

Monday, September 21, 2009

Session 1.0: Plenary

1.0.1 *The Rise of Exaflood Optics*

George Gilder (Forbes Telecom Conference, USA)

1.0.2 *The Coming Capacity Crunch*

Andrew Chraplyvy (Bell Labs, Alcatel-Lucent, USA)

1.0.3 *Quantum Information: The Next Frontier*

Anton Zeilinger (Institute for Quantum Optics and Quantum Information, Austria)

Session 1.1: Parametric Effects in Fibres

Chair: Periklis Petropoulos (University of Southampton, United Kingdom)

1.1.1 *Experimental Comparison of Gain and Saturation Characteristics of a Parametric Amplifier in Phase-sensitive and Phase-insensitive Mode*

Carl Lundström (Chalmers University of Technology, Sweden); Joseph Kakande (University of Southampton, United Kingdom); Peter Andrekson (Chalmers University of Technology, Sweden); Zhi Tong (Chalmers University of Technology, Sweden); Magnus Karlsson (Chalmers University of Technology, Sweden); Periklis Petropoulos (University of Southampton, United Kingdom); Francesca Parmigiani (ORC, University of Southampton, United Kingdom); David Richardson (University of Southampton, United Kingdom)

1.1.2 *Measurement of Sub-1dB Noise Figure in a Non-Degenerate Cascaded Phase-Sensitive Fibre Parametric Amplifier*

Zhi Tong (Chalmers University of Technology, Sweden); Carl Lundström (Chalmers University of Technology, Sweden); Antonis Bogris (National and Kapodistrian University of Athens, Greece); Magnus Karlsson (Chalmers University of Technology, Sweden); Peter Andrekson (Chalmers University of Technology, Sweden); Dimitris Syvridis (National and Kapodistrian University of Athens, Greece)

1.1.3 *Optical Demultiplexing with Extinction Ratio Enhancement Based on Higher Order Parametric Interaction*

Camille-Sophie Bres (University of California, San Diego, USA); Andeas O J Wiberg (University of California, San Diego, USA); Jose Chavez Boggio (University of California, San Diego, USA); Stojan Radic (University of California, San Diego, USA)

1.1.4 *Continuous-Wave One-Pump Fiber Optical Parametric Amplifier with 270 nm Gain Bandwidth*

Mehdi Jamshidifar (Swansea University, United Kingdom); Armand Vedadi (Swansea University, United Kingdom); Marhic (Swansea University, United Kingdom)

1.1.5 *Monolithic-YDFA Based CEP-Stable OPA with Broad Tunability*

Lingxiao Zhu (Institut für Photonik, Technische Universität Wien, Austria); Alma Fernández (Institut für Photonik, Technische Universität Wien, Austria); Aart Verhoef (Institut für Photonik, Technische Universität Wien, Austria); Dmitry Sidorov-Biryukov (Institut für Photonik, Technische Universität Wien, Austria); Audrius Pugzlys (Institut für Photonik, Technische Universität Wien, Austria); Chi-Hung Liu (Center for Ultrafast Optical Science, University of Michigan, USA); Kai-Hsiu Liao (Center for Ultrafast Optical Science, University of Michigan, USA); Almantas Galvanauskas (Center for Ultrafast Optical Science, University of Michigan, USA); Steve Kane (Mathematics Department, Bridgewater-Raritan Regional High School, USA); Andrius Baltuska (Institut für Photonik, Technische Universität Wien, Austria)

1.1.6 *Performance of Parametric Wavelength Exchange for Narrow Pulse Width Return-to-Zero Signal*

Mengzhe Shen (The University of Hong Kong, Hong Kong); Xing Xu (The University of Hong Kong, Hong Kong); Kim Ka Yi Cheung (The University of Hong Kong, Hong Kong); Ti Yuk (The University of Hong Kong, Hong Kong); Kenneth Wong (The University of Hong Kong, Hong Kong)

1.1.7 *Reduced Four-Wave Mixing Crosstalk in a Short Fibre Optical Parametric Amplifier*

Mehdi Jamshidifar (Swansea University, United Kingdom); Armand Vedadi (Swansea University, United Kingdom); Marhic (Swansea University, United Kingdom)

Session 1.2: Devices for Optical Switching and Processing

Chair: Yoshiaki Nakano (University of Tokyo, Japan)

1.2.1 *High-Speed 1x16 Optical Switch Monolithically Integrated on InP*

Ibrahim Murat Soganci (University of Tokyo, Japan); Takuo Tanemura (University of Tokyo, Japan); Kevin Williams (Eindhoven University of Technology, The Netherlands); Nicola Calabretta (COBRA Research Institute, The Netherlands); Tjibbe de Vries (TU/e, The Netherlands); Barry Smalbrugge (Technische Universiteit Eindhoven, The Netherlands); Meint Smit (TU/e, The Netherlands); Dorren Harm (Eindhoven University of Technology, The Netherlands); Yoshiaki Nakano (University of Tokyo, Japan)

- 1.2.2** *All-Optical Wavelength Conversion at 160 Gb/s by Intersubband Transition Switches Utilizing Efficient XPM in InGaAs/AlAsSb Coupled Double Quantum Well*
Ryoichi Akimoto (National Institute of Advanced Industrial Science and Technology, Japan); Shin-ichirou Gozu (National Institute of Advanced Industrial Science and Technology – AIST, Japan); Teruo Mozume (National Institute of Advanced Industrial Science and Technology, Japan); Kazumichi Akita (National Institute of Advanced Industrial Science and Technology – AIST, Japan); Guangwei Cong (National Institute of Advanced Industrial Science and Technology – AIST, Japan); Toshifumi Hasama (National Institute of Advanced Industrial Science and Technology, Japan); Hiroshi Ishikawa (National Institute of Advanced Industrial Science and Technology, Japan)
- 1.2.3** *All Optical NRZ-to-RZ conversion for 43-Gbps Signals for Generation of 172-Gbps OTDM Signals Using Intersubband Transition MQW Optical Gate*
Takayuki Kurosu (National Institute of Advanced Industrial Science and Technology, Japan); Shu Namiki (National Institute of Advanced Industrial Science and Technology – AIST, Japan); Ryoichi Akimoto (National Institute of Advanced Industrial Science and Technology, Japan); Haruhiko Kuwatsuka (National Institute of Advanced Industrial Science and Technology, Japan); Toshifumi Hasama (National Institute of Advanced Industrial Science and Technology, Japan); Hiroshi Ishikawa (National Institute of Advanced Industrial Science and Technology, Japan)
- 1.2.4** *40 Gbps, 3-bit Operation of a Semiconductor Optical Digital-to-Analog Converter*
Kengo Sawada (Tokyo Institute of Technology, Japan); Hiroyuki Uenohara (Tokyo Institute of Technology, Japan)
- 1.2.5** *All-Optical Flip-Flop Based on Mach-Zehnder Interferometer Bistable Laser Diode*
Koji Takeda (The University of Tokyo, Japan); Mitsuru Takenaka (The University of Tokyo, Japan); Takuo Tanemura (University of Tokyo, Japan); Yoshiaki Nakano (University of Tokyo, Japan)
- 1.2.6** *III-V-Based Photonic Crystal Technology for Integrated All-Optical Processing (Invited)*
Alfredo De Rossi (Thales Research and Technology, France); Sylvian Combr e (Thales Research and Technology); Pierre Colman (Thales Research and Technology); Chad Husko (Thales Research and Technology, Optical Nanostructures Laboratory, Columbia University); Fabrice Raineri (Laboratoire de Photonique et de Nanostructures)

Session 1.3: OFDM

Chair: Andrew Ellis (Tyndall National Institute, Ireland)

- 1.3.1** *Polarization Multiplexed 100 Gbps Direct-Detection OFDM Transmission without MIMO Processing*
Abdullah Al Amin (KDDI R&D Laboratories, Japan); Hidenori Takahashi (KDDI R&D Laboratories, Japan); Itsuro Morita (KDDI R&D Laboratories, Japan); Hideaki Tanaka (KDDI R&D Laboratories, Japan)
- 1.3.2** *24 Gbit/s, 64 QAM-OFDM Coherent Transmission with a Bandwidth of 2.5 GHz*
Tatsunori Omiya (Tohoku University, Japan); Hiroki Goto (Tohoku University, Japan); Keisuke Kasai (Tohoku University, Japan); Masato Yoshida (Tohoku University, Japan); Masataka Nakazawa (Tohoku University, Japan)
- 1.3.3** *Coherent OFDM Transmission with High Spectral Efficiency (Invited)*
Hidenori Takahashi (KDDI R&D Laboratories, Japan)
- 1.3.4** *Reducing Cyclic Prefix Overhead in Optical OFDM Systems*
Arthur Lowery (Monash University, Australia)

Session 1.4: Quantum Key Distribution

Chair: Thomas Jennewein (IQOQI – Austrian Academy of Sciences, Austria)

- 1.4.1** *The SECOQC Quantum Key Distribution Network in Vienna (Invited)*
Momtchil Peev (Austrian Research Centers GmbH – ARC, Austria); Andreas Poppe, Oliver Maurhart, Thomas Lor nser, Thomas L nger, Christoph Pacher (AIT Austrian Institute of Technology GmbH)
- 1.4.2** *Colourless Interferometric Technique for Large Capacity Quantum Key Distribution Systems by use of Wavelength Division Multiplexing*
Akihiro Tanaka (NEC Corporation, Japan); Akihisa Tomita (NEC Corporation, Japan); Akio Tajima (NEC Corporation, Japan)

Session 1.5: Impairment Aware Networking

Chair: Gabriel Junyent (Universitat Polit cnica de Catalunya, Spain)

- 1.5.1** *Impairment-Aware Traffic Engineering Using Cross-Layer Protocols*
Franz Fidler (Columbia University New York, USA); Peter Winzer (Bell Labs, USA); Marina Thottan (Bell Labs, USA); Keren Bergman (Columbia University New York, USA)
- 1.5.2** *Impact of the optical routing on the transmission in transparent networks*
Thierry Zami (Alcatel-Lucent Bell Labs France, France); Pascal Henri (Alcatel-Lucent Bell Labs France, France); Laurence Lorcy (Alcatel-Lucent Bell Labs France, France); Christian Simonneau (Alcatel-Lucent Bell Labs France, France)

- 1.5.3** *Lightpath establishment in distributed transparent dynamic optical networks using network kriging*
Nicola Sambo (Scuola Superiore Sant'Anna, Italy); Yvan Pointurier (Athens Information Technology, Greece); Filippo Cugini (CNIT, Italy); Luca Valcarengi (Scuola Superiore Sant'Anna, Italy); Piero Castoldi (Scuola Superiore Sant'Anna, Italy); Ioannis Tomkos (AIT, Greece)
- 1.5.4** *Design and Implementation of an All Optical Traffic Engineering Server with a Novel Logical Distance Optimization*
Rie Hayashi (NTT, Japan); Kaori Shimizu (NTT, Japan); Ichiro Inoue (NTT, Japan); Kohei Shiomoto (NTT, Japan)
- 1.5.5** *Impairment Constraint Based Routing (ICBR) with Service Differentiation in Survivable WDM Networks*
Amornrat Jirattigalachote (Royal Institute of Technology – KTH, Sweden); Lena Wosinska (Royal Institute of Technology – KTH, Sweden); Paolo Monti (The Royal Institute of Technology – KTH, Sweden); Kostas Katrinis (Athens Information Technology – AIT, Greece); Anna Tzanakaki (AIT, Greece)
- 1.5.6** *Introduction of Confidence Levels for Transparent Network Planning*
Annalisa MOREA (Alcatel-Lucent, France); Thierry Zami (Alcatel-Lucent, France); Florence Leplingard (Alcatel-Lucent France, France)
- 1.5.7** *Dissemination of Monitoring Information in Transparent Optical Networks*
Dimitri Staessens (Ghent University – IBBT – IMEC, Belgium); Didier Colle (Ghent University, Belgium); Mario Pickavet (Ghent University, Belgium); Piet Demeester (Ghent University, Belgium)

Session 1.6: FTTH and PON

Chair: Ingrid Van de Voorde (Alcatel-Lucent, Belgium)

- 1.6.1** *Tutorial: FTTH Deployments Options and Economic Challenges*
David Payne (University of Swansea, United Kingdom)
- 1.6.2** *Novel Technique for On-Site Signal-Monitoring in PON Systems without Service Interruption*
Takashi Matsui (NTT Corporation, Japan); Kyoza Tsujikawa (NTT Corporation, Japan); Shigeru Tomita (NTT Corporation, Japan)
- 1.6.3** *FlexPON: a Hybrid TDM/WDM Network enabling Dynamic Bandwidth Reconfiguration using Wavelength Routing*
Maurice de Laat (Genexis B. V., The Netherlands); Richard Duijn (Genexis B. V., The Netherlands); Elroy Pluk (Genexis B. V., The Netherlands); Gerlas van den Hoven (GENEXIS, The Netherlands); Patryk Urban (Eindhoven University of Technology, The Netherlands); Huug de Waardt (Eindhoven University of Technology, The Netherlands)
- 1.6.4** *Online Upstream Scheduling and Wavelength Assignment Algorithms for WDM-EPON Networks*
Konstantinos Kanonakis (Athens Information Technology, Greece); Ioannis Tomkos (AIT, Greece)

Session 1.7: Symposium: InP and Si Integrated Photonics: Competition or Symbiosis (1)

Chair: Joe Campbell (University of Texas, USA); Roel Baets (Ghent University – IMEC, Belgium)

- 1.7.1** *Integration Using the Hybrid Silicon Platform*
John Bowers (University of California, USA); Hui-Wen Chen (University of California); Di Liang (University of California); Douglas C. Oakley (Massachusetts Institute of Technology); Antonio Napoleone (Massachusetts Institute of Technology); David C. Chapman (Massachusetts Institute of Technology); Chang-Lee Chen (Massachusetts Institute of Technology); Paul W. Juodawlkis (Massachusetts Institute of Technology)
- 1.7.2** *Large Scale Integration of Photonic Integrated Circuits on Indium Phosphide and High-Index-Contrast Si Platforms*
Mehrdad Ziari (Infinera, USA); Masaki Kato (Infinera, USA); Charles Joyner (Infinera, USA); Peter Evans (Infinera, USA); Sai Chu (Infinera Corp, USA); Wei Chen (Infinera Corp., USA); John Hryniewicz (Infinera, USA); Fred Johnson (Infinera, USA); Wenlu Chen (Infinera, USA); David Gill (Infinera, USA); Oliver King (Infinera, USA); Matthew Fisher (Infinera, USA); Vince Dominic (Infinera, USA); Alan Nilsson (Infinera, USA); Jeff Rahn (Infinera, USA); Scott Corzine (Infinera, USA); Andrew Dentai (Infinera, USA); Mark Missey (Infinera, USA); Damien Lambert (Infinera, USA); Ranjani Muthiah (Infinera, USA); Randal Salvatore (Infinera, USA); Sanjeev Murthy (Infinera, USA); J. Pleumeekers (Infinera, USA); R. Schneider (Infinera, USA); R. Nagarajan (Infinera, USA); F. Kish (Infinera, USA); D. Welch (Infinera, USA)
- 1.7.3** *InP-based Photonic Integration: Learning from CMOS*
Meint Smit (TU/e, The Netherlands); Roel Baets (Ghent University); Mike Wale (Oclaro, Caswell, Towcester)
- 1.7.4** *Photonic Integration Challenges for Next-Generation Networks*
Michael J. Wale (Oclaro, United Kingdom)

Session 2.1: Microstructured Fibres

Chair: Hanne Ludvigsen (Helsinki University of Technology, Finland)

2.1.1 *Investigating Micro-Bend Sensitivity of a Large-Mode-Area Bragg Fiber*

Catherine Baskiotis (Université de Lille 1, France); Yves Jaouen (Telecom ParisTech, France); Renaud Gabet (GET / Telecom Paris, France); Denis Molin (Draka, France); Pierre Sillard (Draka Communications, France); Géraud Bouwmans (Université de Lille 1, France); Yves Quiquempois (Université de Lille 1, France); Marc Douay (Universités de Lille 1, France)

2.1.2 *Observation and analysis of cladding modes in photonic crystal fiber*

Sun Do Lim (Korea Institute of Science and Technology, Korea); Hyun Chul Park (Korea Advanced Institute of Science and Technology, Korea); In-Kag Hwang (Chonnam National University, Korea); Lee Sang-Bae (Korea Institute of Science & Technology, Korea); Byoung Yoon Kim (Korea Advanced Institute of Science and Technology, Korea)

