

# **ONDM 2025 Technical Program**

Luca Valcarenghi, *General Chair*  
Carmen Mas-Machuca, *TPC Co-chair*  
Raul Muñoz, *TPC Co-chair*  
Andrea Sgambelluri, *TPC Co-chair*

Time	Tue - May 06 Single Track	Wed - May 07 Single Track	Thu - May-08		Fri - May-09 Single Track
	Registration	Registration	Track 1	Track 2	Registration
8:00	Registration	Registration	Registration	Registration	Registration
8:15					
8:30	Opening	Opening			Opening
8:45	<b><u>Keynote 1</u></b> <b><u>Andrea Fumagalli</u></b>	<b><u>Keynote 2</u></b> <b><u>Alessandro Pane</u></b>			<b><u>Keynote 3</u></b> <b><u>Ken-ichi Kitayama</u></b>
9:00			<b><u>Workshop 1: AI</u></b> <b><u>for Network</u></b>	<b><u>Workshop 4: The</u></b> <b><u>new role of optical</u></b>	
9:15			<b><u>Security: Boon or</u></b> <b><u>a bane?</u></b>	<b><u>switching in the AI</u></b> <b><u>era</u></b>	
9:30	<b><u>Platinum Sponsor Talk</u></b>	<b><u>Invited 3</u></b> <b><u>Mëmëdhe Ibrahim</u></b>			<b><u>Invited 7</u></b> <b><u>Bruno Correia</u></b>
9:45					
10:00	<b><u>Technical Session 1</u></b> <b><u>FSO and Coherent</u></b>	<b><u>Technical Session 5</u></b> <b><u>Transmission</u></b>			<b><u>Technical Session 10</u></b> <b><u>Multi-Band</u></b>
10:15					
10:30	<b><u>Transmission</u></b>		Coffee Break	Coffee Break	
10:45					
11:00	Coffee Break	Coffee Break			Coffee Break
11:15					
11:30	<b><u>Invited 1</u></b> <b><u>Joana Girard-Jollet</u></b>	<b><u>Invited 4</u></b> <b><u>Achim Autenrieth</u></b>	<b><u>Workshop 2:</u></b> <b><u>Securing the</u></b>	<b><u>Workshop 5: Next</u></b> <b><u>generation devices</u></b>	<b><u>Tutorial 3</u></b> <b><u>Emilio Riccardi</u></b>
11:45			<b><u>Light: Challenges</u></b> <b><u>and Innovations</u></b>	<b><u>and systems for</u></b> <b><u>optical networks</u></b>	
12:00	<b><u>Technical Session 2</u></b> <b><u>Security and</u></b>	<b><u>Technical Session 6</u></b> <b><u>ML Use-Cases</u></b>	<b><u>in Optical Fiber</u></b> <b><u>Security</u></b>		<b><u>Technical Session 11</u></b> <b><u>Automation</u></b>
12:15					
12:30	<b><u>Resilience</u></b>				
12:45					
13:00					
13:15	Lunch	Lunch	Lunch (Steering Committee)	Lunch	Closing Remarks
13:30					
13:45					
14:00	<b><u>Tutorial 1</u></b> <b><u>Anna Tzanakaki</u></b>	<b><u>Tutorial 2</u></b> <b><u>Debottym</u></b> <b><u>Mukherjee</u></b>	<b><u>Invited 6</u></b> <b><u>Abraham Cano Aguilera</u></b>		
14:15					
14:30			<b><u>Technical Session 9</u></b> <b><u>QKD</u></b>	<b><u>Workshop 7:</u></b> <b><u>Connectivity spectrum,</u></b> <b><u>women driving research</u></b> <b><u>and innovation in</u></b> <b><u>optical networks</u></b>	
14:45	<b><u>Technical session 3</u></b> <b><u>Access</u></b>	<b><u>Technical Session 7</u></b> <b><u>Pluggables</u></b>			
15:00					
15:15					
15:30					
15:45			Coffee Break/Poster		
15:50					
16:00	Coffee Break	Coffee Break			
16:15		SSSA Greatings			
16:30	<b><u>Invited 2</u></b> <b><u>Zuqing Zhu</u></b>	<b><u>Invited 5</u></b> <b><u>Laia Nadal</u></b>			
16:45					
17:00			<b><u>Workshop 3:</u></b> <b><u>Optical</u></b>	<b><u>Workshop 6:</u></b> <b><u>European research</u></b>	
17:15	<b><u>Technical Session 4</u></b> <b><u>Federated ML</u></b>	<b><u>Technical Session 8</u></b> <b><u>New Architectures</u></b>	<b><u>communications</u></b> <b><u>and sensing</u></b>	<b><u>directions on</u></b> <b><u>programmable</u></b>	
17:30			<b><u>roadmap</u></b>	<b><u>optical networks</u></b>	
17:45					
18:00					
18:15					

