2020 International Conference on Optical Network Design and Modeling (ONDM 2020)

Castelldefels, Barcelona, Spain 18 – 21 May 2020



IEEE Catalog Number: CFP2055D-POD ISBN:

978-1-7281-5038-3

Copyright © 2020, International Federation for Information Processing (IFIP) All Rights Reserved

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP2055D-POD

 ISBN (Print-On-Demand):
 978-1-7281-5038-3

 ISBN (Online):
 978-3-903176-21-8

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400

Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



Monday, May 18 9:00 - 11:00 (Europe/Madrid)

WS1: The role of computing in the post 5G-era: Architectures and enabling technologies

Chairs: Nicola Calabretta (COBRA Research Institute, The Netherlands), Raul Muñoz (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Spain), Salvatore Spadaro (Universitat Politecnica de Catalunya (UPC), Spain)

WS3: 5G: new industrial revolution or only higher bandwidth?

Chairs: Andrea Di Giglio (Telecom Italia, Italy), Marija Furdek (Chalmers University of Technology, Sweden)

Monday, May 18 11:15 - 13:15 (Europe/Madrid)

WS2: Disaggregated Optical Networks: hype, huge potential or somewhere in the middle?

Chairs: Filippo Cugini (CNIT, Italy), Josep M. Fabrega (Centre Tecnologic de Telecomunicacions de Catalunya, Spain)

WS4: Photonic technologies and programmability for scalable efficient optical networks: actual enablers or next challenges towards supporting future connectivity?

Chairs: Juan P. Fernández-Palacios (Telefónica I+D, Spain), Michela Svaluto Moreolo (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain)

Monday, May 18 14:15 - 16:15 (Europe/Madrid)

S1: Security & Resilience in Optical Networks

Chair: Marija Furdek (Chalmers University of Technology, Sweden)

14:15 Enabling Quantum Key Distribution Networks via Software-Defined Networking...1

Alejandro Aguado Martin (Universidad Politécnica de Madrid, Spain); Victor Lopez (Telefonica, Spain); Juan Brito (Center Computational Simulation - Universidad Politecnica de Madrid, Spain); Antonio Pastor and Diego Lopez (Telefonica I+D, Spain); Vicente Martin (Universidad Politecnica de Madrid, Spain)

Invited

15:15 Embedding Jamming Attacks into Physical Layer Models in Optical Networks...6

Mounir Bensalem (TU Braunschweig, Germany); Ítalo Brasileiro (Federal University of Piaui, Brazil); André C Drummond (University of Brasilia, Brazil); Admela Jukan (Technische Universität Carolo-Wilhelmina zu Braunschweig, Germany)

15:35 Survivable Virtual Network Mapping in Filterless Optical Networks...12

Omran Ayoub, Andrea Bovio and Francesco Musumeci (Politecnico di Milano, Italy); Massimo Tornatore (Politecnico di Milano & University of California, Davis, Italy)

15:55 Deferred Protection of Deadline-Driven Requests in Inter-Datacenter Elastic Optical Networks...18

André Horota and Rodrigo Alencar da Costa (Federal University of Bahia, Brazil); Sabidur Rahman (University of California, Davis, USA); Omran Ayoub (Politecnico di Milano, Italy); Gustavo Bittencourt Figueiredo (Federal University of Bahia, Brazil); Massimo Tornatore (Politecnico di Milano & University of California, Davis, Italy); Biswanath Mukherjee (University of California, Davis, USA)

Monday, May 18 16:30 - 18:30 (Europe/Madrid)

S2: Design and Operation of Optical Networks

Chair: Andrea Sgambelluri (Scuola Superiore Sant'Anna Pisa, Italy)

16:30 Iterative Configuration in Elastic Optical Networks...24

Mohammad Hadi (Chalmers University of Technology, Sweden & Sharif University of Technology, Iran); Erik Agrell (Chalmers University of Technology, Sweden)

Invited

17:00 Joint Optimization of IT, IP and WDM Layers: From Theory to Practice...27

Miquel Garrich, José-Luis Romero-Gázquez, Francisco-Javier Moreno-Muro and Manuel Hernandez Bastida (Universidad Politécnica de Cartagena, Spain); Pablo Pavon-Marino (Technical University of Cartagena, Spain)
Invited