2.1.3 *All-Glass Micro-Structured Optical Fibers (Invited)*

Liang Dong (IMRA America Inc, USA); Libin Fu (IMRA America Inc, USA); Hugh A. McKay (IMRA America Inc, USA)

2.1.4 *Bend-Insensitive and Effectively Single-Moded All-Solid Photonic Bandgap Fibers with Heterostructured Cladding*

Tadashi Murao (Hokkaido University, Japan); Kunimasa Saitoh (Hokkaido University, Japan); Toshiki Taru (Sumitomo Electric Industries, LTD., Japan); Takuji Nagashima (Sumitomo Electric Industries, LTD., Japan); Kuniaki Maeda (Hokkaido University, Japan); Takashi Sasaki (Sumitomo Electric Industries, LTD., Japan); Masanori Koshiba (Hokkaido University, Japan)

2.1.5 *Large Mode Area Single-Mode Ytterbium Doped All-Solid Photonic Bandgap Fiber*

Olga Egorova (Fiber Optics Research Center RAS, Russia); Sergei Semjonov (Fiber Optics Research Center RAS, Russia); Alexei Kosolapov (Fiber Optics Research Center RAS, Russia); Vladimir Velmiskin (Fiber Optics Research Center RAS, Russia); Andrey Pryamikov (Fiber Optics Research Center RAS, Russia); Aleksandr Biriukov (Fiber Optics Research Center RAS, Russia); Mikhail Salganskii (Institute of Chemistry of High Purity Substances of RAS, Russia); Vladimir Khopin (Institute of Chemistry of High Purity Substances of RAS, Russia); Mikhail Yashkov (Institute of Chemistry of High Purity Substances of RAS, Russia); Aleksey Guryanov (Institute of Chemistry of High Purity Substances of RAS, Russia); Evgeny Dianov (Fiber Optics Research Center of the Russian Academy of Sciences, Russia)

2.1.6 *Ultra-Low Loss All-Solid Photonic Bandgap Fibre*

Huifeng Wei (Yangtze Optical Fiber and Cable Co., LTD., P. R. China); Weijun Tong (Yangtze Optical Fiber and Cable Co., LTD., P. R. China); Jiangtao Guo (Yangtze Optical Fiber and Cable Co., LTD., P. R. China); Fanghai Zhang (Yangtze Optical Fiber and Cable Co., LTD., P. R. China); Qingrong Han (Yangtze Optical Fiber and Cable Co., LTD., P. R. China); Jie Luo (Yangtze Optical Fiber and Cable Co., LTD., P. R. China)

Session 2.2: Devices for Multilevel Transmission

Chair: Liam Barry (Dublin City University, Ireland)

2.2.1 *64QAM Modulator with a Hybrid Configuration of Silica PLCs and LiNbO3 Phase Modulators for 100-Gb/s Applications (Invited)*

Hiroshi Yamazaki (NTT Photonics Laboratories, Japan); Takashi Yamada (NTT, Japan); Takashi Goh (NTT, Japan); Yohei Sakamaki (NTT Photonics Laboratories, Japan); Akimasa Kaneko (NTT Photonics Laboratories, Japan)

2.2.2 *Compact LiNbO3 Optical Modulator for Polarization-division-multiplexing RZ-DQPSK*

Takashi Shiraishi (Fujitsu Limited, Japan); Masaharu Doi (Fujitsu Limited, Japan); Tetsu Hasegawa (Fujitsu Limited, Japan); Kazuhiro Tanaka (Fujitsu Limited, Japan)

2.2.3 *Novel Optical 90-deg Hybrid with Low Wavelength Sensitive Power Balance and Phase Deviation over 94-nm-wide Spectral Range (Invited)*

Seokhwan Jeong (Fujitsu Laboratories Limited, Japan); Ken Morito (Fujitsu Laboratories Limited, Japan)

2.2.4 *One-chip Integrated Dual Polarization Optical Hybrid using Silica-based Planar Lightwave Circuit Technology*

Yohei Sakamaki (NTT Photonics Laboratories, Japan); Hiroshi Yamazaki (NTT Photonics Laboratories, Japan); Takayuki Mizuno (NTT, Japan); Takashi Goh (NTT, Japan); Yusuke Nasu (NTT Photonics Laboratories, Japan); Toshikazu Hashimoto (NTT Photonics Laboratories, Japan); Shin Kamei (NTT Photonics laboratories, Japan); Kuninori Hattori (NTT Photonics Laboratories, Japan); Hiroshi Takahashi (NTT Corporation, Japan)

2.2.5 *Photonic Balancing in DPSK Detection Using Pulse Collision in a Semiconductor Optical Amplifier*

Franko Küppers (University of Arizona, USA); Tuomo von Lerber (Luxdyne Ltd., Finland); Marco Mattila (Luxdyne Ltd., Finland); Werner Weiershausen (Deutsche Telekom, Germany); Ari Tervonen (Helsinki University of Technology, Finland); Alan Willner (University of Southern California, USA); Earl Parsons (College of Optical Sciences, University of Arizona); Hacene Chaouch (College of Optical Sciences, University of Arizona); Jeng-Yuan Yang (University of Southern California)

Session 2.3: OFDM and Multitone

Chair: Joerg-Peter Elbers (ADVA AG Optical Networking, Germany)

- 2.3.1** *Single-Carrier vs. Dual-Carrier Transmission of 100 Gb/s coherent PDM-QPSK over NZ-DSF Fibre*
Marco Bertolini (Università degli Studi di Parma, Italy); Massimiliano Salsi (Bell Labs, Alcatel-Lucent, France); Gabriel Charlet (Bell Labs, Alcatel-Lucent, France); Haïk Mardoyan (Bell Labs, Alcatel-Lucent, France); Patrice Tran (Bell Labs, Alcatel-Lucent, France); Oriol Bertran-Pardo (Telecom Paristech (ENST-Paris), France); Jérémie Renaudier (Bell Labs, Alcatel-Lucent, France); Sébastien Bigo (Bell Labs, Alcatel-Lucent, France)
- 2.3.2** *Joint CD and PMD Compensation for Direct-Detected Optical OFDM Using Polarization-Time Coding Approach*
Wei-Ren Peng (National Chiao Tung University, Taiwan); Kai-Ming Feng (National Tsing Hua University, Taiwan); Sien Chi (Yuan Ze University, Taiwan)
- 2.3.3** *Volterra Nonlinear Compensation of 112 Gb/s Ultra-long-haul Coherent Optical OFDM based on Frequency-shaped Decision Feedback*
Rakefet Weidenfeld (Technion, Israel Institute of Technology, Israel); Moshe Nazarathy (Technion, Israel Institute of Technology, Israel); Reinhold Noé (University of Paderborn, Germany); Isaac Shpantzer (Celight Inc., USA)
- 2.3.4** *Experimental Demonstration of Joint SPM Compensation in 44-Gb/s PDM-OFDM Transmission with 16-QAM Subcarrier Modulation*
Xiang Liu (Alcatel-Lucent, Bell Laboratories, USA); Chandrasekhar Sethumadhavan (Alcatel-Lucent, Bell Laboratories, USA); Alan Gnauck (Alcatel-Lucent, Bell Laboratories, USA); Robert Tkach (Bell Labs, Alcatel-Lucent, USA)
- 2.3.5** *Reduction of Nonlinear Inter-channel Crosstalk Penalty for DQPSK signal in Carrier Phase Locked WDM*
Fumikazu Inuzuka (NTT Corporation, Japan); Kazushige Yonenaga (NTT Corporation, Japan); Shuto Yamamoto (NTT Corporation, Japan); Etsushi Yamazaki (NTT Corporation, Japan); Atsushi Takada (NTT Corporation, Japan)

Session 2.4: Radio-over-Fibre

Chair: Ton Koonen (COBRA, Eindhoven Univ. of Technology, The Netherlands)

- 2.4.1** *WiMAX Radio-on-Fibre in 118-km Long-reach PON with Deployed Fibre*
Kamau Prince (Technical University of Denmark, Denmark); Alexey Osadchiy (Technical University of Denmark, Denmark); Idelfonso Tafur Monroy (Technical University of Denmark, Denmark)
- 2.4.2** *Integrated Platform of Millimeter-Wave Radio-Over-Fiber and Baseband Services in a Reconfigurable Ring/Bus Access Network Using Wavelength Interleaving and Polarization Multiplexing*
Christos Tsekrekos (Osaka University, Japan); Ken'ichi Kitayama (Osaka University, Japan); Toshiaki Kuri (NICT, Japan)
- 2.4.3** *Chromatic Dispersion Tolerant Subcarrier Multiplexing Scheme Based on Tandem Frequency Shifted Optical SSB Modulation*
Toshihito Fujiwara (NTT, Japan); Naohiko Yuki (NTT, Japan); Hiro Suzuki (NTT, Japan); Tomoki Sugawa (NTT, Japan)
- 2.4.4** *Optical OFDM Signal Generation by Optical Phase Modulator and Its Application in ROF System*
Ze Dong (Hunan University, P. R. China); Z. Cao (Hunan University, P. R. China); J. Lu (Hunan University, P. R. China); M. Xia (Hunan University, P. R. China); L. Chen (Hunan University, P. R. China)
- 2.4.5** *Radio over Fibre Networks: Advances and Challenges (Invited)*
John Mitchell (University College London, United Kingdom)
- 2.4.6** *Bidirectional Multi-UMTS FDD Carrier Distribution over an Extended-Reach PON Architecture using a shared SOA*
Florian Frank (Orange Labs, France); Benoit Charbonnier (Orange Labs, France); Anna Pizzinat (France Telecom Research and Development, France); Philippe Chanclou (France Telecom R&D, France); Catherine Algani (Cnam, France)

Session 2.5: Crosslayer Networking

Chair: Andras Kalmar (Alcatel Austria, Austria)

- 2.5.1** *A Unified Architecture for Cross Layer Design in the Future Optical Internet (Invited)*
Iliia Baldine (Renaissance Computing Institute, UNC-CH, USA); R. Dutta (Computer Science Department, NCSU, Raleigh, NC USA); G. Rouskas (Computer Science Department, NCSU, Raleigh, NC USA)
- 2.5.2** *Cross-Layer Simulations of Fast Packet Protection Mechanisms*
Franz Fidler (Columbia University New York, USA); Peter Winzer (Lucent Technologies, USA); Caroline Lai (Columbia University, USA); Marina Thottan (Bell Labs, USA); Keren Bergman (Columbia University, USA)

2.5.3 *Experimental Demonstration of QoS-Aware Cross-Layer Packet Protection Switching*
Caroline Lai (Columbia University, USA); Franz Fidler (Columbia University New York, USA); Keren Bergman (Columbia University, USA)

2.5.4 *Cycle Attack-Free Logical Topology Design in Optical Code Path Networks*
Yosuke Katsukawa (Osaka University, Japan); Shaowei Huang (NEC System Platforms Research Laboratories, Japan); Ken'ichi Kitayama (Osaka University, Japan)

2.5.5 *Demonstration of 100 Tbit/s Scale Multiple Granularity OXC Architecture (Invited)*
Kazushige Yonenaga (NTT Corporation, Japan); Atsushi Takada (NTT Corporation, Japan); Yasuhiko Aoki (Fujitsu Limited, Japan); Susumu Kinoshita (Fujitsu Limited, Japan)

Session 2.6: Coding and Modulation

Chair: Alberto Bononi (Università di Parma, Italy)

2.6.1 *Tutorial: Fundamentals of Coding and Modulation*
Gerhard Kramer (University of Southern California, USA)

Session 2.7: Symposium: InP and Si Integrated Photonics: Competition or Symbiosis (2) – Si Photonic Circuits

Chair: Laurent Fulbert (CEA-LETI, France); Lorenzo Pavesi (University of Trento, Italy)

2.7.1 *Trends in Photonic Integrated Circuits*
T. L. Koch (Lehigh University, USA)

2.7.2 *A European Platform for Silicon Photonics R&D*
Pieter Dumon (Ghent University, Belgium)

2.7.3 *Challenges of Si Photonics for on-chip Integration*
K. Wada (The University of Tokyo, Japan)

2.7.4 *Si and InP Integration in the HELIOS project*
Jean-Marc Fedeli (CEA-LETI, France)

Tuesday, September 22, 2009

Session 3.1: Optics in Computing

Chair: Ioannis Tomkos (AIT, Greece)

3.1.1 *Warehouse Scale Computers: Bandwidth Drivers for Large Scale Compute Systems (Invited)*

Vijay Gill (Google inc., USA)

3.1.2 *CARRIOCAS Project: An Experimental High Bit Rate Optical Network for Computing-Intensive Scientific and Industrial Applications (Invited)*

Olivier Audouin (Alcatel-Lucent, France); Jacques-Charles Lafoucrière (CEA); Oliver Leclerc (Alcatel-Lucent Bell Labs, France); Jean-Pierre Meyer (CEA); Christophe Mouton (EDF R&D); Pascale Vicat-Blanc Primet (INRIA); Lionel Thual (Orange labs, France Telecom R&D); Dominique Verchère (Alcatel-Lucent Bell Labs France)

3.1.3 *Optics in Supercomputers (Invited)*

Bert Jan Offrein (IBM Research GmbH, Zurich Research Laboratory, Switzerland); Petar Pepeljugoski (IBM Research, USA)

Session 3.2: Control Plane Aspects

Chair: Dimitra Simeonidou (University of Essex, United Kingdom)

3.2.1 *Experimental Field-Trial of Multi-domain PCE-based Path Computation for OSNR-aware GMPLS enabled translucent WSON*

Ramon Casellas (Centre Tecnologic de Telecomunicacions de Catalunya, Spain); Takehiro Tsuritani (KDDI R&D Laboratories, Inc., Japan); Shuichi Okamoto (KDDI R&D Laboratories Inc., Japan); Ricardo Martinez (CTTC, Spain); Raul Muñoz (CTTC, Spain)

3.2.2 *Demonstration of GMPLS-controlled Integrated IP/WDM Routing over a Grooming-capable ASON/GMPLS Network Test-bed*

Jordi Perelló (Universitat Politècnica de Catalunya, Spain); Luis Velasco (Universitat Politècnica de Catalunya, Spain); Fernando Agraz (Universitat Politècnica de Catalunya, Spain); Salvatore Spadaro (Universitat Politècnica de Catalunya, Spain); Jaume Comellas (Universitat Politècnica de Catalunya, Spain); Gabriel Junyent (Universitat Politècnica de Catalunya, Spain)

3.2.3 *PCE Architecture for OIF E-NNI Multi-domain Routing evaluated in an Intra-domain WSON Scenario*

Francesco Paolucci (Scuola Superiore S.Anna, Italy); Filippo Cugini (CNIT, Italy); Alessio Giorgetti (Scuola Superiore Sant'Anna, Italy); Luca Valcarengi (Scuola Superiore Sant'Anna, Italy); Piero Castoldi (Scuola Superiore Sant'Anna, Italy); Paola Iovanna (Ericsson, Italy); Giulio Bottari (Ericsson Telecomunicazioni, Italy); Annikki Welin (Ericsson, Sweden)

3.2.4 *Multi-Vendor Interoperability Demonstration of Wavelength Switched Optical Network (WSON) with GMPLS Lambda-Label Extension (Invited)*

Shuichi Okamoto (KDDI R&D Laboratories Inc., Japan); Takehiro Tsuritani (KDDI R&D Laboratories, Inc., Japan); Sota Yoshida (Mitsubishi Electric Corporation, Japan); Teruko Fujii (Mitsubishi Electric Corporation, Japan); Kazuo Kubo (Mitsubishi Electric Corporation, Japan); Itaru Nishioka (NEC Corporation, Japan); Masahiro Sakauchi (NEC, Japan); Soichiro Araki (NEC Corporation, Japan); Shoichiro Seno (Mitsubishi Electric Corp., Japan); Munefumi Tsurusawa (KDDI R&D laboratories Inc, Japan)

Session 3.3: Optical Signal Processing (1)

Chair: Dorren Harm (Eindhoven University of Technology, The Netherlands)

3.3.1 *40 lambda WDM Channel-by-Channel and Flexible Dispersion Compensation at 40 Gb/s Using Multi-channel Tunable Optical Dispersion Compensator*

Shunichi Sohma (NTT Corporation, Japan); Kunihiko Mori (NTT Corporation, Japan); Tetsuo Takahashi (NTT Corporation, Japan); Kenya Suzuki (NTT Corporation, Japan); Naoki Ooba (NTT Corporation, Japan)

3.3.2 *Fibre-Based Parametric Wavelength Conversion of 86 Gb/s RZ-DQPSK Signals With 15 dB Gain Using a Dual-Pump Configuration*