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## Day 1 - Tuesday May 6 – Aula Magna

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### 08:45 - 09:30 - Keynote 1: Andrea Fumagalli, UT Dallas USA

Chair: Luca Valcarenghi

*“A Multi-Functional Robotic Automation Platform for Multi-Vendor Optical Transport Network: Accelerating Troubleshooting, Validation, and Proof of Concept Efforts”*

### 09:30 – 10:00 – Platinum Sponsor Talk - Yi Lin, Huawei

Chair: Luca Valcarenghi

*“Optical networks in the AI era towards 2030: vision, standards and technology”*

### 10:00 – 11:00 - Technical Session 1: FSO and Coherent Transmission

Chair: Giulio Cossu

- 1.1 10:00 - Carla Cantore; Giulio Cossu; Sujit Basu; Luca Oliviero; Andrea Sgambelluri; Nicola Sambo; Antonella D'Orazio; Ernesto Ciaramella, *“Experimental Evaluation of Commercial OTN Transceivers Under Emulated Weak Turbulence”*
- 1.2 10:15 - Lisa Bouby; Gilles Chabriel; Jean Barrere; Sadok Ben Dkhil; Hassan Alkhatib; Marie Parmentier; Jean Jacques Simon, *“A New Visible Light Communication Receiver Combining Two Organic Photovoltaic Cells”*
- 1.3 10:30 - Giuseppe Parisi; Pablo Torres-Ferrera; Giuseppe Rizzelli; Roberto Gaudino; Antonio Napoli, *“Analytical Model for Filtering Impact Estimation of Coherent Systems with Finite-Length Equalizer”*
- 1.4 10:45 - Xin Zhang; Wei Wang; Kexin Gao; Yajie Li; Yongli Zhao; Jie Zhang, *“Dedicated Protection Based on Spatial-Temporal SRLG in Optical Satellite Networks”*

### 11:30 – 12:00 - Invited 1: Joana Girard-Jollet, Nokia Bell Labs, France

Chair: Filippo Cugini

*“Innovative Sensing Technologies for Secure and Optimized Optical Networks”*

## **12:00 – 13:00 - Technical Session 2: Security and Resilience**

*Chair: Paolo Monti*

- 2.1** 12:00 - Ido Attia; Gil Alin; Hamutal Shalom; Ohad Balasiano; Anna Chiadò Piat; Roberto Mercinelli; Emilio Riccardi; Maurizio Valvo; Eyal Wohlgemuth; Annachiara Pagano; Dan Sadot, “*Photonic Layer Security Transmission of 100 Gbit/Sec over 200 km of Populated Legacy WDM Network*”
- 2.2** 12:15 - Vaigai Nayaki Yokar; Ali Mehrpooya; Yiran Teng; Sen Shen; Zhaozhou Wu; Klodian Bardhi; Shuangyi Yan; Dimitra Simeonidou, “*Fast Link Recovery via PTP-Synchronized Nanosecond Optical Switching*”
- 2.3** 12:30 - Abdennour Ben Terki; Ahmed Triki; Mathieu Herviou; Maxime Laye; Bertrand Le Guyader; Sebastien Buis; Nicola Sambo, “*Smart Optical Fingerprint Analysis for Soft Failure Diagnosis in Transport Network*”
- 2.4** 12:45 - Seyed Morteza Ahmadian; Chao Lei; Paolo Monti; Rui Lin, “*Experimental Characterization of Optical Switching Impairments in Hybrid Quantum-Classical Networks*”

## **14:00 – 14:45 - Tutorial 1: Anna Tzanakaki, National and Kapodistrian University of Athens, Greece**

*Chair: Lena Wosinska*

“*Optical Networking in Support of 5G and 6G Infrastructures*”