17:30 Cost-effective Metro Optical Network Architectures...31

Ćiril Rožić (Infinera, USA); Sayish Kumar Nagaraju (Infinera, India); Bodhisattwa Gangopadhyay and João Santos (Infinera, Portugal); Harshad Sardesai (Infinera, USA)

17:50 Experimental Evaluation of an On-line RSA Algorithm for SDN-Controlled Optical Metro Networks with VCSEL-based S-BVTs...37

Ricardo Martinez and Ramon Casellas (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Spain); Michela Svaluto Moreolo (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain); Josep M. Fabrega (Centre Tecnològic de Telecomunicacions de Catalunya, Spain); Ricard Vilalta and Raul Muñoz (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Spain); Laia Nadal (CTTC, Spain); Victor Lopez (Telefonica, Spain); Juan Pedro Fernández-Palacios (Telefónica I+D, Spain); David Larrabeiti and Gabriel Otero Pérez (Universidad Carlos III de Madrid, Spain)

18:10 Traffic Load Balancing Based on Probabilistic Routing in Data Center Networks...43

Fu Wang (Eindhoven University of Technology & Beijing University of Posts and Telecommunications, The Netherlands); Fulong Yan (Eindhoven University of Technology & TU/e, The Netherlands); Xuwei Xue (TU/e, The Netherlands); Bo Liu (Nanjing University of Information Science and Technology, China); Lijia Zhang, Qi Zhang and Xiangjun Xin (Beijing University of Posts and Telecommunications, China); Nicola Calabretta (COBRA Research Institute, The Netherlands)

Short Paper

Tuesday, May 19

Tuesday, May 19 9:00 - 11:00 (Europe/Madrid)

KS: Opening & Keynote Session

Chair: Raul Muñoz (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Spain)

9:00 Optical FPGAs: Principles and Applications to Optical Networks and Communications...N/A

Jose Capmany (Universidad Politecnica de Valencia, Spain) Invited

9:40 Optical Networks - The Future is Bright!...N/A

Jörg-Peter Elbers (ADVA AG Optical Networking, Germany) Invited

10:20 Quantum Cryptography: a New Paradigm for Secure Information Transmission...N/A

Antonio Acín (ICFO-The Institute of Photonic Sciences, Spain) Invited

Tuesday, May 19 11:15 - 13:15 (Europe/Madrid)

S3: Machine Learning for Advanced Optical Networks

Chair: Marco Ruffini (CONNECT, Trinity College Dublin, Ireland)

11:15 Learning from Data: Applications of Machine Learning in Optical Network Design and Modeling...46

José Alberto Hernández (Universidad Carlos III de Madrid, Spain) Invited

12:15 Experimental Demonstration of a Machine Learning-Based In-Band OSNR Estimator from Optical Spectra...52

Fabiano Locatelli (Centre Tecnologic de Telecomunicacions de Catalunya (CTTC/CERCA), Spain); Kostas Christodoulopoulos (Nokia Bell Labs, Germany); Josep M. Fabrega (Centre Tecnologic de Telecomunicacions de Catalunya, Spain); Michela Svaluto Moreolo (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain); Laia Nadal (CTTC, Spain); Salvatore Spadaro (Universitat Politecnica de Catalunya (UPC), Spain)

12:35 Accurate QoT Estimation by Means of a Reduction of EDFA Characteristics Uncertainties with Machine Learning...56

Emmanuel Seve (NOKIA BELL LABS, France); Jelena Pesic (NOKIA Bell labs, France); Yvan Pointurier (Huawei, France) Short Paper

12:55 Improving QoT Estimation Accuracy with DGE Monitoring Using Machine Learning...59

Ankush Mahajan (Centre Tecnològic de Telecomunicacions de Catalunya & Polytechnic University of Catalonia, Spain); Kostas Christodoulopoulos (Nokia Bell Labs, Germany); Ricardo Martinez (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Spain); Salvatore Spadaro (Universitat Politecnica de Catalunya (UPC), Spain); Raul Muñoz (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Spain)

Tuesday, May 19 14:15 - 16:15 (Europe/Madrid)

S4: Optical Data Centres

Chair: Salvatore Spadaro (Universitat Politecnica de Catalunya (UPC), Spain)

14:15 Photonic Firewall Oriented Fast All-Optical Binary Pattern Recognition...65