Thomas Richter (Fraunhofer Heinrich-Hertz-Institut, Germany); Robert Elschner (Technical University of Berlin, Germany); Colja Schubert (Fraunhofer Heinrich-Hertz-Institut, Germany); Klaus Petermann (Technical University of Berlin, Germany)

3.3.3 *All-Optical 3R Regeneration at 40 Gb/s in a Recirculating Loop Utilizing Raman Amplification, Nonlinear Phase Modulation, and Offset Filtering*

Sung Han Chung (Queen's University, Canada); Xuefeng Tang (Queen's University, Canada); John Cartledge (Queen's University, Canada)

3.3.4 *Impact of Pump-Induced Nonlinear Phase Noise on Parametric Amplification and Wavelength Conversion of Phase-Modulated Signals*

Robert Elschner (Technical University of Berlin, Germany); Klaus Petermann (Technical University of Berlin, Germany)

3.3.5 *Cascaded Phase-Preserving Amplitude Regeneration*

Christian Stephan (Max Plack Institute for the Science of Light, Germany); Klaus Sponsel (University Erlangen-Nuremberg, Germany); Georgy Onishchukov (Max Planck Institute for the Science of Light, Germany); Bernhard Schmauss (University of Erlangen-Nuremberg, Germany); Gerd Leuchs (University Erlangen-Nuremberg, Germany)

3.3.6 *All-Optical XOR Gate Using Integrated SOA Three-Arm-MZI Wavelength Converter*

Iori Takamatsu (Osaka University, Japan); Suresh M. Nissanka (Osaka University, Japan); Akihiro Maruta (Osaka University, Japan); Katsuhiko Shimizu (University of Tokyo, Japan); Toshiharu Miyahara (Mitsubishi Electric Corporation, Japan); Toshitaka Aoyagi (Mitsubishi Electric Corporation, Japan); Atsushi Sugitatsu (Mitsubishi Electric Corporation, Japan); Ken'ichi Kitayama (Osaka University, Japan)

3.3.7 *All-Optical Logic Gates (XOR, AND, and OR) Based on Cross Phase Modulation in a Highly Nonlinear Fiber*

Kai Sun (McGill University, Canada); Jifang Qiu (Beijing University of Posts and Telecommunications, P. R. China); Martin Rochette (McGill University, Canada); Lawrence Chen (McGill University, Canada)

Session 3.4: Coherent vs. Direct-detection

Chair: Polina Bayvel (University College London – UCL, United Kingdom)

3.4.1 *POLMUX-QPSK modulation and coherent detection: the challenge of long-haul 100G transmission (Invited)*

Dirk van den Borne (Nokia Siemens Networks, Germany); Vincent Sleiffer (Eindhoven University of Technology, The Netherlands); Mohammad Alfiad (Eindhoven University of Technology, The Netherlands); Sander Jansen (Nokia Siemens Networks, Germany); Torsten Wuth (Nokia Siemens Networks, Germany)

3.4.2 *100 Gb/s WDM NRZ-PM-QPSK Long-Haul Transmission Experiment over Installed Fiber Probing Non-Linear Reach With and Without DCUs*

Giancarlo Gavioli (Politecnico di Torino, Italy); Enrico Torrenco (Politecnico di Torino, Italy); Gabriella Bosco (Politecnico di Torino, Italy); Andrea Carena (Politecnico di Torino, Italy); Vittorio Curri (Politecnico di Torino, Italy); Valerio Miot (Politecnico di Torino, Italy); Pierluigi Poggiolini (Politecnico di Torino, Italy); Michele Belmonte (AVANEX Corporation, Italy); Andrea Guglielame (AVANEX Corporation, Italy); Andrea Brinciotti (Mi.Tel-Teleoptix, Italy); Antonio La Porta (Mi.Tel-Teleoptix, Italy); Fabrizio Forghieri (Cisco Photonics Italy srl, Italy); Cristiana Muzio (Cisco Photonics Italy srl, Italy); Giovanni Osnago (Cisco Photonics Italy srl, Italy); Stefano Piciaccia (Cisco Photonics Italy srl, Italy); Carlo Lezzi (FASTWEB, Italy); Lutz Molle (Fraunhofer Heinrich-Hertz- Institut, Germany); Ronald Freund (Fraunhofer Heinrich-Hertz-Institut, Germany)

3.4.3 *Nonlinear Behaviour of 112 Gb/s Polarisation-Multiplexed RZ-DQPSK with Direct Detection in a 630 km Field Trial*

Horst Wernz (Ericsson GmbH, Germany); Stefan Herbst (Ericsson GmbH, Germany); Steffen Bayer (Ericsson GmbH, Germany); Helmut Griesser (Ericsson GmbH, Germany); Evely Martins (Ericsson, Germany); Cornelius Fuerst (Ericsson GmbH, Germany); Benjamin Koch (University of Paderborn, Germany); Vitali Mirvoda (University of Paderborn, Germany); Reinhold Noé (University of Paderborn, Germany); Armin Ehrhardt (Deutsche Telekom Netzproduktion GmbH, Germany); Lars Schuerer (Deutsche Telekom Netzproduktion GmbH, Germany); Sascha Vorbeck (Deutsche Telekom AG, Germany); Malte Schneiders (Deutsche Telekom Netzproduktion GmbH, Germany); Dirk Breuer (Deutsche Telekom T-Labs, Germany); Ralf-Peter Braun (Deutsche Telekom T-Labs, Germany)

3.4.4 *Pseudo-Return-to-Zero Modulation Scheme: Application to the Compensation of Intra-Polarization Skew for PolMux Signals*

Emmanuel Le Taillandier de Gabory (NEC Corporation, Japan); Sadao Fujita (NEC Corporation, Japan); Wakako Maeda (NEC Corporation, Japan); Kiyoshi Fukuchi (Principal Researcher, Japan)

3.4.5 *On the Required Number of WDM Channels When Assessing Performance of 100 Gb/s Coherent PDM-QPSK Overlaying Legacy Systems*

Jérémie Renaudier (Bell Labs, Alcatel-Lucent, France); Oriol Bertran-Pardo (Telecom Paristech (ENST-Paris), France); Gabriel Charlet (Bell Labs, Alcatel-Lucent, France); Massimiliano Salsi (Bell Labs, Alcatel-Lucent, France); Marco Bertolini (Università degli Studi di Parma, Italy); Patrice Tran (Bell Labs, Alcatel-Lucent, France); Haik Mardoyan (Bell Labs, Alcatel-Lucent, France); Sébastien Bigo (Bell Labs, Alcatel-Lucent, France)

3.4.6 *Simultaneous WDM-DQPSK Demodulation with a Single AWG*

Francesco Vacondio (Laval University, Canada); Amirhossein Ghazisaeidi (Université Laval, Canada); Leslie Rusch (Laval University, Canada)

Session 3.5: Multi-mode Fibres for Access

Chair: Jerzy Siuzdak (Warsaw University of Technology, Poland)

- 3.5.1** *4 Gbit/s over 50-m Large Core Diameter GI-POF using Low-cost VCSEL*
Hejie Yang (COBRA, Eindhoven University of Technology, The Netherlands); Eduward Tangdiongga (COBRA, Eindhoven University of Technology, The Netherlands); Jeffrey Lee (COBRA, Eindhoven University of Technology, The Netherlands); Sebastian Randel (Siemens, Germany); Henrie van den Boom (COBRA, Eindhoven University of Technology, The Netherlands); Ton Koonen (COBRA, Eindhoven Univ. of Technology, The Netherlands)
- 3.5.2** *107 Gb/s Transmission over Multimode Fiber with Coherent Optical OFDM Using Center launching Technique*
Yiran Ma (University of Melbourne, Australia); Yan Tang (The University of Melbourne, Australia); William Shieh (The University of Melbourne, Australia)
- 3.5.3** *High Speed Optical Transmission over Plastic Optical Fibers (Invited)*
Roberto Gaudino (Politecnico di Torino, Italy)
- 3.5.4** *Real-Time Implementation of a 1.25-Gbit/s DMT Transmitter for Robust and Low-Cost LED-Based Plastic Optical Fiber Applications*
Jeffrey Lee (COBRA, Eindhoven University of Technology, The Netherlands); Florian Breyer (Technische Universität München, Germany); Daniel Cárdenas (Universidad San Francisco de Quito, Ecuador); Sebastian Randel (Siemens, Germany); Ton Koonen (COBRA, Eindhoven University of Technology, The Netherlands)
- 3.5.5** *Real-time Gigabit Ethernet Transmission over up to 25 m Step Index Polymer Optical Fibre using LEDs and FPGA-Based Signal Processing*
Florian Breyer (Munich University of Technology, Germany); Jeffrey Lee (University of Technology Eindhoven, The Netherlands); Daniel Cárdenas (Universidad San Francisco de Quito, Ecuador); Sebastian Randel (Siemens, Germany); Norbert Hanik (Munich University of Technology, Germany)
- 3.5.6** *Multiservice & multiformat home network based on a low cost optical infrastructure*
Philippe Guignard (France Telecom R&D, France); Anna Pizzinat (France Telecom R&D, France); Olivier Bouffant (France Télécom R&D, France); Benoit Charbonnier (Orange Labs, France); J. Guillory (Orange Labs, France)

Session 3.6: Nanophotonics

Chair: Christian Lermينياux (Université de Technologie de Troyes, France)

- 3.6.1** *Tutorial: Nanophotonics: Dressed Photon Technology for Innovative Optical Devices, Fabrications and Systems*
Motoichi Ohtsu (The University of Tokyo, Japan)
- 3.6.2** *Electrically Driven Single Photon Sources - Status and Challenges (Invited)*
Alfred Forchel (Würzburg University, Germany); S. Reitzenstein (Würzburg University, Germany); S. Höfling (Würzburg University, Germany); M. Kamp (Würzburg University, Germany)

Session 4.1: Fibre Measurement and Characterization

Chair: Pascale Nouchi (Draka, France)

- 4.1.1** *Sub-cm Spatial Resolution Reflectometry over 10 km Based on Phase Noise Compensated OFDR with Third Order Sideband Sweeping*
Yusuke Koshikiya (NTT Corporation, Japan); Xinyu Fan (NTT, Japan); Fumihiko Ito (NTT Access Network Service Systems Laboratories, NTT Corporation, Japan)
- 4.1.2** *10 cm spatial resolution and 20 km range full polarimetric reflectometry for distributed DGD measurement of high PMD fibres*
Xinyu Fan (NTT Corporation, Japan); Yusuke Koshikiya (NTT Corporation, Japan); Fumihiko Ito (NTT Corporation, Japan)
- 4.1.3** *Localized Measurement of Linear Polarization Rotation Parameters in Short Optical Fibers*
Evgeny Myslivets (University of California San Diego, USA); Stojan Radic (University of California, San Diego, USA); Nikola Alic (University of California San Diego, USA)
- 4.1.4** *Reflectometric Measurement of Strain Induced Optical Activity Coefficient in Single-Mode Randomly Birefringent Twisted Fibers*
Andrea Galtarossa (University of Padova, Italy); Daniele Grosso (University of Padova, Italy); Luca Palmieri (University of Padova, Italy)
- 4.1.5** *Fabry-Perot Lasers in Simultaneous Strain and Temperature Brillouin-based Distributed Sensing*
Marcelo Soto (Scuola Superiore Sant'Anna, Italy); Gabriele Bolognini (Scuola Superiore Sant'Anna, Italy); Fabrizio Di Pasquale (Scuola Superiore Sant'Anna, Italy)

4.1.6 ***Straightforward Chromatic Dispersion Measurement Based on Phase Mismatching FWM***
Masaaki Hirano (Sumitomo Electric Industries, Ltd., Japan); Takashi Sasaki (Sumitomo Electric Industries, LTD., Japan)

4.1.7 ***Simple Filter for Dispersion Estimation via optical VSB filtering***
Niels Neumann (TU Dresden, Germany); Tobias Schuster (TU Dresden, Germany); Christian Schaeffer (Helmut Schmidt University, Germany)

Session 4.2: Heterogeneous Integration

Chair: Guang-Hua Duan (Alcatel Thales III-V Lab, France)

4.2.1 ***Heterogeneously Integrated SOI Compound Semiconductor Photonics (Invited)***
Dries Van Thourhout (Ghent University – IMEC, Belgium); Gunther Roelkens (Ghent University – IMEC, Belgium)

4.2.2 ***An Ultra-compact Waveband Cross-connect Switch Module to Create Cost-effective Multi-degree Reconfigurable Optical Node***
Kiyo Ishii (Nagoya University, Japan); Hiroshi Hasegawa (Nagoya University, Japan); Ken-Ichi Sato (Nagoya University, Japan); Masayuki Okuno (NTT Electronics, Japan); Shin Kamei (NTT Photonics Laboratories, Japan); Hiroshi Takahashi (NTT Corporation, Japan)

4.2.3 ***High Speed Wavelength Conversion in a Heterogeneously Integrated Disc Laser Over Silicon On Insulator for Network on a Chip Applications***
Oded Raz (Eindhoven University of Technology, The Netherlands); Liu Liu (Gent University, Belgium); Dries Van Thourhout (Ghent University-IMEC, Belgium); Pedro Rojo-Romeo (Institut des Nanotechnologies de Lyon, France); Jean-Marc Fedeli (CEA-LETI, France); Dorren Harm (Eindhoven University of Technology, The Netherlands)

4.2.4 ***Compact Passive Devices in InP Membrane on Silicon***
Frederic Bordas (Technische Universiteit Eindhoven, The Netherlands); Gunther Roelkens (Ghent University – IMEC, Belgium); Rui Zhang (Technische Universiteit Eindhoven, The Netherlands); Erik Jan Geluk (Technische Universiteit Eindhoven, The Netherlands); Fouad Karouta (Technische Universiteit Eindhoven, The Netherlands); Jos van der Tol (Technische Universiteit Eindhoven, The Netherlands); Rene van Veldhoven (Technische Universiteit Eindhoven, The Netherlands); Richard Notzel (TU/e, The Netherlands); Dries Van Thourhout (Ghent University-IMEC, Belgium); Roel Baets (Ghent University – IMEC, Belgium); Meint Smit (TU/e, The Netherlands)

4.2.5 ***Polarization-Independent and Low-Current Operation of InAlGaAs/InAlAs Mach-Zehnder Interferometer-Type Photonic Switch with Hybrid-Waveguide Structure for Optical Packet Switching***
Yuta Ueda (Waseda University, Japan); Shinya Nakamura (Waseda University); Shinji Fujimoto (Waseda University); Hiroto Yamada (Waseda University); Katsuyuki Utaka (Waseda University); Takashi Shiota (Central Research Laboratory, Tokyo); Takeshi Kitatani (Central Research Laboratory Tokyo)

4.2.6 ***Compact Polarization-Insensitive Array Isolator Built-in SOA Gate Array Switch Module for Large-Scale Switch Systems***
Goji Nakagawa (Fujitsu Limited, Japan); Kazuo Hironishi (Fujitsu Laboratories Limited, Japan); Nobuhiro Fukushima (Fujitsu Optical Components Ltd., Japan); Yutaka Kai (Fujitsu Limited, Japan); Kyosuke Sone (Fujitsu Laboratories Limited, Japan); Setsuo Yoshida (Fujitsu Limited, Japan); Yasuhiko Aoki (Fujitsu Limited, Japan); Shinsuke Tanaka (Fujitsu Limited, Japan); Ken Morito (Fujitsu Limited, Japan); Susumu Kinoshita (Fujitsu Laboratories Ltd, Japan)

Session 4.3: Optical Signal Processing (2)

Chair: John Cartledge (Queen's University, Canada)

4.3.1 ***All-optical Combination of DPSK and OOK to 320-Gb/s DQPSK Signal Using Fiber-based Signal Processors***
Fumio Futami (Fujitsu Laboratories Ltd., Japan); Ryo Okabe (Fujitsu Laboratories Ltd., Japan); Tomoyuki Kato (Fujitsu Laboratories Ltd., Japan); Carsten Schmidt-Langhorst (Fraunhofer Heinrich-Hertz-Institut, Germany); Colja Schubert (Fraunhofer Heinrich-Hertz-Institut, Germany); Reinhold Ludwig (Fraunhofer Heinrich-Hertz-Institut, Germany); Shigeki Watanabe (Fujitsu Laboratories Ltd., Japan)