## **14:45 – 15:45 - Technical session 3: Access**

*Chair: Lena Wosinska*

- 3.1** 14:45 - Andrea Rosso; Enrico Miotto; Emanuele Virgillito; Stefano Straullu; Francesco Aquilino; Andrea Castoldi; Raffaele Corsini; Vittorio Curri, “*Encompassing Filtering Effects in Transceiver Models for Converged Metro-Access Networks*”
- 3.2** 15:00 - Abhishek Bhattacharyya; Linqi Xiao; Aparajitha Gomathinayakam Latha; Nathan Ellsworth; Muhammad Ridwanur Rahim; Gudepu Venkateswarlu; Andrea Fumagalli; Koteswararao Kondepu, “*Multi-Vendor OpenROADM Testbed Supporting the Live-Migration of a 5G gNB-CU-UP Container*”

- 3.3** 15:15 - Ritanshi Agarwal; Cristian Bermudez Bermudez Serna; Carmen Mas-Machuca, *“Exploring Energy-Efficient PON Architectures for Rural Scenarios”*
- 3.4** 15:30 - Alberto Otero Casado; Pablo Torres Ferrera; Christos Christofidis; Giuseppe Parisi; Dan Marom; Ioannis Tomkos; Paolo Monti; Antonio Napoli, *“Impact of Subcarrier-Routing Devices on the Performance of DSCM Coherent Systems Evaluated with Analytical Models”*

**16:30 – 17:00 - Invited 2: Zuqing Zhu, University of Science and Technology of China, China**

*Chair: Memedhe Ibrahimi*

*“Accelerating DML Training in OCS-Based DCNs”*

**17:00 – 18:00 - Technical Session 4: Federated ML**

*Chair: Memedhe Ibrahimi*

- 4.1** 17:00 - Forough Shirin Abkenar; Ramanuja Kalkunte; Venkata Virajit Garbhapu; Sifat Ferdousi; Yusuke Hirota; Sugang Xu; Masaki Shiraiwa; Aryanaz Attarpour; Massimo Tornatore; Yoshinari Awaji; Biswanath Mukherjee, *“Federated Privacy-Preserving Strategy for Generalizing Soft-Failure Localization in Multi-Carrier Optical Networks”*
- 4.2** 17:15 - Shuang Xie; Rishu Raj; Dmitrii Briantcev; Zehao Wang; Tingjun Chen; Daniel Kilper, *“WDM System Stimulated Raman Scattering Spectrum and Tilt Prediction Using CNN-Based Transfer Learning”*
- 4.3** 17:30 - Venkata Virajit Garbhapu; Gabriel Charlet; Yvan Pointurier, *“Optical Networks for Distributed AI Training: Flow Completion Time and Training Time Analysis”*
- 4.4** 17:45 - Andrei Nogueira Ribeiro; Fabrício Lobato; Moisés Felipe Silva; Carlos Natalino; Lena Wosinska; Luca Valcarenghi; Andrea Sgambelluri; Joao Weyl Costa, *“A Decentralized Federated Learning-Based Approach for Fault Detection in Optical Networks”*

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## Day 2 - Wednesday May 7 – Aula Magna

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### 08:45 - 09:30 - Keynote 2: Alessandro Pane, Ericsson, Italy

Chair: Andrea Sgambelluri

*“Network Evolution Towards 6G”*

### 09:30 - 10:00 - Invited 3: Mëmëdhe Ibrahimi, Politecnico di Milano, Italy

Chair: José Alberto Hernández

*“On the benefits of Hollow-Core Fiber in Next-Generation Optical Networks”*

### 10:00 – 11:00 - Technical Session 5: Transmission

Chair: José Alberto Hernández

- 5.1 10:00 - Bárbara P Dumas Feris; Jana Ramadan; Thierry Rampone; Pascal Morel; Ammar Sharaiha, *“Noise-Figure Assessment of an All-Optical- Switching Structure Based on an SOA-MZI Coupled with an Auxiliary SOA”*
- 5.2 10:15 - Malek Bekri; Ronald Romero Reyes, *“Proactive Reconfiguration of Optical Transport Networks with Minimum Service Disruption Time”*
- 5.3 10:30 - Bruno Correia; Joao Pedro, *“Potential of Hollow-Core Fibers to Reduce Number of in-Line Amplifiers in Optical Transport Networks”*
- 5.4 10:45 - Hasan Awad; Rudi Bratovich; Stefano Straullu; Fehmida Usmani; Emanuele Virgillito; Francesco Aquilino; Roberto Proietti; Francesco Carpentieri; Hovsepyan Marianna; Stefano Gastaldello; Vittorio Curri, *“Experimental Validation on Using Optical Network-as-a-Sensor for Earthquake Early Warning”*