Yu Liu, Shanguo Huang and Xin Li (Beijing University of Posts and Telecommunications, China)

14:45 Network Service Reconfiguration in Hybrid Optical/Electrical Datacenter Networks...69

Sicheng Zhao and Zuqing Zhu (University of Science and Technology of China, China)

15:05 The Role of Metro Transport Node Architectures in Optimized Edge Data-Center Dimensioning...75

António Eira (Infinera Portugal, Portugal); Joao Pedro (Infinera Unipessoal Lda & Instituto de Telecomunicações, Portugal)

15:25 Modeling Dynamic Patterns Adapted Joint Multi-dimension Resource Scheduling via Graph Sequence in Optical Data Center Network...81

Cen Wang (KDDI Research INC, Japan); Takehiro Tsuritani (KDDI Research, Inc., Japan); Xiong Gao and Hongxiang Guo (Beijing University of Posts and Telecommunications, China)

15:45 Silicon Photonic Multi-Chip Module Interconnects for Disaggregated Data Centers...86

Nathan Abrams, Madeleine Glick and Keren Bergman (Columbia University, USA) Invited

Tuesday, May 19 16:30 - 18:30 (Europe/Madrid)

S5: Next Generation Optical Transport Networks

Chair: Paolo Monti (Chalmers University of Technology, Sweden)

16:30 Towards Self-Driving Optical Networking with Reinforcement Learning and Knowledge Transferring...89

Xiaoliang Chen and Roberto Proietti (University of California, Davis, USA); CheYu Liu (UC Davis); S. J. Ben Yoo (University of California, Davis, USA)

Invited

17:00 Towards an Open Networking Architecture...92

Samier Said Barguil (Universidad Autonoma de Madrid & Telefonica, Spain); Victor Lopez (Telefonica, Spain); Juan Pedro Fernández-Palacios (Telefónica I+D, Spain)

Invited

17:30 Single-Fiber Bidirectional Filterless Metro Network...95

Filippo Cugini (CNIT, Italy); Andrea Sgambelluri (Scuola Superiore Sant'Anna Pisa, Italy); Pantea Nadimi Goki (Scuola Superiore Sant'Anna, Italy); Francesco Paolucci (CNIT & Scuola Superiore Sant'Anna, Italy); Marco Presi (Sant'Anna School of Advanced Studies Pisa, Italy) Short Paper

17:50 SDN-enabled S-BVT for SDM Optical Metro/Regional Networks...98

Laia Nadal (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain); Josep M. Fabrega (Centre Tecnologic de Telecomunicacions de Catalunya, Spain); Michela Svaluto Moreolo and Francisco Javier Vílchez (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain); Ramon Casellas, Raul Muñoz, Ricard Vilalta and Ricardo Martinez (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Spain) Short Paper

18:10 Value Proposition of High Capacity and Flexible Line Interfaces in Next-Generation Transport Networks...101

Joao Pedro (Infinera Unipessoal Lda & Instituto de Telecomunicações, Portugal); João Santos and Nelson Costa (Infinera, Portugal)

Wednesday, May 20 9:00 - 11:00 (Europe/Madrid)

S6: Ultra-High Capacity Optical Networks

Chair: Joao Pedro (Infinera Unipessoal Lda & Instituto de Telecomunicações, Portugal)

9:00 Recent Progress in Space-Division Multiplexing Optical Network Technology...107

Noboru Yoshikane and Takehiro Tsuritani (KDDI Research, Inc., Japan) Invited

9:30 Architectures of Spatial Add/Drop Multiplexer and Cross-Connect for Spatial Channel Networks...111

Masahiko Jinno (Kagawa University, Japan)
Invited

10:00 Network Performance Assessment with Uniform and Non-Uniform Nodes Distribution in C+L Upgrades vs. Fiber Doubling SDM Solutions...114

Emanuele Virgillito, Rasoul Sadeghi and Alessio Ferrari (Politecnico di Torino, Italy); Antonio Napoli (Infinera, Germany); Bruno Correia and Vittorio Curri (Politecnico di Torino, Italy)

10:20 High-Throughput and High-Port-Count Optical Cross-Connents Using Flexible Waveband Routing...120

Takuma Kuno and Yojiro Mori (Nagoya University, Japan); Suresh Subramaniam (George Washington University, USA); Masahiko Jinno (Kagawa University, Japan); Hiroshi Hasegawa (Nagoya University, Japan)

