis Petropoulos, and Yongmin Jung

9.00 **Th.A4.3** [DiSciulloGi1] [SRS in Deployed Coupled-Core Multi-Core Fibers: Characterization and Transmission](#) (Invited 20 min)

Giammarco Di Sciullo, Lucas A. Zischler, Menno van den Hout, Ruben S. Luís, Nicolas Braig-Christophersen, Robert Emmerich, Benjamin J. Puttnam, Georg Rademacher, Chiara Lasagni, Paolo Serena, Alberto Bononi, Tetsuya Hayashi, Takuji Nagashima, Colja Schubert, Chigo Okonkwo, Roland Ryf, Luca Palmieri, Mark Shtaif, Divya A. Shaji, Andrea Marotta, Antonio Mecozzi, Fabio Graziosi, Antonino Nespola, Hideaki Furukawa, and Cristian Antonelli

Vienna, Thursday July 16

8.20 - 10.00 session Th.A5: ICTON 3, Chair: Jonathan Aguiar

8.20 **Th.A5.1** [RezaeiKi1] [Human-Grounded Evaluation of Large Language Models for Optical Network Automation](#) (Invited 20 min)

Kiarash Rezaei, Omran Ayoub, Paolo Monti, and Carlos Natalino

8.40 **Th.A5.2** [GiacoumidisEi1] [Evaluation of Machine Learning Against Digital Backpropagation in DP-16QAM Transmission Systems](#) (Invited 20 min)

Elias Giacoumidis and André Richter

9.00 **Th.A5.3** [DabwanSi1] [Machine Learning for Simplified Future Passive Optical Networks](#) (Invited 20 min)

Safiya Dabwan and Stylianos Sygletos

9.20 **Th.A5.4** [GosminJPr1] [Quantifying the Computational Cost of Range Extension in ML-Based 400ZR Systems](#) (regular 15 min)

Gabriel Bozelli, João Pedro Gosmin, Ana Laura Graças, Artur Alfe, Marcelo L. F. Abbade, Jinlong Wei, Leandra Abreu, and Ivan Aldaya

9.35 **Th.A5.5** [MalikGr1] [A Hybrid XGBoost–CNN Framework for Robust SOP Anomaly Detection in Optical Networks](#) (regular 15 min)

Gulmina Malik, Muhammad Umar Masood, Ahtisham Ali, Mashboob Cheruvakkadu Mohamed, Stefano Straullu, Sai Kishore Bhyri, Gabriele Maria Galimberti, João Pedro, Antonio Napoli, Walid Wakim, and Vittorio Curri

9.50 **Th.A5.6** [AlHousseiniApd1] [Retrieval-Based Cross-Domain Generalization in Optical Networks via Global Features](#) (10 min, post-deadline)

Ali Al Housseini, Carlos Natalino, Tiziano Leidi, Paolo Monti, and Omran Ayoub

Cracow I, Thursday July 16

8.20 - 10.00 session Th.A6: Re-scheduled presentations 1, Chairs: Ivo Bartoň & Marian Marciniak

8.20 **Th.A6.1** [MaazaMi1] [Nanofluids by Pulsed Laser Ablation: From Maxwell concept to a novel generation of nanocoolants](#) (Invited 20 min)

Malik Maaza

8.40 **Th.A6.2** [MaazaMi2] [From 1st order MiT Mott-Peierls phase transition in single VO₂ nanocrystal to femtosecond optoelectronic nanogating](#) (Invited 20 min)

Malik Maaza

9.00 **Th.A6.3** [MaazaMi3] [Room temperature IR Anderson localization in Carbon Nanotubes](#) (Invited 20 min)

Malik Maaza

9.20 **Th.A6.4** [YadavRi1] [Receiver Complexity in SDM: Principal vs LP Modes in Circular and Elliptical Core Fibers](#) (20 min)

Rekha Yadav, Fabio Barbosa, Ming-Jun Li, and Filipe M. Ferreira

9.40 **Th.A6.5** [DobreOi1] [Nonlinearity Compensation in Elastic Optical Networks: Probabilistic Constellation Shaping with Learned Perturbation Approach](#) (Invited 20 min)

Waddah S. Saif, Sunish Kumar Orappanpara Soman, and Octavia A. Dobre

Cracow II, Thursday July 16

8.20 - 10.05 session Th.A7: ICTON 4, Chair: Paikun Zhu

8.20 **Th.A7.1** [EhrhardtAi1] [Laboratory investigation and characterisation of passive optical components for implementation in fibre optical networks](#) (Invited 20 min)