### 11:30 - 12:00 - Invited 4: Achim Autenrieth, Adtran, Germany

Chair: Raul Muñoz

*“Towards sustainable and resilient 6G optical networks: Addressing the challenges of a Digital Society”*

## **12:00 – 13:00 - Technical Session 6: ML Use-cases**

*Chair: Cristoph Lipps*

- 6.1** 12:00 - Mashboob Cheruvakkadu Mohamed; Muhammad Umar Masood; Imran Chowdhury Dipto; Renato Ambrosone; Gulmina Malik; Stefano Straullu; Sai Kishore Bhyri; Gabriele Maria Galimberti; Joao Pedro; Antonio Napoli; Walid Wakim; Vittorio Curri, “*Network Data Based Transfer Learning Failure Prediction Agent Pre-Trained Using Digital Twin*”
- 6.2** 12:15 - Yihao Zhang; Qizhi Qiu; Xiaomin Liu; Jiaping Wu; Lilin Yi; Weisheng Hu; Qunbi Zhuge, “*SAMA-IR: Comprehensive Input Refinement Methodology for Optical Networks with Field-Trial Validation*”
- 6.3** 12:30 - Alejandro Leonardo García Navarro; Nataliia Koneva; Alfonso Sánchez-Macián; José Alberto Hernández; Oscar González de Dios, “*CTGANs for Generating Synthetic Traffic Matrices in Wide Area Networks*”
- 6.4** 12:45 - Michael D Doherty; Alejandra Beghelli, “*Reinforcement Learning with Graph Attention for Routing and Wavelength Assignment with Lightpath Reuse*”

## **14:00 – 14:45 - Tutorial 2: Debottym Mukherjee, META, USA**

*Chair: Achim Autenrieth*

“*Strategies for Implementing ZR Technology in Meta's Backbone Network*”

## **14:45 – 15:45 - Technical Session 7: Pluggables**

*Chair: Achim Autenrieth*

- 7.1** 14:45 - Mariano Devigili; Emilio Riccardi; Antonino Nespola; Roberto Morro; Stefano Straullu; Rocco D'Ingillo; Vittorio Curri; Luis Velasco; Fabrizio Granelli, “*ML-Based Modeling of EDFA Pluggable Modules for OSNR Estimation*”
- 7.2** 15:00 - Carlos Castro; Joao Pedro; Marco Quagliotti; Emilio Riccardi; André Souza; Mohammad Hosseini; Mario Porrega; Chris Fludger; Antonio Napoli, “*Transceiver Count Reduction in Filterless Metro-Aggregation Networks Using DSCM*”
- 7.3** 15:15 - Andrea Sgambelluri; José Alberto Hernández; Oscar González de Dios; Juan Pedro Fernández-Palacios; Piero Castoldi; Filippo Cugini, “*Decentralized Optical Line Controller (OLC) for ROADM-Free IPoWDM Networks*”

**7.4** 15:30 - Safana Al zoubi; Sandra Arnaout; Md Arifur Rahman; Roberto Gaudino, “*Optimization Model for Dynamic Resource Allocation in DSCM Coherent PON*”

**16:30 – 17:00 - Invited 5: Laia Nadal, Centre Tecnologic de Telecomunicacions de Catalunya, Spain**

*Chair: Carmen Mas-Machuca*

“*Addressing Capacity Scaling and Programmability in Future Optical Networks*”

**17:00 – 18:00 - Technical Session 8: New architectures**

*Chair: Carmen Mas-Machuca*

**8.1** 17:00 - Aryanaz Attarpour; Memedhe Ibrahim; Francesco Musumeci; Andrea Castoldi; Giacomo Galbiati; Qiaolun Zhang; Massimo Tornatore, “*Minimum-Cost Traffic Grooming in Metro Optical Networks with Co-Existing Muxponders and OTN Grooming Boards*”