10:40 Brown-field Gradual Migration Planning Toward Spectrally-Spatially Flexible Optical Networks...126

Piotr Lechowicz (Wroclaw University of Science and Technology, Poland); Jordi Perelló (Universitat Politècnica de Catalunya (UPC), Spain); Salvatore Spadaro (Universitat Politecnica de Catalunya (UPC), Spain); Krzysztof Walkowiak (Wroclaw University of Science and Technology, Poland)

Wednesday, May 20 11:15 - 13:15 (Europe/Madrid)

S7: Open Optical Networks

Chair: Michela Svaluto Moreolo (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain)

11:15 Petabit-class Optical Networks Based on Spatial-Division Multiplexing Technologies...132

Hideaki Furukawa (NICT, Japan); Ruben S Luís (National Institute of Information and Communications Technology, Japan) Invited

11:45 Designing Disaggregated Optical Networks...135

Filippo Cugini (CNIT, Italy); Francesco Paolucci (CNIT & Scuola Superiore Sant'Anna, Italy); Andrea Sgambelluri (Scuola Superiore Sant'Anna Pisa, Italy); Alessio Giorgetti, Davide Scano and Piero Castoldi (Scuola Superiore Sant'Anna, Italy)
Invited

12:15 Enabling Network Operating System Automated Upgrade in Packet/Optical Whiteboxes...138

Samier Said Barguil (Universidad Autonoma de Madrid & Telefonica, Spain); Roman Makarov and Murat Mugan (Facebook, USA); Juan Pedro Fernández-Palacios (Telefónica I+D, Spain); Victor Lopez (Telefonica, Spain) Short Paper

12:35 GNPy: An Open Source Planning Tool for Open Optical Networks...141

Alessio Ferrari (Politecnico di Torino, Italy); Mark Filer (Microsoft Corporation, USA); Esther Le Rouzic (Orange Labs, France); Jan Kundrát (CESNET & Charles University in Prague, Czech Republic); Bruno Correia (Politecnico di Torino, Italy); Karthikeyan Balasubramanian (Microsoft, Italy); Yawei Yin (Microsoft, USA); Gert Grammel (Juniper Networks, Germany); Gabriele Maria Galimberti (Cisco Photonics, Italy); Vittorio Curri (Politecnico di Torino, Italy)

12:55 Softwarized and Autonomous Raman Amplifiers in Multi-Band Open Optical Networks...147

Giacomo Borraccini and Alessio Ferrari (Politecnico di Torino, Italy); Stefano Straullu and Antonino Nespola (Istituto Superiore Mario Boella, Italy); Andrea D'Amico (Politecnico di Torino, Italy); Stefano Piciaccia (Cisco Photonics Italy srl, Italy); Gabriele Maria Galimberti, Alberto Tanzi and Silvia Turolla (Cisco Photonics, Italy); Vittorio Curri (Politecnico di Torino, Italy)

Wednesday, May 20 14:15 - 16:15 (Europe/Madrid)

S8: 5G Networks

Chair: David Larrabeiti (Universidad Carlos III de Madrid, Spain)

14:15 Network Slicing Automation: Challenges and Benefits...153

Federico Tonini, Carlos Natalino and Marija Furdek (Chalmers University of Technology, Sweden); Carla Raffaelli (University of Bologna, Italy); Paolo Monti (Chalmers University of Technology, Sweden)

15:15 Power-aware Optimization of Baseband-Function Placement in Cloud Radio Access Networks...159

Ligia Maria Moreira Zorello and Sebastian Troia (Politecnico di Milano, Italy); Marco Quagliotti (Telecom Italia, Italy); Guido Maier (Politecnico di Milano, Italy)

15:35 Comparison of Real-Time Communications Service KPI in Edge and Cloud Domains Through Multi-Domain Transport Networks...165

Pol Alemany (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Spain); Juan de la Cruz (CTTC, Spain); Ricard Vilalta, Ramon Casellas, Ricardo Martinez and Raul Muñoz (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Spain); Ana Pol and Anton Roman (Quobis Networks, Spain)

Short Paper

15:55 In-Line Transmission Parameters Synchronization Protocol for Hitless Optical Coherent Communication...168