4.3.2 ***All-Optical Demultiplexing of 640 Gbit/s OTDM-DPSK Signal Using a Semiconductor SMZ Switch***
Toshihiko Hirooka (Tohoku University, Japan); Masatada Okazaki (Tohoku University, Japan); Toshiyuki Hirano (Tohoku University, Japan); Pengyu Guan (Tohoku University, Japan); Masataka Nakazawa (Tohoku University, Japan); Shigeru Nakamura (NEC Corporation, Japan)

4.3.3 ***640 Gb/s timing tolerant demultiplexing using a cascaded long-period fiber grating pulse shaper***
Evarist Palushani (Technical University of Denmark, Denmark); Hao Hu (Technical University of Denmark, Denmark); Leif Oxenløwe (Technical University of Denmark, Denmark); Radan Slavík (ASCR, Czech Republic); Michael Galili (Technical University of Denmark, Denmark); Hans Christian Mulvad (Technical University of Denmark, Denmark); Anders Clausen (Technical University of Denmark, Denmark); Palle Jeppesen (Technical University of Denmark, Denmark)

- 4.3.4 *Ultrafast All-Optical Analog-to-Digital Conversion using Fiber Nonlinearity (Invited)***
Ken'ichi Kitayama (Osaka University, Japan); Yuji Miyoshi (Osaka University); Seiji Takagi (Osaka University); Shu Namiki (National Institute of Advanced Industrial Science and Technology)
- 4.3.5 *Bit-Rate-Variable and Order-Switchable Optical Multiplexing of 160-Gbit/s PRBS Data Using Tunable Optical Delays***
Xiaoxia Wu (University of Southern California, USA); Jian Wang (University of Southern California, USA); Omer Yilmaz (University of Southern California, USA); Scott Nuccio (University of Southern California, USA); Antonella Bogoni (CNIT, Italy); Alan Willner (University of Southern California, USA)
- 4.3.6 *Simultaneous Implementation of Photonic OR and AND Logic Gates for CSRZ-OOK Signal Using Four-Wave Mixing (FWM) in a Highly Nonlinear Photonic Crystal Fiber (HNL-PCF)***
Fu Songnian (Nanyang Technological University, Singapore); Wen-De Zhong (Nanyang Technological University, Singapore); Ping Shum (Nanyang Technological University, Singapore); Chinlon Lin (Nanyang Tech. University, Singapore); Junqiang Zhou (Nanyang Technological University, Singapore)

Session 4.4: Symposium: Real-time Digital Signal Processing for Optical Transceivers (1) – Session 1: Technology

Chair: John Sitch (Nortel, USA)

- 4.4.2 *DSP: A Disruptive Technology for Optical Transceivers***
Kim Roberts (Nortel Networks, Canada); Ian Roberts (McGill University, Canada)
- 4.4.3 *From Algorithm to ASIC: Realising Distortion Tolerant Transmission***
Theodor Kupfer (CoreOptics GmbH, Germany)
- 4.4.4 *Comparison of Current FPGA Technology: Case Study Implementing FEC for the 100 G Optical Transport Network***
Wally Haas (Avalon Microelectronics, Canada)

Session 4.5: Ultra-Wideband over Fibre

Chair: John Mitchell (University College London, United Kingdom)

- 4.5.1 *Spectrally Efficient Simultaneous Delivery of 112Gbps Baseband Wireline and 60 GHz MM-Wave Carrying 10 Gbps Optical Wireless Signal in Radio-over-Fiber WDM-PON Access Systems***
Chowdhury Arshad (Georgia Institute of Technology, USA); Jianjun Yu (NEC Labs America, USA); Hung-Chang Chien (Georgia Institute of Technology, USA); Ming-Fang Huang (Georgia Institute of Technology, USA); Ting Wang (NEC Laboratories America, USA); Gee-Kung Chang (Georgia Institute of Technology, USA)
- 4.5.2 *Simultaneous Generation and Transmission of 60-GHz RF and Baseband Signals Employing Only a Simple Single Electrode MZM***
Wen-Jr Jiang (National Chiao Tung University, Taiwan); Chun-Ting Lin (National Chiao Tung University, Taiwan); Po Tsung Shih (National Chiao Tung University, Taiwan); Jyehong Chen (National Chung Cheng University, Taiwan); Sien Chi (Yuan Ze University, Taiwan)
- 4.5.3 *All-Optical Multicasting of Millimetre-Wave Signals using Optical Frequency Multiplication Technique for In-building Networks***
Hyun-Do Jung (COBRA, Eindhoven University of Technology, The Netherlands); Chigo Okonkwo (COBRA, Eindhoven University of Technology, The Netherlands); Eduward Tangdiongga (COBRA, Eindhoven University of Technology, The Netherlands); Ton Koonen (COBRA, Eindhoven University of Technology, The Netherlands)
- 4.5.4 *13.75-Gb/s OFDM Signal Generation for 60-GHz RoF System within 7-GHz License-Free Band via Frequency Sextupling***
Po Tsung Shih (National Chiao Tung University, Taiwan); Chun-Ting Lin (National Chiao Tung University, Taiwan); Han-Sheng Huang (National Chiao-Tung University); Wen-Jr Jiang (National Chiao-Tung University); Jyehong Chen (National Chiao-Tung University); Anthony Ng'oma (One Science Center Dr., Corning, NY); Michael Sauer (One Science Center Dr., Corning, NY); Sien Chi (Yuan-Ze University, National Chiao-Tung University)
- 4.5.5 *New Time-Frequency Code Scheme for Bidirectional Ultra-wideband WDM Access Networks***
Wen-Piao Lin (Chang Gung University, Taiwan); Yu-Fang Hsu (Chienkuo Technology University, Taiwan)
- 4.5.6 *Evolution of Optical Access Network Technologies in Radio Systems (Invited)***
Yukio Horiuchi (KDDI R&D Laboratories, Inc., Japan)

Session 4.6: Transport Network Technologies

Chair: Andreas Gladisch (Deutsche Telekom AG, Germany)

4.6.1 **Tutorial: Core Photonic Networks – Where Are Things Heading?**

Peter Magill (AT&T Labs – Research, USA); Robert Doverspike (AT&T Labs – Research, USA)

4.6.2 **Route and Wavelength/Waveband Assignment for Creation of Compact Hierarchical Optical Cross-Connect for Multi-Ring Connection**

Kiyo Ishii (Nagoya University, Japan); Hiroshi Hasegawa (Nagoya University, Japan); Ken-Ichi Sato (Nagoya University, Japan)

4.6.3 **Scalable Optical Packet Switching at 160 Gb/s Data Rate**

Wenrui Wang (COBRA, Eindhoven University of Technology, The Netherlands); Nicola Calabretta (COBRA, Eindhoven University of Technology, The Netherlands); Ton Ditewig (COBRA, Eindhoven University of Technology, The Netherlands); Fausto Gomez-Agis (COBRA, Eindhoven University of Technology, The Netherlands); Shangjian Zhang (COBRA, Eindhoven University of Technology, The Netherlands); Oded Raz (COBRA, Eindhoven University of Technology, The Netherlands); Eduward Tangdionga (COBRA, Eindhoven University of Technology, The Netherlands); Dorren Harm (COBRA, Eindhoven University of Technology, The Netherlands)

4.6.4 **Demonstration of QoS-Classified Survivability Schemes in Transparent OBS/GMPLS Networks Using Streaming Media Transmission**

Yawei Yin (Beijing University of Posts and Telecommunications, P. R. China); Wenjia Zhang (Beijing University of Posts and Telecommunications, P. R. China); Hongxiang Guo (Beijing University of Posts and Telecommunications, P. R. China); Takehiro Tsuritani (KDDI R&D Laboratories, Inc., Japan); Xiaobin Hong (Beijing University of Posts and Telecommunications, P. R. China); Jian Wu (Beijing University of Posts and Telecommunications, P. R. China); Hongmei Jiang (Beijing University of Posts and Telecommunications, P. R. China); Xiaoyuan Cao (Beijing University of Posts and Telecommunications, P. R. China); Lei Liu (Beijing University of Posts and Telecommunications, P. R. China); Tomohiro Otani (KDDI R&D Laboratories, Inc., Japan); Jintong Lin (Beijing University of Posts and Telecommunications, P. R. China)

Session 4.7: Symposium: Next Generation Optical Access Technologies (1)

Chair: Russell Davey (BT., United Kingdom), Thomas Pearsall (EPIC, France)

4.7.1 **What will be the killer application for FTTH and would end users ever need more than ~100 Mbit/s?**

Edward Uzzell (Sony, Germany)
(Paper not available at the time of printing)

4.7.2 **How much will end users pay for more bandwidth and what will be the best way to deliver it?**

Hartwig Tauber (FTTH Council Europe, Germany)
(Paper not available at the time of printing)

4.7.3 **Next Generation PON: Lessons Learned from G-PON and GE-PON**

Frank Effenberger (HUAWEI, United Kingdom)

4.7.4 **Reducing the Optical Component Cost for Future Fibre Access**

David Smith (CIP, United Kingdom)

4.7.5 **Prospects for point-to-point technology to deliver 1 Gbit/s to the home**

Gerlas van den Hoven (GENEXIS, The Netherlands)
(Paper not available at the time of printing)

Session 5.1: Fibre Devices

Chair: Patrice Mégret (Faculté Polytechnique de Mons – F.P.Ms, Belgium)

5.1.1 **Complete Temporal Optical Fourier Transformations Using Dark Parabolic Pulses**

Trina Ng (University of Southampton, United Kingdom); Periklis Petropoulos (University of Southampton, United Kingdom); Francesca Parmigiani (ORC, University of Southampton, United Kingdom); David Richardson (University of Southampton, United Kingdom)

5.1.2 **Almost Distortion-Free 1.2 Bit Brillouin Based Slow-Light**

Andrzej Wiatrek (Hochschule für Telekommunikation Leipzig, Germany); Ronny Henker (Hochschule für Telekommunikation, Leipzig, Germany); Thomas Schneider (Hochschule für Telekommunikation, Leipzig, Germany)

5.1.3 **Fiber Optic Engine for Full Color Micro Projection**

Hesam Edin Arabi Ardakani (Yonsei University, Korea); Kyunghwan Oh (Yonsei University, Korea); Sohee An (Yonsei University, Korea)

- 5.1.4 Tunable Photonic Microwave Notch Filter Based on a Dual-wavelength Fiber Laser**
Kwanil Lee (Korea Institute of Science and Technology, Korea); Antonio Malacarne (Scuola Superiore Sant'Anna, Italy); Antonella Bogoni (Scuola Superiore Sant'Anna, Italy); Giancarlo Prati (Scuola Superiore Sant'Anna, Italy); Lee Sang-Bae (Korea Institute of Science & Technology, Korea)
- 5.1.5 Tunable Birefringent Phase-Shift Induced in Fiber Bragg Grating by a Shape Memory Alloy Ferrule**
Alex Fraser (PhasOptx inc, Canada); Martin Bernier (Université Laval, Canada); Éric Weynant (PhasOptx, Canada); Réal Vallée (Université Laval, Canada)
- 5.1.6 Multimaterial Multifunctional Fiber Devices (Invited)**
Fabien Sorin (MIT, USA); Yoel Fink (Massachusetts Institute of Technology, USA)

Session 5.2: Ultra-fast Integrated Devices

Chair: Gadi Eisenstein (Technion Institute of Technology, Israel)

- 5.2.1 Optical MSK Transmitter using a Monolithically Integrated Quad Mach-Zehnder IQ Modulator**
Guo-Wei Lu (National Institute of Information and Communications Technology – NICT, Japan); Takahide Sakamoto (NICT, Japan); Akito Chiba (NICT, Japan); Tetsuya Kawanishi (NICT, Japan); Tetsuya Miyazaki (NICT, Japan); Kaoru Higuma (Sumitomo Osaka Cement, Japan); Junichiro Ichikawa (Sumitomo Osaka Cement, Japan)
- 5.2.2 80 Gb/s InP Mach-Zehnder Modulator Module using Liquid Crystal Polymer (LCP) Transmission Line**
Ken Tsuzuki (NTT Corporation, Japan); Tadao Ishibashi (NTT Corporation, Japan); Toshio Ito (NTT Corporation, Japan); Nobuhiro Kikuchi (NTT Corporation, Japan); Fumiyoshi Kano (NTT Corporation, Japan)
- 5.2.3 Cavity-Less 40 GHz Pulse Source Tunable Over 95 nm**
Andreas O. J. Wiberg (University of California, San Diego, USA); Camille-Sophie Bres (University of California, San Diego, USA); Bill Ping Piu Kuo (University of California, San Diego, USA); Evgeny Myslivets (University of California San Diego, USA); Stojan Radic (University of California, San Diego, USA)
- 5.2.4 Silicon Organic Hybrid – A Platform for Ultrafast Optics (Invited)**
Jürg Leuthold (Karlsruhe Institute of Technology – KIT, Germany); W. Freude (Karlsruhe Institute of Technology – KIT); C. Koos (Karlsruhe Institute of Technology – KIT); T. Vallaitis (Karlsruhe Institute of Technology – KIT); J.-M. Brosi (Karlsruhe Institute of Technology – KIT); S. Bogatscher (Karlsruhe Institute of Technology – KIT); P. Dumon (Ghent University); R. Baets (Ghent University); M. L. Scimeca (Lehigh University); I. Biaggio (Lehigh University); F. Diederich (ETH Zürich)
- 5.2.5 High Quality and Efficient QPM-LiNbO3 Wavelength Converter Integrated With 0.78/1.56-um Wavelength Multiplexer**
Takeshi Umeki (NTT Photonics Laboratories, Japan); Osamu Tadanaga (NTT Photonics Laboratories, Japan); Masaki Asobe (NTT Photonics Laboratories, Japan)

Session 5.3: Network Nodes

Chair: Hercules Avramopoulos (National Technical University of Athens, Greece)

- 5.3.1 Efficient ROADM-ring Connecting Node Switch Architecture that Utilizes Waveband Routing and its Realization with PLC Technologies**
Kiyoo Ishii (Nagoya University, Japan); Osamu Moriwaki (NTT Corporation, Japan); Hiroshi Hasegawa (Nagoya University, Japan); Ken-Ichi Sato (Nagoya University, Japan); Yoshiteru Jinnouchi (NTT Electronics, Japan); Masayuki Okuno (NTT Electronics, Japan); Hiroshi Takahashi (NTT Corporation, Japan)
- 5.3.2 Performance of an Advanced Transient Suppressed EDFA in Diverse Dynamic Optical Network Scenarios**
Benjamin Puttnam (National Institute of Information and Communications Technology – NICT, Japan); Yoshinari Awaji (NICT, Japan); Naoya Wada (NICT, Japan)
- 5.3.3 Transparent Nodes. Yes, but to what Extent? (Invited)**
Thierry Zami (Alcatel-Lucent, France); Bruno Lavigne (Alcatel-Lucent Optics Division); Mathieu Lefrançois (Alcatel-Lucent Optics Division); Annalisa Morea (Alcatel-Lucent Bell Labs France)
- 5.3.4 Wide Range Over 20 dB Output Power Control Using Semiconductor Optical Amplifier for 43.1 Gbps RZ-DQPSK Signal**
Hidekazu Takeda (Fujitsu Optical Components Limited, Japan); Naoki Hashimoto (Fujitsu Optical Components Limited, Japan); Tamotsu Akashi (Fujitsu Optical Component Limited, Japan); Hidehiko Narusawa (Fujitsu Optical Components Limited, Japan); Kensuke Matsui (Fujitsu Optical Components Limited, Japan); Kazuyuki Mori (Fujitsu Laboratories Ltd., Japan); Shinsuke Tanaka (Fujitsu Limited, Japan); Ken Morito (Fujitsu Limited, Japan)

Session 5.4: Symposium: Real-time Digital Signal Processing for Optical Transceivers (2) – Session 2: Applications

Chair: Seb Savory (University College London, United Kingdom)

5.4.1 *FPGA based Prototyping of Next Generation Forward Error Correction*

Takashi Mizuochoi (Mitsubishi Electric Corporation, Japan); Y. Konishi (Mitsubishi Electric Corporation, Japan); Y. Miyata (Mitsubishi Electric Corporation, Japan); T. Inoue (Mitsubishi Electric Corporation, Japan); K. Onohara (Mitsubishi Electric Corporation, Japan); S. Kametani (Mitsubishi Electric Corporation, Japan); T. Sugihara (Mitsubishi Electric Corporation, Japan); K. Kubo (Mitsubishi Electric Corporation, Japan); T. Kobayashi (Mitsubishi Electric Corporation, Japan); H. Yoshida (Mitsubishi Electric Corporation, Japan); T. Ichikawa (Mitsubishi Electric Corporation, Japan)