**8.2** 17:15 - Arantxa Villavicencio Paz; Ronald Romero Reyes; Thomas Bauschert; Jörg-Peter Elbers; Achim Autenrieth, “*Disaggregated OTN-over-WDM vs. Private Line Emulation Based IP-over-WDM Core Networks: a Techno-Economic Comparison*”

**8.3** 17:30 - Saki Sakurai; Katsuaki Higashimori; Takuya Ohara, “*Cost-Efficient SDM/BDM Network Planning Based on Hierarchical Optical Cross-Connects*”

**8.4** 17:45 - Aryanaz Attarpour; Ehsan Etezadi; Memedhe Ibrahim; Francesco Musumeci; Andrea Castoldi; Marija Furdek; Massimo Tornatore, “*On the Benefits of Programmable FON for Low-Cost OTN-over-WDM Metro Networks*”



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## Day 3 - Thursday May 8

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### **08:30 – 10:30 – Track 1 - Workshop 1: AI for Network Security: Boon or a bane? (Palazzo Boyd, Aula "Talento all'opera")**

Organizers: **Helmut Grießer** (Adva Network Security), **Rasheed Hussain** (University of Bristol), **Christoph Lipps** (German Research Center for Artificial Intelligence)

### **08:30 – 10:30 - Track 2 - Workshop 4: The new role of optical switching in the AI era (Aula 3)**

Organizers: **Yvan Pointurier** (Huawei), **Raul Muñoz** (Centre Tecnològic de Telecomunicacions de Catalunya)

### **11:00 – 13:00 - Track 1 - Workshop 2: Securing the Light: Challenges and Innovations in Optical Fiber Security (Palazzo Boyd, Aula "Talento all'opera")**

Organizers: **Stella Civelli** (Consiglio Nazionale delle Ricerche), **Chigo Okonkwo** (Eindhoven University Of Technology)

### **11:00 – 13:00 - Track 2 - Workshop 5: Next generation devices and systems for optical networks (Aula 3)**

Organizers: **Piero Castoldi** (Scuola Superiore Sant'Anna), **Tolga Tekin** (Fraunhofer Institute for Reliability and Microintegration)

### **14:00 – 14:30 - Invited 6: Abraham Cano Aguilera, NVIDIA, Denmark (Aula Magna)**

*Chair: David Larrabeiti*

*“ARM architecture optimizations for line-rate PQC communications”*

### **14:30 – 15:30 - Track 1 - Technical Session 9: QKD (Aula Magna)**

*Chair: David Larrabeiti*

**9.1** 14:30 - Peter Horoschenkoff; Jasper Rödiger; Sascha Kegreiß, “*OptiNode: a ML Algorithm for Optimal Trusted Node Positioning in QKD Networks*”

- 9.2** 14:45 - Masab Iqbal; Michela Svaluto Moreolo; Raul Muñoz; Laia Nadal Machine, *“Learning-Driven Attack and Fault Classification in CV-QKD Systems After Anomaly Detection”*
- 9.3** 15:00 - Vasileios Karavias; Emilio Hugues-Salas; Alejandra Beghelli; Andrew Lord; Mike Payne, *“Comparative Cost Analysis of Prepare and Measure and Entanglement-Based QKD Networks”*
- 9.4** 15:15 - Antonios Selentis-Boulntadakis; Konstantinos Christodoulopoulos; George Kanellos, *“Relayed vs. Switched QKD: a Comparison in Non- Uniform Ring Networks”*

**14:30 – 15:30 - Track 2 - Workshop 7: Connectivity spectrum, women driving research and innovation in optical networks (Aula 3)**

Organizers: **Anjali Sharma, Carmen Mas Machuca** (UniBW, Germany)