Alexandre Gouin (Nokia Bell Labs & INSA Rennes, France); Arnaud Dupas (Nokia Bell-Labs, France); Patricia Layec (Nokia bell labs, France) Short Paper

Wednesday, May 20 16:30 - 18:00 (Europe/Madrid)

PS: Poster Session

Automated Link Loss Compensation and Cost Effective Amplifier Placement in XHaul Optical Networks...N/A

Dmitry Khomchenko (VPI Development Center, Belarus); Andre Richter (VPIphotonics GmbH, Germany); Jim Farina (VPIphotonics Inc, USA)

Joint Dynamic Bandwidth and Queue Management for Upstream SLA-Oriented QoS in Multi-Tenant, Multi-Service PONs...N/A

Frank Slyne (Connect Research Centre - Trinity College Dublin, Ireland) Short Paper

A Mobile Transport Platform Interconnecting VNFs over a Multi-Domain Optical/Wireless Network: Design and Implementation...N/A

Jorge Baranda (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Spain); Luca Vettori (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain); Ricardo Martinez (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Spain); Josep Mangues-Bafalluy (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain)

Dynamic Operation Strategy for Elastic Optical Networks...N/A

Ippokratis Sartzetakis (National Technical University of Athens-NTUA, Institute of Communication and Computer Systems-ICCS & Institute of Communication and Computer Systems - ICCS, Greece); Emmanouel Varvarigos (National Technical University of Athens - NTUA & Institute of Communication and Computer Systems - ICCS, Greece)

Short Paper

Physical Topology Abstraction for SDM Optical Networks...N/A

Silvia Fichera and Nicola Sambo (Scuola Superiore Sant'Anna, Italy); Cristian Antonelli (University of L'Aquila, Italy); Antonio Mecozzi (Universita' dell'Aquila, Italy); Piero Castoldi (Scuola Superiore Sant'Anna, Italy)

Cost Effective Architectures for OTT Provider Traffic in Virtualized Metro Networks...N/A

Parthiban Kandappan (Infinera, USA); Harald Bock (Infinera Corporation, Germany); Ashwin A Gumaste (Indian Institute of Technology, Bombay, India)

Long-wavelength VCSEL-based System Exploiting Direct DMT Modulation and Coherent Detection for multi-Tb/s Metro Link...N/A

Alberto Gatto, Mariangela Rapisarda and Paola Parolari (Politecnico di Milano, Italy); Michela Svaluto Moreolo (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain); Christian Neumeyr (VERTILAS, GmbH, Germany); Pierpaolo Boffi (Politecnico di Milano, Italy) Short Paper

Why Should Telcos Invest on Open-Source Software for Optical WDM Disaggregation?...N/A

Marco Quagliotti (Telecom Italia, Italy); José Alberto Hernández (Universidad Carlos III de Madrid, Spain); Victor Lopez (Telefonica, Spain); Ramon Casellas (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Spain); Oscar González de Dios (Telefonica I+D, Spain); Emilio Riccardi (Telecom Italia Lab, Italy)

Short Paper

Dynamic Power Predistortion Implementation with Reinforcement Learning for Excursion-Free Amplified Optical Systems...N/A

Maria Freire (Telecom SudParis, France); Dipankar Sengupta (École de Technologie Supérieure, Canada); Antoine Lavignotte (Telecom SudParis, France); Christine Tremblay (Ecole de technologie superieure & Université du Québec, Canada); Catherine Lepers (Institut Mines Telecom SudParis, France)

Short Paper

Network Slicing in Fiber Wireless Fronthaul for 5G Networks...N/A

Polyzois Soumplis (National Technical University of Athens, Greece); Panagiotis Kokkinos (National Technical University of Athens & Technological Educational Institute of Peloponnese, Greece); Emmanouel Varvarigos (National Technical University of Athens & Computer Technology Institute, Greece)

Channel Frequency Optimization in Optical Networks Based on Gaussian Noise Model...N/A

Cao Chen (Shanghai Jiao Tong University, China & University of Avignon, France); Fen Zhou (Institut Supérieur d'Electronique de Paris (ISEP) & University of Avignon, France); Yuanhao Liu (Xidian University, China); Shilin Xiao (Shanghai Jiao Tong University, China)

Thursday, May 21

Thursday, May 21 9:00 - 11:00 (Europe/Madrid)

S9: Converged Optical and Wireless Networks

Chair: Filippo Cugini (CNIT, Italy)