5.4.2 *Real-time FPGA Implementation of Transmitter Based DSP*

Philip Watts (University of Cambridge, United Kingdom); Robert Waegemans (University College London, United Kingdom); Yannis Benlachtar (UCL, United Kingdom); Polina Bayvel (UCL, United Kingdom); Robert Kille (UCL, United Kingdom)

5.4.3 *Real-time Implementation of Digital Coherent Detection*

Reinhold Noé (University of Paderborn, Germany) U. Rückert (University of Paderborn, Germany); S. Hoffmann (University of Paderborn, Germany); R. Peveling (University of Paderborn, Germany); T. Pfau (University of Paderborn, Germany); M. El-Darawy (University of Paderborn, Germany); A. Al-Bermani (University of Paderborn, Germany)

5.4.4 *Realizing Real-Time Implementation of Coherent Optical OFDM Receiver with FPGAs*

Noriaki Kaneda (Bell Labs, Alcatel-Lucent, USA); Qi Yang (University of Melbourne, Australia); Xiang Liu (Bell Labs, Alcatel-Lucent, USA); William Shieh (The University of Melbourne, Australia); Young-Kai Chen (Bell Labs, Alcatel-Lucent, USA)

Session 5.5: Energy-aware Design

Chair: Marco Schiano (Telecom Italia, Italy)

5.5.1 *Optical Technologies Can Improve the Energy Efficiency of Networks (Invited)*

Edoardo Bonetto (Politecnico di Torino, Italy); Luca Chiaraviglio (Politecnico di Torino, Italy); Davide Cuda (Politecnico di Torino, Italy); Guido Gavilanes Castillo (Politecnico di Torino, Italy); Fabio Neri (Politecnico di Torino, Italy)

5.5.2 *Energy Efficient Multilayer Traffic Engineering*

Bart Puype (Ghent University, Belgium); Didier Colle (Ghent University, Belgium); Mario Pickavet (Ghent University, Belgium); Piet Demeester (Ghent University, Belgium)

5.5.3 *Energy Consumption of Telecommunication Networks*

Christoph Lange (Deutsche Telekom AG, Germany); Dirk Kosiankowski (Deutsche Telekom AG, Germany); Christoph Gerlach (Deutsche Telekom Netzproduktion GmbH, Germany); Fritz-Joachim Westphal (Deutsche Telekom AG, Germany); Andreas Gladisch (Deutsche Telekom AG, Germany)

5.5.4 *OPEX savings of all-optical core networks*

Andrew Lord (British Telecom, United Kingdom); Carl Engineer (Taseon, USA)

Session 5.6: Optical Packet Switching

Chair: Dorren Harm (Eindhoven University of Technology, The Netherlands)

5.6.1 *Tutorial: Optical Signal Processing: The Roadmap towards High-speed Optical Packet/Burst Switching*

Masash Usami (KDDI Corporation, Japan); Daniel J. Blumenthal (UCSB, USA)

Session 5.7: Symposium: Next Generation Optical Access Technologies (2)

Chair: Russell Davey (BT., United Kingdom)

5.7.1 *WDM-PON Overview*

Chang-Hee Lee (LG-Nortel Co. Ltd, Korea); Sil-Gu Mun (Dept. of EE, KAIST Korea); Jung-Hyung Moon (Dept. of EE, KAIST Korea)

5.7.2 *10G-EPON: Drivers, Challenges, and Solutions*

Glen Kramer (Teknovus, Inc, USA)

5.7.3 *Comparison of 10 Gbit/s PON vs WDM-PON*

Stefan Dahlfors (Ericsson, Sweden)

5.7.4 *Next generation PONs: an operator's view*

Jun-ichi Kani (NTT, Japan); Naoto Yoshimoto (NTT, Japan)

Wednesday, September 23, 2009

Session 6.1: Broadband Lightsources

Chair: Dag Hjelme (Invivosense, Norway)

- 6.1.1 Supercontinuum Generation in a Chalcogenide-Tellurite Composite Microstructure Fiber**
Meisong Liao (Toyota Technological Institute, Japan); Chitirekha Chaudhari (Toyota Technological Institute, Japan); Guanshi Qin (Toyota Technological Institute, Japan); Xin Yan (Toyota Technological Institute, Japan); Chihiro Kito (Toyota Technological Institute, Japan); Takenobu Suzuki (Toyota Technological Institute, Japan); Yasutake Ohishi (Toyota Technological Institute, Japan); Morio Matsumoto (Furukawa Denshi Co., Ltd, Japan); Takashi Misumi (Furukawa Denshi Co., Ltd, Japan)
- 6.1.2 Supercontinuum Generation from UV to 3.85 μm in a Fluoride Fiber**
Guanshi Qin (Toyota Technological Institute, Japan); Yasutake Ohishi (Toyota Technological Institute, Japan); Xin Yan (Toyota Technological Institute, Japan); Chihiro Kito (Toyota Technological Institute, Japan); Meisong Liao (Toyota Technological Institute, Japan); Chitirekha Chaudhari (Toyota Technological Institute, Japan); Takenobu Suzuki (Toyota Technological Institute, Japan)
- 6.1.3 Supercontinuum Generation by Higher-Order Mode Excitation in a Photonic Crystal Fibre (Invited)**
Vittorio Degiorgio (Università di Pavia, Italy); L. Tartara (Università di Pavia, Italy); R. Cherif (Engineering School of Communication of Tunis); M. Zghal (Engineering School of Communication of Tunis)
- 6.1.4 Watt-Level Bi-Doped Fiber Lasers: Breakthrough into 1300 – 1500 nm Wavelength Region**
Igor Bufetov (Fiber Optics Research Center of the Russian Academy of Sciences, Russia); Sergey Firstov (Fiber Optics Research Center at the Russian Academy of Sciences, Russia); Vladimir Khopin (Institute of Chemistry of High Purity Substances of RAS, Russia); Alexey Shubin (Fiber Optics Research Center of the Russian Academy of Sciences, Russia); Oleg Medvedkov (Fiber Optics Research Center at the Russian Academy of Sciences, Russia); Lyudmila Iskhakova (Fiber Optics Research Center at the Russian Academy of Sciences, Russia); Aleksey Guryanov (Institute of Chemistry of High Purity Substances of RAS, Russia); Evgeny Dianov (Fiber Optics Research Center of the Russian Academy of Sciences, Russia)
- 6.1.5 Infrared Luminescence Enhancement by UV-Irradiation of H₂-loaded Bi-Al-doped Fiber**
Christian Ban (EPFL, Switzerland); Lenar Bulatov (Fiber Optics Research Center of the Russian Academy of Sciences, Russia); Vlad Dvoyrin (Fiber Optics Research Center of the Russian Academy of Sciences, Russia); Valery Mashinsky (Fiber Optics Research Center of the Russian Academy of Sciences, Russia); Hans Limberger (EPFL, Switzerland); Evgeny Dianov (Fiber Optics Research Center of the Russian Academy of Sciences, Russia)

Session 6.2: Quantum Dot and SOA

Chair: Christoph Harder (Swisslaser & HPP, Switzerland)

- 6.2.1 Quantum-Dot Semiconductor Optical Booster Amplifier with Ultrafast Gain Recovery for Pattern-Effect Free Amplification of 80 Gb/s RZ-OOK Data Signals**
Carsten Schmidt-Langhorst (Fraunhofer Heinrich-Hertz-Institut, Germany); Christian Meuer (Technical University of Berlin, Germany); Reinhold Ludwig (Fraunhofer Heinrich-Hertz-Institut, Germany); Dmitriy Puris (Technical University of Berlin, Germany); Rene Bonk (University of Karlsruhe, Germany); Thomas Vallaitis (University of Karlsruhe, Germany); Dieter Bimberg (Technical University of Berlin, Germany); Klaus Petermann (Technical University of Berlin, Germany); Juerg Leuthold (University of Karlsruhe, Germany); Colja Schubert (Fraunhofer Heinrich-Hertz-Institut, Germany)
- 6.2.2 Wavelength Tunability Assessment of a 170 Gbit/s transmitter using a Quantum Dash Fabry Perot mode-locked laser**
Marcia Costa e Silva (CNRS-Foton, France); Hary Ramanitra (Telecom Malagasy, Madagascar); Mathilde Gay (ENSSAT / Université de Rennes 1, France); Laurent Bramerie (ENSSAT / Université de Rennes 1, France); Sebastien Lobo (ENSSAT / Université de Rennes 1, France); Michel Joindot (ENSSAT / Université de Rennes 1, France); Jean-Claude Simon (ENSSAT / Université de Rennes 1, France); Alexandre Shen (Alcatel-Thales III-V Lab, France); Guang-Hua Duan (Alcatel Thales III-V Lab, France)
- 6.2.3 Low Penalty Cascaded Operation of a Monolithically Integrated Quantum Dot 1x8 Port Optical Switch**
Haibo Wang (University of Cambridge, United Kingdom); Kevin Williams (Eindhoven University of Technology, The Netherlands); Adrian Wonfor (University of Cambridge, United Kingdom); Tjibbe de Vries (TU/e, The Netherlands); Barry Smalbrugge (Technische Universiteit Eindhoven, The Netherlands); Yok-Siang Oei (Technische Universiteit Eindhoven, The Netherlands); Meint Smit (TU/e, The Netherlands); Richard Notzel (TU/e, The Netherlands); Shidai Liu (University of Cambridge, United Kingdom); Richard Penty (Cambridge University, United Kingdom); Ian White (University of Cambridge, United Kingdom)
- 6.2.4 Supercontinuum Generating in Ultralong SOAs – Theory and Experiment**
Patrick Runge (Technische Universität Berlin, Germany); Klaus Petermann (Technical University of Berlin, Germany); Michael Schlak (Fraunhofer Institute HHI, Germany); Walter Brinker (Fraunhofer Institute for Telecommunications, Heinrich-Hertz-Institut, Germany); Bernd Sartorius (Fraunhofer Institute HHI, Germany)

- 6.2.5** *Novel Gain Control Scheme of SOA for High Output Power Operation*
Shinsuke Tanaka (Fujitsu Limited, Japan); Ayahito Uetake (Fujitsu Limited, Japan); Susumu Yamazaki (Fujitsu Limited, Japan); Mitsuru Ekawa (Fujitsu Laboratories Ltd., Japan); Ken Morito (Fujitsu Limited, Japan)
- 6.2.6** *Multi wavelength amplification and signal processing in InP based quantum dash semiconductor optical amplifiers (Invited)*
Gadi Eisenstein (Technion Institute of Technology, Israel)

Session 6.3: Optical Packet Switching (2)

Chair: Antonio Teixeira (University of Aveiro, Portugal)

- 6.3.1** *4x4 Optical Packet Switching with a Prototype 4x4 Label Processing and Switching Sub-System*
Ryohei Urata (NTT Photonics Laboratories, Japan); Tatsushi Nakahara (NTT Photonics Laboratories, Japan); Hirokazu Takenouchi (NTT Photonics Laboratories, Japan); Toru Segawa (NTT Photonics Laboratories, Japan); Hiroshi Ishikawa (NTT Photonics Laboratories, Japan); Akira Ohki (NTT Photonics Laboratories, Japan); Hiroki Sugiyama (NTT Photonics Laboratories, Japan); Susumu Nishihara (NTT Corporation, Japan); Ryo Takahashi (NTT Photonics Laboratories, Japan)
- 6.3.2** *Demonstration of 200 Gbit/s DWDM / NRZ-DQPSK Optical Packet Switching and Buffering*
Hideaki Furukawa (NICT, Japan); Naoya Wada (NICT, Japan); Moriya Nakamura (NICT, Japan); Tetsuya Miyazaki (NICT, Japan)
- 6.3.3** *Terabit-on-Chip: Enabling Ultra-high Capacity Photonic Networks (Invited)*
Efstratios Kehayas (National Technical University of Athens, Greece)
- 6.3.4** *Scalable Optical Packet Switch for Optical Packets with Multiple Modulation Formats and Data Rates*
Nicola Calabretta (COBRA Research Institute, Eindhoven University of Technology, The Netherlands); Oded Raz (COBRA Research Institute, Eindhoven University of Technology, The Netherlands); Wenrui Wang (COBRA Research Institute, Eindhoven University of Technology, The Netherlands); Ton Ditewig (COBRA Research Institute, Eindhoven University of Technology, The Netherlands); Fausto Gomez-Agis (COBRA Research Institute, Eindhoven University of Technology, The Netherlands); Shangjian Zhang (COBRA Research Institute, Eindhoven University of Technology, The Netherlands); Huug de Waardt (COBRA Research Institute, Eindhoven University of Technology, The Netherlands); Eduward Tangdiongga (COBRA Research Institute, Eindhoven University of Technology, The Netherlands); Dorren Harm (COBRA Research Institute, Eindhoven University of Technology, The Netherlands)
- 6.3.5** *160 Gb/s All-Optical Contention Resolution with Prioritization using Integrated Photonic Components*
Paraskevas Bakopoulos (National Technical University of Athens, Greece); Panagiotis Zakyntinos (National Technical University of Athens, Greece); Efstratios Kehayas (National Technical University of Athens, Greece); Leontios Stampoulidis (National Technical University of Athens, Greece); Francesco Fresi (Sant'Anna School of University Studies and Doctoral Research, Pisa, Italy, Italy); Claudio Porzi (Scuola Superiore S. Anna, Italy); Nicola Calabretta (COBRA Research Institute, The Netherlands); Christos Kouloumentas (National Technical University of Athens, Greece); Dimitrios Petrantonakis (National Technical University of Athens, Greece); Alexandros Maziotis (National Technical University of Athens, Greece); Christos Stamatiadis (National Technical University of Athens, Greece); Dimitrios Apostolopoulos (National Technical University of Athens, Greece); Mircea Guina (Optoelectronics Research Centre, Tampere University of Technology, Finland); Dimitrios Klionidis (AIT, Greece); Luca Poti (Consorzio Nazionale Interuniversitario per le Telecomunicazioni, Italy); Eduward Tangdiongga (Eindhoven University of Technology, The Netherlands); Alistair Poustie (CIP, United Kingdom); Graeme Maxwell (Centre for Integrated Photonics (CIP) Ltd, United Kingdom); Ioannis Tomkos (AIT, Greece); Antonella Bogoni (CNIT, Italy); Dorren Harm (Eindhoven University of Technology, The Netherlands); Hercules Avramopoulos (National Technical University of Athens, Greece)

Session 6.4: High-speed and Long-distance Transmission

Chair: Peter Andrekson (Chalmers University of Technology, Sweden)

- 6.4.1** *Modulation Formats for Ultra Long-Haul Undersea Transmission (Invited)*
Jin-Xing Cai (Tyco Telecommunications, USA)
- 6.4.2** *Novel Design of Very Long, High Capacity Unrepeated Raman Links*
Andrej Puc (Xtera Communications, Inc., USA); Do il Chang (Xtera Communications, Inc., USA); Wayne Pelouch (Xtera Communications, Inc., USA); Philippe Perrier (Xtera Communications, Inc., USA); Datta Krishnappa (Xtera Communications, Inc., USA); Sergey Burtsev (Xtera Communications, Inc., USA)
- 6.4.3** *2.6Tb/s (26 x 100 Gb/s) Unrepeated Transmission Over 401km Using PDM-QPSK with a Coherent Receiver*
Dominique Mongardien (Alcatel-Lucent, France); Philippe Bousselet (Alcatel-Lucent, France); Oriol Bertran-Pardo (Telecom Paristech (ENST-Paris), France); Patrice Tran (Bell Labs, Alcatel-Lucent, France); Hans Bissessur (Alcatel-Lucent, France)
- 6.4.4** *Low-penalty 5x320 Gbit/s (1.6 Tbit/s) WDM DPSK Transmission over 525 km Using Time-domain Optical Fourier Transformation*
Pengyu Guan (Tohoku University, Japan); Masatada Okazaki (Tohoku University, Japan); Toshiyuki Hirano (Tohoku University, Japan); Toshihiko Hirooka (Tohoku University, Japan); Masataka Nakazawa (Tohoku University, Japan)

Session 6.5: WDM-PON and OCDMA

Chair: Gerlas van den Hoven (GENEXIS, The Netherlands)

6.5.1 *Bidirectional Transmission in Colourless WDM-PON based on Injection-Locked Fabry-Perot Laser at 2.5 Gbit/s using Low-Cost Seeding Source*

Quoc Thai Nguyen (Foton / CNRS / Université de Rennes 1, France); Pascal Besnard (Foton / CNRS / Université de Rennes I, France); Laurent Bramerie (ENSSAT / Université de Rennes 1, France); Alexandre Shen (Alcatel-Thales III-V Lab, France); Guang-Hua Duan (Alcatel Thales III-V Lab, France); Christophe Kazmierski (Alcatel-Thales III-V Lab, France); Jean-Claude Simon (ENSSAT / Université de Rennes 1, France)