**15:30 – 16:30 – Poster Session**

*Chair: Alberto Gatto*

- P1** Mengru Cai; Xiaodong Liu; Shan Yin; Yian Li; Xueyu Fan; Shuyao Wang; Shanguo Huang, *“Joint Computing and Optical Network Resource Allocation Strategy for Pipeline Parallel Distributed Training”*
- P2** Ihtesham Khan; Mijail Szczerban; Thierry Zami; Sarvesh Bidkar; Colin Kelly; David Neilson; Roland Ryf; Jesse E Simsarian, *“Networking Analysis of Fiber Cross-Connect and Stacked-WDM Architectures in Bandwidth Abundant Optical Networks”*
- P3** Nataliia Koneva; Alfonso Sánchez-Macián; José Alberto Hernández; Farhad Arpanaei; Oscar González de Dios, *“On Finding Empirical Upper Bound Models for Latency Guarantees in Packet-Optical Networks”*
- P4** Egemen Erbayat; Gustavo Bittencourt Figueiredo; Shih-Chun Lin; Motoharu Matsuura; Hiroshi Hasegawa; Suresh Subramaniam, *“Multi-DU Fronthaul Design Leveraging Power over Fiber”*
- P5** Tianxiang Li; Shrinivas Petale; Gustavo Bittencourt Figueiredo; Suresh Subramaniam, *“3MRA: Multi-Criteria Resource Assignment in Multiband Elastic Optical Networks”*
- P6** Sadegh Ghasrizadeh Dezfouli; Nelson Costa; Marc Ruiz; Antonio Napoli; Joao Pedro; Luis Velasco, *“Creating and Tuning Multiband Optical Transmission Digital Twin Lightpath Models”*

- P7** Mohammad Hosseini; Giuseppe Parisi; Joao Pedro; Pablo Torres-Ferrera; Antonio Napoli, *“Nonlinear-Aware Design of Filterless Horseshoe-and-Spur Optical Networks”*
- P8** Marc Lawson; Bashar Ali; Nicola Sambo; Andrea Sgambelluri; Mumtaz Ali; Michela Svaluto Moreolo; Ramon Casellas; Alejandro Santome; Alessio Giorgetti, *“On the SDN Control on the SDN Control of Photonic Chips: Implementation on OpenROADM with Filtering for SBVT”*
- P9** Daniel C Lawo; Rana Abu Bakar; Abraham Cano Aguilera; Filippo Cugini; Jose Luis Imaña; Idelfonso Tafur Monroy; Juan José Vegas Olmos, *“Future Data Centers: Hardware-Offloaded Post-Quantum Secure Optical IPsec Tunnel for Confidential AI Training”*
- P10** Gulmina Malik; Muhammad Umar Masood; Imran Chowdhury Dipto; Mashboob Cheruvakkadu Mohamed; Stefano Straullu; Sai Kishore Bhyri; Gabriele Maria Galimberti; Joao Pedro; Antonio Napoli; Walid Wakim; Vittorio Curri SOP-Based, *“Anomaly Detection Leveraging Machine Learning for Proactive Optical Restoration”*
- P11** Tianhe Liu; Wei Wang; Yongli Zhao; Yajie Li; Fan Ouyang; Jie Zhang, *“Proactive Service Restoration Under Continuous Security Attacks in Optical Networks”*
- P12** Andrea Marotta; Carlo Centofanti; Fabio Graziosi; Marco Quagliotti; Mauro Agus, *“Coherent Point-to-Multipoint as a Viable Techno-Economic Solution for Mobile Network Fronthaul”*
- P13** Nataliia Koneva; Farhad Arpanaei; Alfonso Sánchez-Macián; José Alberto Hernández; Oscar González de Dios, *“The Role of Coherent Pluggable Operating at 400 Gb/s and Above: Towards Deterministic Latency”*
- P14** Tiago D. Amorim; Vinicius Nunes Henrique Silva; Roberto B. Di Renna, *“Influence of LOS and NLOS Components in an Indoor VLC-RSMA System”*
- P15** David Georgantas; Zhaoyang Liu; Georgios Drainakis; Bitao Pan; Adonis Bogris; Peristera A. Baziana, *“An All-Optical Metro Network Architecture and QoS-Aware Wavelength Allocation Study for Converged Fixed, Mobile, and Edge Computing Multi-Granular Traffic”*
- P16** Polyzois Soumplis; Konstantinos Christodoulopoulos; Panagiotis Kokkinos; Antonio Napoli; Mohammad Hosseini; Konstantinos Yiannopoulos; Emmanouel Varvarigos, *“Performance Evaluation of a Light-Tree Point-to-Multipoint Metro-Core Architecture in Correlated Traffic Scenarios”*
- P17** Zahra Sharifi Soltani; Arash Rezaee; Orlando Arias; Vinod M Vokkarane , *“QoS-Aware Service Restoration in 5G Optical Transport Networks”*