9:00 Alleviating the Master-Slave Distance Limitation in H2M Communications Through Remote Environment Emulation...171

Elaine Wong, Sourav Mondal and Lihua Ruan (The University of Melbourne, Australia) Invited

9:30 Tradeoffs in Optical Packet and Circuit Transport of Fronthaul Traffic: The Time for SBVT ?...174

David Larrabeiti, Gabriel Otero Pérez and José Alberto Hernández (Universidad Carlos III de Madrid, Spain); Pedro Reviriego (University Carlos III of Madrid, Spain); Juan Pedro Fernández-Palacios (Telefónica I+D, Spain); Victor Lopez (Telefonica, Spain); Michela Svaluto Moreolo (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain); Ricardo Martinez (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC/CERCA), Spain); Josep M. Fabrega (Centre Tecnologic de Telecomunicacions de Catalunya, Spain) Invited

10:00 Evolution of Access Network Sharing Towards Software Based Passive Optical Network: Can Virtual OLTs Run at Full Line Rate...179

Marco Ruffini (CONNECT, Trinity College Dublin, Ireland); David Coyle (Intel Corporation & Sannon Ireland, Ireland); Jasvinder Singh (Intel Corporation & Sannon Ireland, Ireland); Brendan Ryan (Intel Shannon Ltd, Ireland); Robin Giller and Michael O'Hanlon (Intel Corporation & Sannon Ireland, Ireland); Frank Slyne (Connect Research Centre - Trinity College Dublin, Ireland)

Invited

10:30 Cost-effective Coherent Systems for Metropolitan Networks...182

Josep M. Fabrega (Centre Tecnologic de Telecomunicacions de Catalunya, Spain); Laia Nadal and Michela Svaluto Moreolo (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain)
Invited

Thursday, May 21 11:15 - 13:15 (Europe/Madrid)

S10: Network Telemetry and Performance Monitoring

Chair: Miquel Garrich (Universidad Politécnica de Cartagena, Spain)

11:15 Telemetry in Disaggregated Optical Networks...185

Francesco Paolucci (CNIT PNT Lab - Scuola Superiore Sant'Anna, Pisa, Italy); Andrea Sgambelluri (Scuola Superiore Sant'Anna Pisa, Italy) Invited

12:15 First Demonstration of YANG Push Notifications in Open Terminals...188

Arturo Mayoral (Telefonica SA, Spain); Victor Lopez (Telefonica, Spain); Juan Pedro Fernández-Palacios (Telefónica I+D, Spain); Yuan Yufeng,

Zhou Lifen, Hu Wenjun, Zhang Mingfeng and Yan Changlong (Fiberhome, China) Short Paper

12:35 Quality of Transmission Estimation for Planning of Disaggregated Optical Networks...191

Andrea D'Amico, Elliot P. E. London and Emanuele Virgillito (Politecnico di Torino, Italy); Antonio Napoli (Infinera, Germany); Vittorio Curri (Politecnico di Torino, Italy)

Short Paper

12:55 LPB: A Novel Load Balance Algorithm for OPSquare DCN Under Real Application Traffics...194

Fulong Yan (Eindhoven University of Technology & TU/e, The Netherlands); Xiaotao Guo, Bitao Pan, Xuwei Xue and Shaojuan Zhang (TU/e, The Netherlands); Nicola Calabretta (COBRA Research Institute, The Netherlands)

Short Paper

.

Thursday, May 21 14:15 - 15:30 (Europe/Madrid)

WP: Special Event: Women in Photonics and Diversity Dimensions in Research

Chairs: Marija Furdek (Chalmers University of Technology, Sweden), Michela Svaluto Moreolo (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain)

This year for the first time ONDM organizes a special event supported by the IEEE Photonics Society in the framework of IEEE Women in Photonics. This event aims at promoting diversity and inclusion and it is open to anyone interested. It is organized as a workshop with inspiring talks on IEEE related programs, mentorship and leadership practices, as well as human resources strategies focusing on how to introduce the diversity dimensions and women engagement in research. Attendees are invited to participate and join the discussion to explore the opportunities, share ideas, exchange viewpoints and experiences, stay connected with the community and enjoy the event.

Thursday, May 21 15:30 - 16:00 (Europe/Madrid)

CS: Awards Ceremony and Closing Session