6.5.2 *Broadband Convergence of 60-GHz ROF and WDM-PON Systems with a Single Modulator for Bidirectional Access Networks*

Jianjun Yu (NEC Labs America, USA); Zhensheng Jia (Telcordia Technologies, USA); Gee-Kung Chang (Georgia Institute of Technology, USA); Xiang-Jun Xin (Beijing University of Posts and Telecommunications, Beijing, P. R. China)

6.5.3 *Spectrum Sliced Sources AMOOFDM Modulated for WDM & TDM PON*

Fabia Nirina Raharimanitra (Orange Labs, France); Philippe Chanclou (Orange Labs, France); Thanh Nga Duong (Orange Labs, France); Jérôme Le Masson (Orange Labs, France); Benoît Charbonnier (Orange Labs, France); Meryem Ouzzif (Orange Labs, France); Naveena Genay (Orange Labs, France); Ahmed Gharba (Orange Labs, France); Fabienne Saliou (Orange Labs, France); Romain Brenot (Alcatel Thales III-V Lab, France); Guilhem De Valicourt (Alcatel Thales III-V Lab, France)

6.5.4 *Enhancing Crosstalk Tolerance in Single-Feeder Reflective PONs by Using 8B10B Coding and Ad-Hoc Electrical Filtering*

Marco Presi (Scuola Superiore Sant'Anna University, Italy); Roberto Proietti (Scuola Superiore Sant'Anna University, Italy); Andrea Chiuchiarelli (Scuola Superiore Sant'Anna, Italy); Pallab Choudhury (Scuola Superiore Sant'Anna, Italy); Giampiero Contestabile (Scuola Superiore Sant'Anna University, Italy); Luca Giorgi (Ericsson, Italy); Ernesto Ciaramella (Scuola Superiore Sant'Anna University, Italy)

6.5.5 *8x8 Full-duplex Demonstration of Asynchronous, 10 Gbps, DPSK-OCDMA System using Apodized SSFBG and multi-port En/Decoder*

Nobuyuki Kataoka (NICT, Japan); Xu Wang (Heriot Watt University, United Kingdom); Gabriella Cincotti (University Roma Tre, Italy); Naoya Wada (NICT, Japan); Yoshihiro Terada (Fujikura Ltd., Japan); Ken'ichi Kitayama (Osaka University, Japan)

6.5.6 *Impact of Interferometric Noise on Systems with Soft Blocking Properties*

Ivan Glesk (University of Strathclyde, United Kingdom); Ivan Andonovic (University of Strathclyde, United Kingdom); Craig Michie (University of Strathclyde, United Kingdom); Kensuke Sasaki (Oki Electric Industry, Japan); Gyaneshwar Gupta (Oki Electric Industry, Japan)

6.5.7 *Demonstration of Asynchronous, 10 Gbps OCDMA PON system with Colorless and Sourceless ONUs*

Gabriella Cincotti (University Roma Tre, Italy); Nobuyuki Kataoka (NICT, Japan); Naoya Wada (NICT, Japan); Xu Wang (Heriot Watt University, United Kingdom); Tetsuya Miyazaki (NICT, Japan); Ken'ichi Kitayama (Osaka University, Japan)

Session 6.6: Real-time Coherent Receivers

Chair: Pierluigi Poggiolini (Politecnico di Torino, Italy)

6.6.1 *First Experimental Demonstration of Real-Time Optical OFDM Transceivers*

Jianming Tang (Bangor University, United Kingdom); Roger Giddings (Bangor University, United Kingdom); X. Q. Jin (Bangor University); H. H. Kee (Bangor University); X. L. Yang (Bangor University)

6.6.2 *43 Gb/s CP-QPSK Realtime Receiver Demonstrator based on FPGAs and Block-Processing*

Jonas Geyer (University of Erlangen-Nuremberg, Germany); Chris Fludger (CoreOptics GmbH, Germany); Thomas Duthel (CoreOptics GmbH, Germany); Paul Presslein (CoreOptics GmbH, Germany); Christoph Schullien (CoreOptics GmbH, Germany); Bernhard Schmauss (University of Erlangen-Nuremberg, Germany)

6.6.3 *Tutorial: Coherent Receivers: Principles and Real-Time Implementations*

Andreas Leven (Alcatel-Lucent, Germany)

Session 6.7: Symposium: Dynamic Multi-Layer Mesh Network ... Why, How, and When? (1) – Dynamic Mesh Networks

Chair: Sander Jansen (Nokia Siemens Networks, Germany)

6.7.2 *Dynamic Optical Networks: A Provider's perspective*

Peter Magill (AT&T Labs – Research, USA)
(Paper not available at the time of printing)

6.7.3 Physical Layer Components, Architectures and Trends for Agile Photonic Layer Mesh Networking

Brandon Collings (JDSU, Optical Networks Research Lab, USA)

6.7.4 Flexible Optical Network Defined and the Value it Represents in an IP and Ethernet Environment

Ron Jhonson (Cisco Systems Inc., San Jose, California, USA)

6.7.5 Hierarchy and dynamics of optical networks

Fritz-Joachim Westphal (Deutsche Telekom AG, Germany); Andreas Gladisch (Deutsche Telekom AG, Germany); Matthias Gunkel (Deutsche Telekom AG, Germany)

(Paper not available at the time of printing)

Session 7.1: Lasers and Sources

Chair: Andrea Galtarossa (Universita' di Padova, Italy)

7.1.1 Single-Mode HoleY Fibers with Record Aeff of 50,000 μm^2

Masanori Takahashi (Furukawa Electric Co., Ltd., Japan); Kazunori Mukasa (Furukawa Electric Co. Ltd., Japan); Katsunori Imamura (Furukawa Electric Co., Ltd., Japan); Takeshi Yagi (Furukawa Electric Co., Ltd., Japan)

7.1.2 Compact Multiwavelength Fiber Lasers in S, C and L Bands

Sophie LaRochelle (Université Laval, Canada); Serge Doucet (Université Laval, Canada)

7.1.3 Single-Longitudinal-Mode Continuous-Wave Fiber Optical Parametric Oscillator

Sigang Yang (The University of Hong Kong, Hong Kong); Yu Liang (The University of Hong Kong, Hong Kong); Xing Xu (The University of Hong Kong, Hong Kong); Kenneth Wong (The University of Hong Kong, Hong Kong)

7.1.4 Multiwavelength fiber ring laser utilizing a multiple phase-shifts phase-only sampled fiber Bragg grating

Hongpu Li (Shizuoka University, Japan); Ming Li (Shizuoka University, Japan); Yves Painchaud (TeraXion, Canada)

7.1.5 Large Core Single-Mode Chirally-Coupled-Core Fibers for High Power Fiber Lasers (Invited)

Xiuquan Ma (Center for Ultrafast Optical Science, University of Michigan, USA); Cheng Zhu (Center for Ultrafast Optical Science, University of Michigan, USA); Matthew Rever (Center for Ultrafast Optical Science, University of Michigan, USA); Shenghong Huang (Center for Ultrafast Optical Science, University of Michigan, USA); Almantas Galvanauskas (Center for Ultrafast Optical Science, University of Michigan, USA)

7.1.6 Effect of Fibre Base and Reflectors Profile on the Efficiency of Ultra- Long Laser Cavities

Vassilios Karalekas (Aston University, United Kingdom); Paul Harper (Aston University, United Kingdom); Atalla El-Taher (Aston University, United Kingdom); Juan Diego Ania-Castanon (Aston University, United Kingdom); Xuewen Shu (Aston University, Photonics Research Group, United Kingdom); Ian Bennion (Aston University, Photonics Research Group, United Kingdom); Sergei Turitsyn (Aston University, United Kingdom)

Session 7.2: Silicon Photonics and Planar Devices

Chair: Naoto Kobayashi (National Institute of Advanced Industrial Science and Technology, Japan)

7.2.1 Compact, Low Power Consumption Wavelength Tunable Laser with Silicon Photonic-wire Waveguide Micro-ring Resonators

Tao Chu (NEC Corporation, Japan); Nobuhide Fujioka (NEC Corporation, Japan); Shigeru Nakamura (NEC Corporation, Japan); Masatoshi Tokushima (NEC Corporation, Japan); Masashige Ishizaka (NEC Corporation, Japan)

7.2.2 In-Band OSNR Monitoring via Slow-Light Enhanced Third Harmonic Generation in Silicon Photonic Crystal Waveguides

Bill Corcoran (University of Sydney, Australia); C. Monat (University of Sydney); C. Grillet (University of Sydney); M. Pelusi (University of Sydney); B. J. Eggleton (University of Sydney); T. K. White (University of St Andrews); L. O'Faolain (University of St Andrews); T. F. Krauss (University of St Andrews); D. J. Moss (University of Sydney)

7.2.3 Nonlinear functions and quantum entanglement generation using silicon photonic wire waveguides. (Invited)

Koji Yamada (NTT Corporation, Japan); Tai Tsuchizawa (NTT Corporation, Japan); Toshifumi Watanabe (NTT Corporation, Japan); Hiroshi Fukuda (NTT Corporation, Japan); Hiroyuki Shinjima (NTT Microsystem Integration Laboratories, Japan); Hidetaka Nishi (NTT Microsystem Integration Laboratories, Japan); Ken-ichi Harada (NTT Basic Research Laboratories, Japan); Hiroki Takesue (NTT Corporation, Japan); Yasuhiro Tokura (NTT Corporation, Japan); Sei-ichi Itabashi (NTT Corporation, Japan)

7.2.4 Hybrid Comb-Clad Waveguide fabricated by UV curable Resin enabling Multi-channel 90-deg Light Path Conversion

Masahiro Kanda (Tokai University, Japan); Yuji Sugiura (Tokai University, Japan); Osamu Mikami (Tokai University, Japan)

7.2.5 Integrated In-Band OSNR Monitor Based on Planar Lightwave Circuit

Takayuki Mizuno (NTT, Japan); Takashi Goh (NTT, Japan); Takaharu Ohyama (NTT, Japan); Yasuaki Hashizume (NTT, Japan); Akimasa Kaneko (NTT Photonics Laboratories, Japan)

7.2.6 Tunable Optical Dispersion Compensator Module Using Integrated Multiple Lenses in an Arrayed-Waveguide Grating

Yuichiro Ikuma (Keio University, Japan); Hiroshi Takahashi (NTT Corporation, Japan); Seiji Fukushima (NTT West Corporation, Japan); Hiroyuki Tsuda (Keio University, Japan)

Session 7.3: Coherent Receiver Algorithms

Chair: Seb Savory (University College London, United Kingdom)

7.3.1 Fast and Accurate Automatic Frequency Control for Coherent Receivers

Kittipong Piyawanno (University of the Federal Armed Forces, Munich, Germany); Maxim Kuschnerov (University of the Federal Armed Forces, Munich, Germany); Bernhard Spinnler (Nokia Siemens Networks, Germany); Berthold Lankl (Munich University of the German Armed Forces – Bundeswehr, Germany)

7.3.2 A Simple Digital Skew Compensator for Coherent Receiver

Takahito Tanimura (Fujitsu Laboratories Ltd., Japan); Shoichiro Oda (Fujitsu Laboratories Ltd., Japan); Toshiki Tanaka (Fujitsu Laboratories Ltd., Japan); Takeshi Hoshida (Fujitsu Laboratories Ltd., Japan); Zhenning Tao (Fujitsu Limited, R&D Center, P. R. China); Jens Rasmussen (Fujitsu Laboratories Ltd., Japan)

7.3.3 QAM Adaptation of Constant-Modulus Algorithm and Differential Phase Compensation for Polarization Demultiplex in Coherent Receiver

Reinhold Noé (University of Paderborn, Germany); Timo Pfau (University of Paderborn, Germany); Mohamed El-Darawy (University of Paderborn, Germany)

7.3.4 Analysis and Dimensioning of Fully Digital Clock Recovery for 112 Gb/s Coherent Polmux QPSK Systems

Darko Zibar (DTU Fotonik, Department of Photonic Engineering, Technical University of Denmark, Denmark); Alessandro Bianciotto (Nokia Siemens Networks, Munich, Germany); Zhe Wang (Nokia Siemens Networks, Munich, Germany); Antonio Napoli (Nokia Siemens Networks, Germany); Bernhard Spinnler (Nokia Siemens Networks, Germany)

7.3.5 FFT-Based Digital Clock Recovery for Coherent Transmission Systems with Multilevel Modulation Formats

Hadrien Louchet (VPIsystems, Germany); Konstantin Kuzmin (VPI development Center, Belarus); Andre Richter (VPIsystems, Germany)

7.3.6 Complexity of Algorithms for Digital Coherent Receivers (Invited)

Bernhard Spinnler (Nokia Siemens Networks, Germany)

Session 7.5: High Bit Rate PON

Chair: Russell Davey (BT., United Kingdom)

7.5.1 Evolution of Burst Mode Receivers (Invited)

Xing-Zhi Qiu (Ghent University, Belgium); C. Mélangé (Ghent University, Belgium); T. De Ridder (Ghent University, Belgium); B. Baekelandt (Ghent University, Belgium); J. Bauwelinck (Ghent University, Belgium); X. Yin (Ghent University, Belgium); J. Vandewege (Ghent University, Belgium)

7.5.2 Experimental Demonstration of a 10 Gbit/s/wavelength 27 km-reach WDM/TDM-PON based on Reconfigurable OADM and Colourless ONU

Patryk Urban (COBRA, Eindhoven University of Technology, The Netherlands); Frans Huijskens (COBRA, Eindhoven University of Technology, The Netherlands); Maurice de Laat (Genexis B.V., The Netherlands); Giok-Djan Khoe (COBRA, Eindhoven University of Technology, The Netherlands); Ton Koonen (COBRA, Eindhoven University of Technology, The Netherlands); Huug de Waardt (COBRA, Eindhoven University of Technology, The Netherlands)

7.5.3 10.3 Gb/s burst-mode 3R receiver incorporating full AGC optical receiver and 82.5 GS/s sampling CDR for 10G-EPON systems

Junichi Nakagawa (Mitsubishi Electric Corporation, Japan); Masamichi Nogami (Mitsubishi Electric Corporation, Japan); Naoki Suzuki (Mitsubishi Electric Corporation, Japan); Masaki Noda (Mitsubishi Electric Corporation, Japan); Satoshi Yoshima (Mitsubishi Electric Corporation, Japan); Hitoyuki Tagami (Mitsubishi Electric Corporation, Japan)

7.5.4 High Bit Rate Transmission for NG-PON by Direct Modulation of DFB Laser using Discrete Multi-Tone

Thanh Nga Duong (Orange Labs, France); Naveena Genay (France Telecom R and D, France); Chloé Million (Orange Labs, France); Benoit Charbonnier (Orange Labs, France); Meryem Ouzif (Orange Labs, France); Philippe Chanclou (France Telecom R&D, France); Ahmed Gharba (Orange Labs, France); Emmanuel Grard (3SPhotonics, France); Victor Rodrigues (3SPhotonics, France); Jérôme Le Masson (Ecoles de Saint-Cyr Coetquidan, France)

7.5.5 Design Optimization for 10 Gb/s Full-duplex Transmission using RSOA-based ONU with electrical and Optical Filtering and Equalization

Mireia Omella (Universitat Politècnica de Catalunya, Spain); Ioannis Papagiannakis (University of Patras, Greece); Dimitrios Klionidis (AIT, Greece); Jose Lazaro (Universitat Politècnica de Catalunya – UPC, Spain); Alexios Birbas (University of Patras, Greece); John Kikidis (Analog Integrated Electronic Systems, Greece); Ioannis Tomkos (AIT, Greece); Josep Prat (UPC, Spain)

7.5.6 *Colourless FSK/ASK Optical Network Unit Based on a Fabry Pérot Type SOA/REAM for Symmetrical 10 Gb/s WDM-PONs*

Bernhard Schrenk (Universitat Politècnica de Catalunya, Spain); Jose Lazaro (Universitat Politècnica de Catalunya, Spain); Christophe Kazmierski (Alcatel-Thales III-V Lab, France); Josep Prat (UPC, Spain)

Session 7.6: Specialty Optical Fibre

Chair: Hanne Ludvigsen (Helsinki University of Technology, Finland)

7.6.1 *Tutorial: Structured Light with Optical Fibers: Beams that Can Do What Gaussians Cannot*