Armin Ehrhardt

8.40 **Th.A7.2** [NadimiGokiPi1] [M-QAM Digital Encryption in Intensity Modulated/Direct Detection systems](#) (Invited 20 min)

Pantea Nadimi Goki, Mahnoor Israr, Ramin Solaimani, Stella Civelli, Roberto Mercinelli, Maurizio Valvo, Annachiara Pagano, and Luca Poti

9.00 **Th.A7.3** [FabregaJi1] [Multi-Band S-BVT Architecture Featuring Electrical Subcarrier Multiplexing of Real-Time OFDM Subbands](#) (Invited 20 min)

J. M. Fabrega, J. Compte, F. J. Vélchez, L. Nadal, M. Svaluto Moreolo, M. Bueno, F. J. Gómez-Arribas, and S. López-Buedo

9.20 **Th.A7.4** [SarmientoSi1] [Coherent Receiver with Simple Front-End and Software-Defined Phase-and-Polarization Diversity](#) (Invited 20 min)

J. Tabares, S. Sarmiento, and S. Etcheverry

9.40 **Th.A7.5** [AbbadeMr1] [Performance and Security Assessment of Cartesian Spectral Encoding in Transparent Optical Networks](#) (regular 15 min)

Renan Araujo de Carvalho, Angelo Samonetto Neto, Victor Razze, Marcelo Pereira Nogueira, Ivan Aldaya, and Marcelo Luís Francisco Abbade

9.55 **Th.A7.6** [CompteJpd1] [Nonlinear Delta-Sigma Modulation for Efficient Radio Signal Digitization in Next-Generation Optical Fronthaul Networks](#) (10 min, post-deadline)

J. Compte, M. A. Lagunas, A. Pérez-Neira, J. M. Fàbrega, A. Larrañaga, S. Lagén, L. Nadal, F. J. Vélchez, M. Svaluto Moreolo, and R. Muñoz

Prague C, Thursday July 16

10.20 - 11.40 session Th.B3: Flex-ON 2, Chair: Nicola Sambo

10.20 **Th.B3.1** [EllinasGi1] [Margin-Adjusted Multi-Period Planning in Optical Networks based on Traffic Forecasts](#)

(Invited 20 min)

Giannis Savva, Tania Panayiotou, and Georgios Ellinas

10.40 **Th.B3.2** [ChatterjeeBCi1] [AnfragBP-MMPP: Analytical Modeling of Fragmentation and Blocking Probability in Counter-Propagating Spectrally-Spatially Elastic Optical Networks with Bursty Traffic](#) (Invited 20 min)

Roshan Kumar Rai, Imran Ahmed, Eiji Oki, and Bijoy Chand Chatterjee

11.00 **Th.B3.3** [ChatterjeeBCr1] [DQN-RMSA: Deep Q-Network-Based Fragmentation-Aware Routing, Modulation, and Spectrum Allocation in Elastic Optical Networks](#) (regular 15 min)

Vishnu Prakash, Priyanshu, Suresh Subramaniam, and Bijoy Chand Chatterjee

11.15 **Th.B3.4** [ParkerDelFierroAr1] [Managing Spectrum Fragmentation in Elastic Optical Networks: Fragmentation-Aware Provisioning and Defragmentation](#) (regular 15 min)

A. Parker-Del-Fierro, A. Leiva, N. Jara, and D. Bórquez-Paredes

11.30 **Th.B3.5** [RezaeeApd2] [Techno-Economic Comparison of Fixed Grid with OTN-Layer Grooming and Flexible Grid Architectures in Super C+L Band Elastic Optical Networks](#) (postdeadline 10 min)

Arash Rezaee, Farhad Arpanaei, Ryan McCann, José Alberto Hernández, and Vinod M. Vokkarane

Prague D, Thursday July 16

10.20 - 11.20 session Th.B4: SDM 2, Chair: Giammarco Di Sciuillo

10.20 **Th.B4.1** [RamachandranSi1] [Towards 100 modes and beyond, via topological confinement](#) (Invited 20 min)

Siddharth Ramachandran

10.40 **Th.B4.2** [AguiarJi1] [Neural Network Receiver for MDL-Impaired SDM](#) (Invited 20 min)

Jonathan A. Soares, Pedro H. S. Almeida, Stefan Tenenbaum, Evandro Conforti, Christian E. Rothenberg, Dalton S. Arantes, and Darli A. A. Mello