**P18** Juan Carlos Hernandez-Hernandez; David Larrabeiti; Maria Calderon; Ignacio Soto,  
“Off-Line Allocation and Scheduling in Switched Trusted-Relay QKD Networks”

**16:30 – 18:30 - Track 1 - Workshop 3: Optical communications and sensing roadmap  
(Aula Magna)**

Organizers: **Aleksandra Kaszubowska-Anandarajah** (Trinity College Dublin),  
**Steiner Bjørnstad** (Tampnet)

**16:30 – 18:30 - Track 2 - Workshop 6: European research directions on programmable  
optical networks (Aula 3)**

Organizers: **Alessio Giorgetti** (University of Pisa), **Giada Landi** (Nextworks)

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**Day 4 - Friday May 9 – Aula Magna**

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**08:45 - 09:30 - Keynote 3: Ken-ichi Kitayama, NICT Japan**

*Chair: Piero Castoldi*

*“AI × Photonics – Photonic Accelerator and its Minimal Design toward Photonic  
Chipselets”*

**09:30 – 10:00 - Invited 7: Bruno Correia, Nokia, Portugal**

*Chair: Nicolas Jara*

*“Prospects of Multiband Systems and Hollow Core Fiber for High-Capacity Transport  
Networks”*

**10:00 – 11:00 - Technical Session 10: Multi-Band**

*Chair: Nicolas Jara*

**10.1** 10:00 - Ruoxuan Gao; Ramanuja Kalkunte; Forough Shirin Abkenar; Sifat Ferdousi;  
Memedhe Ibrahim; Massimo Tornatore; Biswanath Mukherjee, “Seamless Upgrade  
from C+L to C+L+S Bands in Optical Networks with Interim Lightpath Re-Allocation”

- 10.2** 10:15 - Charalampos G Papapavlou; Konstantinos T Paximadis; D. Marom; Ioannis Tomkos, *“Exploring Performance Metrics and Scalability Challenges in a Three-Tiered Multi-Granular 10 Pb/s SDM/UWB Optical Node”*
- 10.3** 10:30 - Nicolás Jara; Jorge Alberto Bermúdez Cedeño; Patricia Morales; Hermann Pempelfort; Ricardo Olivares; Ariel Leiva, *“Multiband, Elastic Optical Networks: Comprehensive Insights into Band Resource Management”*
- 10.4** 10:45 - Arash Rezaee; Farhad Arpanaei; Ryan J McCann; Hami Rabbani; José Alberto Hernández; Maite Brandt-Pearce; Vinod M Vokkarane, *“Channel-Based ICXT- and NLI-Aware Service Provisioning for Multi-Band over SDM Systems”*

**11:30 – 12:15 - Tutorial 3: Emilio Riccardi, Fibercop, Italy**

Chair: Zuqing Zhu

*“Disaggregation in Transport Network: opportunities and challenges”*

**12:15 – 13:15 - Technical session 11: Automation**

Chair: Zuqing Zhu

- 11.1** 12:15 - Anjali Sharma; Christofer Vasquez; Carmen Mas-Machuca, *“Routing, Band, Modulation and Spectrum Assignment with Dedicated Protection in Multiband- Elastic Optical Networks”*
- 11.2** 12:30 - Renato Ambrosone; Ramon Casellas; Riccardo Schips; Alessio Giorgetti; Stefano Straullu; Francesco Aquilino; Antonino Nespola; Roberto Morro; Vittorio Curri, *“Dynamic Service Provisioning and Control Relying on Time-Varying Telemetry-Driven QoT Digital-Twin”*
- 11.3** 12:45 - Akanksha Ahuja; Sam Nallaperuma; Albert Rafel; Paul Wright; Andrew Lord; Seb J Savory, *“Topology Architect: Graph Generative Intelligence for Scalable Optical Network Topology Design”*
- 11.4** 13:00 - Nikhil Dsilva; Vignesh Karunakaran; Achim Autenrieth; Jörg-Peter Elbers; Thomas Bauschert, *“Network Automation Using NetDevOps in Optical Networks”*