Siddharth Ramachandran (Technical University of Denmark, Denmark)

Session 7.7: Symposium: Dynamic Multi-Layer Mesh Network ... Why, How, and When? (2) – Multi-layer and Cross-layer Networking

Chair: Yvan Pointurier (Athens Information Technology, Greece)

7.7.1 *Multi-layer Mesh Network Automation*

Loudon Blair (Ciena Corp, USA)

(Paper not available at the time of printing)

7.7.2 *Network Planning, Control and Management Perspectives on Dynamic Networking*

Thomas Michaelis (Nokia Siemens Networks, Germany); Michael Duelli (Julius-Maximilian University of Wuerzburg, Germany); Mohit Chamania (Technical University Carolo-Wilhelmina of Braunschweig, Germany); Bernhard Lichtinger (Leibnitz Supercomputing Centre of the Bavarian Academy of Sciences and Humanities); Franz Rambach (Nokia Siemens Networks GmbH & Co. KG, Munich, Germany); Stefan Türk (Dresden University of Technology, Dresden, Germany)

7.7.3 *Management and Control of Transparent Optical Mesh Networks*

Takehiro Tsuritani (KDDI R&D Laboratories, Inc., Japan)

7.7.4 *Dynamic Optical Mesh Networking: Drivers, Challenges and Solutions for the Future*

Masahiko Jinno, (NTT Network Innovation Laboratories, Japan); H. Takara, (NTT Network Innovation Laboratories, Japan); B. Kozicki (NTT Network Innovation Laboratories, Japan)

Session 8.1: Semiconductor Lasers

Chair: Norbert Lichtenstein (Bookham, Switzerland)

8.1.1 *1.55 μm InP-based Short-Cavity-VCSELs with Enhanced Modulation-Bandwidths of 15 GHz (Invited)*

Michael Mueller (Walter Schottky Institut, Technische Universität München, Germany); Werner Hofmann (Walter Schottky Institut, TU München, Germany); Gerhard Böhm (Walter Schottky Institut, TU München, Germany); Markus-Christian Amann (Technische Universität München, Germany); J. Roskopf (VERTILAS GmbH); E. Rönneberg (VERTILAS GmbH); M. Ortsiefer (VERTILAS GmbH)

8.1.2 *First Complex Coupled 1490 nm CSDFB Lasers: High Yield, Low Feedback Sensitivity, and uncooled 10 Gb/s Modulation*

Martin Moehrle (Fraunhofer Institute for Telecommunications, Germany); W. Brinker (Fraunhofer Institute for Telecommunications, Germany); C. Wagner (Fraunhofer Institute for Telecommunications, Germany); G. Przyrembel (Fraunhofer Institute for Telecommunications, Germany); A. Sigmund (Fraunhofer Institute for Telecommunications, Germany); W. D. Molzow (Fraunhofer Institute for Telecommunications, Germany)

8.1.3 *Clear eye opening 1.3 μm -25 / 43 Gbps EML with novel tensile-strained asymmetric QW absorption layer*

Takeshi Saito (Mitsubishi Electric Corporation, Japan); Takeshi Yamatoya (Mitsubishi Electric Corporation, Japan); Yoshimichi Morita (Mitsubishi Electric Corporation, Japan); Eitaro Ishimura (Mitsubishi Electric Corporation, Japan); Chikara Watatani (Mitsubishi Electric Corporation, Japan); Toshitaka Aoyagi (Mitsubishi Electric Corporation, Japan); Takahide Ishikawa (Mitsubishi Electric Corporation, Japan)

8.1.4 *1.3 μm Passive Feedback Laser for 28 Gb/s and 40 Gb/s Transmission over Uncompensated SSMF Links*

Ute Troppenz (Fraunhofer Institute for Telecommunications, Germany); Carsten Bornholdt (Fraunhofer Institute HHI, Germany); Jochen Kreissl (Fraunhofer Institute for Telecommunications, Germany); Wolfgang Rehbein (Fraunhofer Institute for Telecommunications, Germany); Bernd Sartorius (Fraunhofer Institute HHI, Germany); Martin Schell (Fraunhofer Institute for Telecommunications, Heinrich-Hertz-Institut, Germany); Gregory Letal (COGO Optronics Inc., USA); Ian Woods (COGO Optronics Inc., USA)

8.1.5 95 °C Uncooled and High Power 25-Gbps Direct Modulation of InGaAlAs Ridge Waveguide DFB Laser
Toshihiko Fukamachi (Hitachi Ltd., Central Research Laboratory, Japan); Takashi Shiota (Hitachi Ltd., Central Research Laboratory, Japan); Takeshi Kitatani (Hitachi Ltd., Central Research Laboratory, Japan); Takuma Ban (Hitachi Ltd., Japan); Yasunobu Matsuoka (Hitachi Ltd., Central Research Laboratory, Japan); Reiko Mita (Hitachi Ltd., Central Research Laboratory, Japan); Toshiki Sugawara (Hitachi Ltd., Japan); Shigehisa Tanaka (Hitachi Ltd., Central Research Laboratory, Japan); Kazunori Shinoda (Hitachi Ltd., Central Research Laboratory, Japan); Koichiro Adachi (Hitachi Ltd., Central Research Laboratory, Japan); Masahiro Aoki (Central Research Laboratory, Hitachi Ltd., Japan)

8.1.6 Novel Integrated Tunable Laser using Filtered Feedback for simple and very fast tuning
Boudewijn Docter (Eindhoven University of Technology, The Netherlands); B. Docter (Eindhoven University of Technology, The Netherlands); J. Pozo (Eindhoven University of Technology, The Netherlands); F. Karouta (Eindhoven University of Technology, The Netherlands); S. Beri (Universiteit Brussel, Belgium); I. V. Ermakov (Universiteit Brussel, Belgium); J. Danckaert (Universiteit Brussel, Belgium); M. K. Smit (Eindhoven University of Technology, The Netherlands)

Session 8.3: Dynamic and Tunable Networking

Chair: Masatoshi Suzuki (KDDI R&D Laboratories, Japan)

8.3.1 Resilient Global IP/Optical Networks: DARPA CORONET (Invited)
Ann Von Lehmen (Telcordia, USA)

8.3.2 Interleaving OFDM Signals for Multiple Access with Optical Routing Capability and High Spectral Efficiency
Roman Dischler (Alcatel-Lucent, Bell Labs, Germany); Axel Klekamp (Alcatel-Lucent, Bell Labs, Germany); Fred Buchali (Alcatel-Lucent, Germany)

8.3.3 Optimized ODU Routing for 100 Gb/s Ethernet over High-Speed Optical Networks with Distributed Differential Delay Compensation
João Santos (Nokia Siemens Networks Portugal SA, Portugal); João Pedro (Instituto de Telecomunicações, Portugal); Paulo Monteiro (Nokia Siemens Networks Portugal, Portugal); João Pires (Instituto de Telecomunicações, Portugal)

8.3.4 Optical Network Planning with Rate-Tunable NRZ Transponders
Olivier Rival (Alcatel Lucent Bell Labs France, France); Annalisa MOREA (Alcatel Lucent Bell Labs France, France); Jean-Christophe Antona (Alcatel Lucent Bell Labs France, France)

8.3.5 1 Tb/s Optical Path Aggregation with Spectrum-Sliced Elastic Optical Path Network SLICE (Invited)
Bartłomiej Kozicki (NTT, Japan); Hidehiko Takara (NTT, Japan); Yukio Tsukishima (NTT, Japan); Toshihide Yoshimatsu (NTT Corporation, Japan); Takayuki Kobayashi (NTT, Japan); Kazushige Yonenaga (NTT Corporation, Japan); Masahiko Jinno (NTT Network Innovation Laboratories, Japan)

Session 8.4: Higher-Order Modulation Formats

Chair: Christophe Peucheret (Technical University of Denmark, Denmark)

8.4.1 Improvement of tolerance to fibre non-linearity of incoherent multilevel signalling for WDM transmission with 10-Gbit/s OOK channels
Nobuhiko Kikuchi (Central Research Lab., Hitachi Ltd., Japan); Shinya Sasaki (Central Research Lab., Hitachi Ltd., Japan)

8.4.2 10 × 112-Gb/s PDM 16-QAM Transmission over 1022 km of SSMF with a Spectral Efficiency of 4.1 b/s/Hz and no Optical Filtering
Alan Gnauck (Alcatel-Lucent, Bell Laboratories, USA); Peter Winzer (Lucent Technologies, USA)

8.4.3 High Spectral Efficiency Phase and Quadrature Amplitude Modulation for Optical Fiber Transmission: Configurations, Trends and Reach (Invited)
Matthias Seimetz (Fraunhofer Institute for Telecommunications, Heinrich-Hertz-Institut, Germany)

8.4.4 Polarization Multiplexed 20 Gbaud Square 16QAM Long-Haul Transmission over 1120 km using EDFA Amplification
Lutz Molle (Fraunhofer Institute for Telecommunications, Heinrich-Hertz Institut, Germany); Matthias Seimetz (Fraunhofer Institute for Telecommunications, Heinrich-Hertz-Institut, Germany); Dirk Gross (Fraunhofer Institute for Telecommunications, Heinrich-Hertz-Institut, Germany); Ronald Freund (Heinrich-Hertz Institut, Germany); Michael Rohde (Beuth Hochschule für Technik Berlin, Germany)

8.4.5 Cancellation of SPM in Self-Homodyne Coherent Systems
Martin Sjödin (Chalmers University of Technology, Sweden); Pontus Johannisson (Chalmers University of Technology, Sweden); Mats Sköld (Chalmers University of Technology, Sweden); Magnus Karlsson (Chalmers University of Technology, Sweden); Peter Andrekson (Chalmers University of Technology, Sweden)

- 8.4.6** **200-km transmission of 100-Gbit/s 32-QAM Dual-Polarization Signals using a Digital Coherent Receiver**
Yojiro Mori (The University of Tokyo, Japan); Chao Zhang (The University of Tokyo, Japan); Masatoshi Usui (The University of Tokyo, Japan); Koji Igarashi (University of Tokyo, Japan); Kazuhiro Katoh (The University of Tokyo, Japan); Kazuhiro Katoh (University of Tokyo, Japan); Kazuro Kikuchi (University of Tokyo, Japan)

Session 8.5: Hybrid and Long-reach PON

Chair: Josep Prat (UPC, Spain)

- 8.5.1** **100 km Long Reach Upstream 36 Gb/s-OFDMA-PON over a Single Wavelength with Source-Free ONUs**
Dayou Qian (NEC Laboratories America, USA); Neda Cvijetic (NEC Laboratories America, USA); Yue-Kai Huang (NEC Laboratories America, USA); Jianjun Yu (NEC Laboratories America, USA); Ting Wang (NEC Laboratories America, USA)
- 8.5.2** **Demonstration of Signal Remodulation Long Reach Carrier Distributed Passive Optical Network using OFDM-QAM Signal**
Chi Wai Chow (National Chiao Tung University, Taiwan); Chien-Hung Yeh (Industrial Technology Research Institute, Taiwan); C. H. Wang (National Chiao Tung University, Taiwan); F. Y. Shih (National Chiao Tung University, Taiwan); Sien Chi (Yuan Ze University, Taiwan)
- 8.5.3** **Upstream burst-mode operation of a 100 km reach, 16x 512 split hybrid DWDM-TDM PON using tuneable external cavity lasers at the ONU-side**
Cleitus Antony (Tyndall National Institute, Ireland); Peter Ossieur (Tyndall National Institute, Ireland); Giuseppe Talli (University College Cork, Ireland); Paul Townsend (Tyndall National Institute, Ireland); Heinz Krimmel (Alcatel-Lucent Germany, Germany); Alistair Poustie (Centre for Integrated Photonics – CIP, United Kingdom); Richard Wyatt (CIP, United Kingdom); Robert Harmon (CIP, United Kingdom); Ian Lealman (CIP, United Kingdom); Graeme Maxwell (CIP, United Kingdom); Dave Rogers (CIP, United Kingdom); David Smith (CIP, United Kingdom)
- 8.5.4** **Enhanced Transmission in Long Reach WDM/TDM Passive Optical Networks by Means of Multiple Downstream Cancellation Techniques**
Bernhard Schrenk (Universitat Politècnica de Catalunya – UPC, Spain); Francesc Bonada (UPC, Spain); Mireia Omella (UPC, Spain); Jose Lazaro (UPC, Spain); Josep Prat (UPC, Spain)
- 8.5.5** **GPON reach extension to 60 km with entirely passive fibre plant using Raman amplification**
Benyuan Zhu (OFS Labs, USA); Derek Nasset (BT plc, United Kingdom)
- 8.5.6** **A 40 Gb/s CWDM-TDM PON with a Cyclic CWDM Multiplexer/Demultiplexer**
Patrick Iannone (AT&T, USA); Kenneth Reichmann (AT&T, USA); Christopher Doerr (Bell Labs, Alcatel-Lucent, USA); Larry Buhl (Bell Laboratories, Alcatel-Lucent, USA); Mark Cappuzzo (Bell Labs, Alcatel-Lucent, USA); Yifan Chen (Bell Labs, Alcatel-Lucent, USA); Louis Gomez (Bell Labs, Alcatel-Lucent, USA); John Johnson (CyOptics, USA); Ayman Kanan (CyOptics, USA); Janet Lentz (CyOptics, USA); Robert McDonough (Vitesse Semiconductor, USA)
- 8.5.7** **A Novel Hybrid WDM/TDM-PON using Downlink DPSK and Uplink Remodulated OOK Signals Based on a Shared DI**
Cheng Xiaofei (Institute for Infocomm Research, Singapore); Yong kee Yeo (Institute for Infocomm Research, Singapore); Zhaowen Xu (Nanyang Technological University, Singapore); Yixin Wang (Institute for Infocomm Research, Singapore)

Session 8.6: Integrated Optical Transceivers

Chair: Graeme Maxwell (Centre for Integrated Photonics (CIP) Ltd, United Kingdom)

- 8.6.1** **Tutorial: High-Speed InP and Silicon Transceivers for Terabit Transport Networks**
Christopher Doerr (Bell Labs, Alcatel-Lucent, USA)
- 8.6.2** **One-Step Growth Optical Transceiver PIC in InP**
Valery Tolstikhin (OneChip Photonics Inc., Canada); R. Moore (OneChip Photonics Inc., Canada); K. Pimenov (OneChip Photonics Inc., Canada); Y. Logvin (OneChip Photonics Inc., Canada); F. Wu (OneChip Photonics Inc., Canada); C. D. Watson (OneChip Photonics Inc., Canada)
- 8.6.3** **Colourless 10 Gb/s Reflective SOA-EAM with Low Polarization Sensitivity for Long-reach DWDM-PON Networks**
David Smith (CIP, United Kingdom); Richard Wyatt (CIP, United Kingdom); Ian Lealman (CIP, United Kingdom); Xin Chen (CIP, United Kingdom); David Moodie (CIP, United Kingdom); Paul Cannard (CIP, United Kingdom); Jeevan Dosanjh (CIP, United Kingdom); Lesley Rivers (CIP, United Kingdom); Colin Ford (CIP, United Kingdom); Richard Cronin (CIP, United Kingdom); Tina Kerr (CIP, United Kingdom); Lilliane Johnston (CIP, United Kingdom); Robert Waller (CIP, United Kingdom); Rick Firth (CIP, United Kingdom); Anna Borghesani (CIP, United Kingdom); Alistair Poustie (CIP, United Kingdom)

8.6.4 *First 40-km SMF Transmission for 100-Gbit/s Ethernet System Based on 25-Gbit/s 1.3-um Electroabsorption Modulator Integrated with a DFB Laser Module*

Takeshi Fujisawa (NTT Corporation, Japan); Masakazu Arai (NTT Corporation, Japan); Naoki Fujiwara (NTT Corporation, Japan); Wataru Kobayashi (NTT Corporation, Japan); Takashi Tadokoro (NTT Corporation, Japan); Ken Tsuzuki (NTT Corporation, Japan); Yuichi Akage (NTT Corporation, Japan); Ryuzo Iga (NTT Corporation, Japan); Takayuki Yamanaka (NTT Photonics Labs., NTT Corporation, Japan); Fumiyoshi Kano (NTT Corporation, Japan)

Wednesday, September 23, 2009

Poster Session 1: Fibres, Fibre Devices, and Amplifiers.