11.00 **Th.B4.3** [Roudasli1] [Geometric Shaping of Multichip DPSK for FSO](#) (Invited 20 min)

Ioannis Roudas, Eric Fink, Theodoros A. Tsiftsis, Jaroslaw Kwapisz, and Aishik Biswas

Cracow I, Thursday July 16

10.20 - 12.05 session Th.B6: Re-scheduled presentations 2, Chairs: Ivo Bartoň & Marian Marciniak

10.20 **Th.B6.1** [AghajaniAi1] [Thermal Influence on Quantum Energy Levels in Nanoscale Light Emitting Transistor](#) (Invited 20 min)

Ashkan Aghajani and Avi Karsenty

10.40 **Th.B6.2** [KarsentyAr1] [Doping Impact on Nanoscale Silicon-On-Insulator Photo-Activated Switch \(SOIPAS\) Response](#) (regular 15 min)

Jonathan Raphael Behar and Avi Karsenty

10.55 **Th.B6.3** [IsmailTi2] [AI-Driven Wearable Device for Real-Time Fall Detection of Elderly Pilgrims During Hajj Using Vital Signs and CNN-LSTM Networks](#) (Invited 20 min)

Ala H. Sabeeh and Tawfik Ismail

11.15 **Th.B6.4** [IsmailTi1] [Laser Transmittance Spectroscopy and Machine Learning for Automated Water Type Classification Using Multi-Wavelength Spectral Signatures](#) (Invited 20 min)

Fatma N. Heikal, Omnia Hamdy, Amna H. Faid, and Tawfik Ismail

11.35 **Th.B6.5** [IsmailTr1] [Integrating Laser-Induced Transmittance and Machine Learning for Regional Drinking Water Identification in Egypt](#) (regular 15 min)

Fatma N. Heikal, Omnia Hamdy, Amna H. Faid, and Tawfik Ismail

11.50 **Th.B6.6** [MendesRr1] [Revisiting the Solving Order of the RMCSA Problem in Multicore Elastic Optical Networks](#) (regular 15 min)

Rayline P. Mendes, Alexandre C. Fontinele, Jurandir C. Lacerda Jr., and André C. B. Soares

Cracow II, Thursday July 16

10.20 - 12.00 session Th.B7: ICTON 5, Chair: Armin Ehrhardt

10.20 **Th.B7.1** [CigliolaAr1] [Broadband Polarization Control in a 10-km Fiber Link via Stokes-Space Calibrated Drift Tracking](#) (regular 15 min)

Alessandro Cigliola, Jacopo Nanni, and Giovanni Tartarini

10.35 **Th.B7.2** [MaZr1] [Towards Optical-Domain Equalization for Polarization-Multiplexed Coherent Optical Systems](#) (regular 15 min)

Ziyan Ma, Kai Habel, Christoph Kottke, Ronald Freund, and Volker Jungnickel

10.50 **Th.B7.3** [BanerjeeAr1] [Migration Overhead Minimization for Fault-Tolerant Fractional Switch Migration in Software-Defined Networks](#) (regular 15 min)

Upendra Prajapati, Sakshi Pandey, Bijoy Chand Chatterjee, and Amit Banerjee

11.05 **Th.B7.4** [KokkinosPr1] [Emulation Platform for SDN-Controlled P2MP Optical Networks](#) (regular 15 min)

A. Kretsis, P. Soumplis, P. Kokkinos, K. Yiannopoulos, and E. Varvarigos

11.20 **Th.B7.5** [ErsozBr1] [DBSCAN Controlled Target Classification Using Self Mixing with a Semiconductor Laser](#) (regular 15 min)

Başak Ersöz, Priyanka Chaudhary, Paolo Bardella, Maurizio Dabbicco, Lorenzo Columbo, and Massimo Brambilla

11.35 **Th.B7.6** [SchipsRr1] [Enabling Per-Subcarrier Telemetry in DSCM-Based Transceivers within Disaggregated SDN Architectures](#) (regular 15 min)

Riccardo Schips, Renato Ambrosone, Stefano Straullu, Antonino Nespola, Antonio Napoli, and Vittorio Curri

11.50 **Th.B7.7** [SilverioTpd1] [Analytical Model for the Combined Effects of Filtering, CD and Fiber Non-Linearities in Single-Carrier Coherent Transmission](#) (10 min, post-deadline)

Giuseppe Parisi, Pablo Torres-Ferrera, Tiago Silvério, Mohammad Hosseini, Miquel Masanas, and Antonio Napoli

12:20 Closing Ceremony & Announcement of ICTON 2027