- P1.01: *Single-Longitudinal-Mode Lanthanum-Codoped Bismuth-Based Erbium Doped Fiber Ring Laser***
Khurram Qureshi (The Hong Kong Polytechnic University, P.R. China); Tam (The Hong Kong Polytechnic University, Hong Kong); Chao Lu (The Hong Kong Polytechnic University, Hong Kong); Ping-Kong, Alex Wai (Hong Kong Polytechnic University, Hong Kong)
- P1.02: *Wavelength-Tunable Nearly-Transform-Limited Pulse Generation Based on Fiber Optical Parametric Oscillator***
Yue Zhou (The University of Hong Kong, Hong Kong); Kim Ka Yi Cheung (The University of Hong Kong, Hong Kong); Sigang Yang (The University of Hong Kong, Hong Kong); P. C. Chui (The University of Hong Kong, Hong Kong); Kenneth Wong (The University of Hong Kong, Hong Kong)
- P1.03: *Broadening Adjustable Range on Post-Fabrication Resonance Wavelength Trimming of Long-Period Fiber Gratings by Heating***
Fatemeh Abrishamian (Osaka Electro-Communication University, Japan); Katsumi Morishita (Osaka Electro-Communication University, Japan)
- P1.04: *Fast SOP Variation Measurement on WDM Systems Are the OPMD C Fast Enough?***
Suzanne Salaun (Orange Labs, France); Frederic Neddard (Orange Labs, France); Bruno Raguene (Orange Labs, France); Maryse Moignard (Orange Labs, France)
- P1.05: *Ultra Low Nonlinear Telecom Fibre by Hole Assisted Technique***
Iwao Shimotakahara (The Furukawa Electric Co., Ltd, Japan); Ryuichi Sugizaki (Furukawa Electric co., Ltd., Japan); Yu Mimura (Furukawa Electric Co., Ltd., Japan); Takeshi Yagi (Furukawa Electric co., Ltd., Japan)
- P1.06: *Compact Electrically Controlled Broadband Liquid Crystal Photonic Bandgap Fiber Polarizer***
Lei Wei (Technical University of Denmark, Denmark); Thomas Tanggaard Alkeskjold (Crystal Fibre A/S, Denmark); Anders Bjarklev (COM•DTU, Technical University of Denmark, Denmark)
- P1.07: *Widely Wavelength-Tunable and Pulsewidth-Variable Harmonically Mode-Locked Short-Cavity Fiber Ring Laser Using a Bismuth-Oxide-Based Highly Nonlinear Erbium-Doped Fiber***
Yutaka Fukuchi (Tokyo University of Science, Japan); Joji Maeda (Tokyo University of Science, Japan)
- P1.08: *Full C-L Band Tunable Wavelength Conversion by Zero Dispersion and Zero Dispersion Slope HNLF***
Masanori Takahashi (The Furukawa Electric Co., Ltd., Japan); Kazunori Mukasa (Furukawa Electric Co, Japan); Takeshi Yagi (Furukawa Electric co., Ltd., Japan)
- P1.09: *A Hole-Assisted Fiber for Wideband Transmission from 1.0 μm to 1.6 μm***
Shoji Tanigawa (Fujikura Ltd., Japan); Katsuhiro Takenaga (Fujikura Ltd., Japan); Shoichiro Matsuo (Fujikura Ltd., Japan); Munehisa Fujimaki (Fujikura Ltd., Japan)
- P1.10: *Linearly-Polarized Lasing at 1180 nm Using Polarization-Maintaining Yb-Doped Solid Photonic Bandgap Fiber***
Katsuhiro Takenaga (Fujikura Ltd., Japan); Shoji Tanigawa (Fujikura Ltd., Japan); Ryuichiro Goto (University of Sydney, Australia); Masahiro Kashiwagi (Fujikura Ltd., Japan); Shoichiro Matsuo (Fujikura Ltd., Japan)
- P1.11: *Highly Versatile Photonic Crystal Fibre Enabled Fabry-Perot Interferometer***
Joel Villatoro (ICFO, Spain); Vittoria Finazzi (ICFO, Spain); Gianluca Coviello (ICFO, Spain); Valerio Pruneri (ICFO and ICREA, Spain)
- P1.12: *Evaluation of Fiber Fuse Characteristics of Hole-Assisted Fiber for High Power Optical Transmission Systems***
Hidehiko Takara (NTT, Japan); Hirohji Masuda (NTT Network Innovation Laboratories, Japan); Hirohisa Kanbara (NTT Corporation, Japan); Yoshiteru Abe (NTT Corporation, Japan); Yutaka Miyamoto (NTT Network Innovation Laboratories, Japan); Ryo Nagase (NTT Photonics Labs., Japan); Toshio Morioka (NTT Corporation, Japan); Shinji MATsuoka (NTT Corporation, Japan); Masatoshi Shimizu (NTT Corporation, Japan); Kazuo Hagimoto (NTT, Japan)
- P1.13: *Four-Wave Mixing based Wavelength Conversion in a Carbon Nanotubes Deposited Tapered Fiber***
K. K. Chow (The University of Tokyo, Japan); M. Tsuji (The University of Tokyo, Japan); Shinji Yamashita (The University of Tokyo, Japan)
- P1.14: *Proposal of Reliable Cutoff Wavelength Measurement for Bend Insensitive Fiber***
Tetsuya Nakanishi (Sumitomo Electric Industries, LTD., Japan); Masaaki Hirano (Sumitomo Electric Industries, Ltd., Japan); Takashi Sasaki (Sumitomo Electric Industries, LTD., Japan)
- P1.15: *Sectioned Core Doping Effect on Higher-Order Mode Amplification in Yb-Doped Rod-Type Photonic Crystal Fibers***
Federica Poli (University of Parma, Italy); Jesper Lægsgaard (COM•DTU, Technical University of Denmark, Denmark); Davide Passaro (University of Parma, Italy); Annamaria Cucinotta (University of Parma, Italy); Stefano Selleri (University of Parma, Italy); Jes Broeng (Crystal Fibre A/S, Denmark)

- P1.16:** *Simple Modal Analysis Method for Multi-Mode Fibers*
Stéphane Blin (Foton / CNRS / Université de Rennes 1, France); Duc Minh Nguyen (Foton / CNRS / Université de Rennes 1, France); Thanh Nam Nguyen (Foton / CNRS / Université de Rennes 1, France); Laurent Provino (Perfos, France); Monique Thual (Foton / CNRS / Université de Rennes 1, France); Thierry Chartier (Laboratoire Foton, France)
- P1.17:** *Simple Method to Measure the Third-Order Nonlinear Coefficient of Optical Fibres*
Thanh Nam Nguyen (Foton / CNRS / Université de Rennes 1, France); Thierry Chartier (Laboratoire Foton, France); Monique Thual (Foton / CNRS / Université de Rennes 1, France); Jean-Claude Simon (ENSSAT / Université de Rennes 1, France); Laurent Brilland (EVC, Umr CNRS 6226, France); Johann Troles (EVC, Umr CNRS 6226, France); Trung Hieu Bui (Posts and Telecommunications Institute of Technology, Vietnam)
- P1.18:** *Demonstration of a Photonic Integrator-Based Loadable and Erasable Optical Memory Unit with Picosecond Switching Times*
Mohammad H. Asghari (INRS, Canada); Yongwoo Park (University of Quebec, Canada); Jose Azana (INRS, Canada)
- P1.19:** *Broadband, spectrally controlled Raman-active attenuator*
Michael Holtmannspoetter (University of Erlangen, Germany); Emil Pitschujew (University of Erlangen, Germany); Bernhard Schmauss (University of Erlangen, Germany)
- P1.20:** *Precise Low-Cost Optical Time Multiplexer Based on the Birefringence of Polarization Maintaining Fibers*
An Nguyen (Scuola Superiore Sant'Anna, Italy); Emma Lazzeri (Scuola Superiore Sant'Anna, Italy); Paolo Ghelfi (CNIT, Italy); Antonella Bogoni (CNIT, Italy); Luca Poti (Consorzio Nazionale Interuniversitario per le Telecomunicazioni, Italy)
- P1.21:** *Bandpass Filters on End-Faces of Optical Fibers*
Stefan Meister (Technische Universität Berlin, Germany); Bülent Franke (Technische Universität Berlin, Germany); Dzedzina Marcus (Technische Universität Berlin, Germany); Dawid Schweda (Technische Universität Berlin, Germany); Scharfenorth Chris (Technische Universität Berlin, Germany); Hans Eichler (Technische Universität Berlin, Germany)
- P1.22:** *Measurement of Fiber Chromatic Dispersion Using Spectral Interferometry with Modulation of Dispersed Laser Pulses*
Naum Berger (Technion – Israel Institute of Technology, Israel); Boris Levit (Technion – Israel Institute of Technology, Israel); Baruch Fischer (Technion – Israel Institute of Technology, Israel)
- P1.23:** *Improved Supercontinuum Generation by Dispersion Tuning and Dual Wavelength Pumping*
Atalla El-Taher (Aston University, United Kingdom); Mercedes Alcon-Camas (Aston University, United Kingdom); Vassilios Karalekas (Aston University, United Kingdom); Juan Diego Ania-Castanon (Aston University, United Kingdom); Paul Harper (Aston University, United Kingdom)
- P1.24:** *Dissipative Dispersion Managed Solitons in Mode-locked Fibre Lasers*
Brandon Bale (Aston University, United Kingdom); Sonia Boscolo (Aston University, United Kingdom); Sergei Turitsyn (Aston University, United Kingdom)
- P1.25:** *Photonic Crystal Fiber with Ring-Core Hollow-Defect for Evanescent Wave Chemical Sensing*
Jiyoung Park (Yonsei University, Korea); Jens Kobelke (Institute of Photonic Technology – IPHT, Germany); Kyunghwan Oh (Yonsei University, Korea)

Poster Session 2: Waveguide and Optoelectronic Devices

- P2.01:** *Highly Nonlinear Ge_{11.5}As₂₄Se_{64.5} Chalcogenide Glass Waveguides*
Steve Madden (Australian National University, Australia); Amrita Prasad (Australian National University, Australia); Ron-Ping Wang (Australian National University, Australia); Douglas Bulla (Australian National University, Australia); Barry Luther-Davies (Centre for Ultrahigh bandwidth Devices for Optical Systems – CUDOS, Australia)
- P2.02:** *Novel Optical Generation of Ultrawideband (UWB) Signals Using Quadratic Nonlinear Interactions Seeded By Normal/Dark Pulses*
Jian Wang (Huazhong University of Science and Technology, P. R. China); Qizhen Sun (Huazhong University of Science and Technology, P. R. China); Junqiang Sun (Huazhong University of Science and Technology, P. R. China)
- P2.03:** *Three-Dimensional Low-loss Waveguide Shuffler and Splitter / Combiner using Novel Mirror Structure*
Hidetoshi Numata (IBM Japan, Japan); Shigeru Nakagawa (IBM, Japan); Yoichi Taira (IBM, Japan)
- P2.04:** *Demonstration of a Wavelength Selective Switch Using an LCOS and a Stacked Arrayed Waveguide Grating*
Keisuke Sorimoto (Keio University, Japan); Hiroyuki Tsuda (Keio University, Japan); Hiroshi Ishikawa (National Institute of Advanced Industrial Science and Technology, Japan); Toshifumi Hasama (National Institute of Advanced Industrial Science and Technology, Japan); Hitoshi Kawashima (National Institute of Advanced Industrial Science and Technology, Japan); Kenji Kintaka (National Institute of Advanced Industrial Science and Technology, Japan); Masahiko Mori (National Institute of Advanced Industrial Science and Technology, Japan); Hisato Uetsuka (Hitachi Cable Ltd., Japan)

- P2.05: *A Compact 100-GbE Quadplex Receiver***
Kazuhiko Hosomi (Hitachi Ltd., Japan); Takuma Ban (Hitachi Ltd., Japan); Yong Lee (Hitachi Ltd., Japan); Daichi Kawamura (Hitachi Ltd., Japan); Kazuyuki Nagatsuma (Hitachi Ltd., Japan); Reiko Mita (Hitachi Ltd., Central Research Laboratory, Japan); Kazunori Shinoda (Hitachi Ltd., Central Research Laboratory, Japan); Koichiro Adachi (Hitachi Ltd., Central Research Laboratory, Japan); Toshiaki Sugawara (Hitachi Ltd., Japan); Shinji Tsuji (Hitachi Ltd., Japan); Masahiro Aoki (Central Research Laboratory, Hitachi Ltd., Japan)
- P2.06: *Silicon Lateral Avalanche Photodiodes Fabricated by Standard 0.18 μm CMOS Process***
Koichi Iiyama (Kanazawa University, Japan); Hideki Takamatsu (Kanazawa University, Japan); Takeo Maruyama (Kanazawa University, Japan)
- P2.07: *Analysis of Nonlinear Optical Effects in Monolithically Integrated FM-Mode-Locked Semiconductor Laser Diodes***
Haruhiko Kuwatsuka (National Institute of Advanced Industrial Science and Technology, Japan); Hiroshi Ishikawa (National Institute of Advanced Industrial Science and Technology, Japan)
- P2.08: *High-order micro-ring resonator assisted wavelength converters for scalable and power efficient photonic routers***
Konstantinos Vyrsokinos (National Technical University of Athens, Greece)
- P2.09: *High-speed DBPSK signal generation by low-V_{pi} modulator using thin LiNbO₃ substrate***
Atsushi Kanno (National Institute of Information and Communications Technology, Japan); Takahide Sakamoto (National Institution of Information and Communications Technology, Japan); Akito Chiba (National Institution of Information and Communications Technology, Japan); Tetsuya Kawanishi (National Institute of Information and Communications Technology, Japan); Kaoru Higuma (Sumitomo Osaka Cement, Japan, Japan); Masaaki Sudo (Sumitomo Osaka Cement, Japan, Japan); Junichiro Ichikawa (Sumitomo Osaka Cement, Japan, Japan)
- P2.10: *25 Gbps EML TOSA Employing Novel Impedance-Matched FPC Design***
Toshitsugu Uesugi (Mitsubishi Electric Corporation, Japan)
- P2.11: *2.5 Gbps WDM-PON Tunable Light Source Hybrid Integrated with Superluminescent Diode and Polymeric Waveguide Bragg Reflector***
Ki-Hong Yoon (Electronics and Telecommunications Research Institute – ETRI, Korea); Ki Soo Kim (Electronics and Telecommunications Research Institute – ETRI, Korea); Jung Jin Ju (Electronics and Telecommunications Research Institute – ETRI, Korea); Min-su Kim (Electronics and Telecommunications Research Institute – ETRI, Korea); Dae Kon Oh¹; Ki Soo Kim (Electronics and Telecommunications Research Institute – ETRI, Korea); Jung Jin Ju (Electronics and Telecommunications Research Institute – ETRI, Korea); Min-su Kim (Electronics and Telecommunications Research Institute – ETRI, Korea); Dae Kon Oh (Electronics and Telecommunications Research Institute – ETRI, Korea); Su Hwan Oh (Electronics and Telecommunications Research Institute – ETRI, Korea)
- P2.12: *160 Gbit/s OTDM System Based on 40 GHz Optical Pulses Generated Using Simultaneous Two-Arm Modulation of a Mach-Zehnder Modulator***
Ke Wang (Royal Institute of Technology, Sweden); Jie Li (Acreo AB, Sweden)
- P2.13: *Frequency Response Enhancement in Optical Injection Locked Semiconductor Ring Laser using Master Laser Modulation***
Muhammad Irfan Memon (University of Bristol, United Kingdom); Bei Li (University of Bristol, United Kingdom); Gabor Mezosi (University of Glasgow, United Kingdom); Zhuoran Wang (University of Bristol, United Kingdom); Marc Sorel (University of Glasgow, United Kingdom); Siyuan Yu (University of Bristol, United Kingdom)
- P2.14: *2.5 Gbps Operation of RSOA for Low-Cost WDM-PON Sources***
Dong Churl Kim (Electronics and Telecommunications Research Institute, Korea); Byung-Seok Choi (Electronics and Telecommunications Research Institute, Korea); Hyun-Soo Kim (Electronics and Telecommunications Research Institute, Korea); Ki Soo Kim (Electronics and Telecommunications Research Institute, Korea); O-Kyun Kwon (Electronics and Telecommunications Research Institute, Korea); Dae-Kon Oh (Electronics and Telecommunications Research Institute, Korea)
- P2.15: *Integrated 4-bit Optical Memory Elements with Single Common and Low Operation Current (55 mA) Using Novel Active MMI***
Hany Bastawrous (Kyushu University, Japan); Haisong Jiang (Kyushu University, Japan); Yuichiro Tahara (Kyushu University, Japan); Shinji Matsuo (NTT Photonics laboratories, Japan); Kiichi Hamamoto (Kyushu University, Japan)
- P2.16: *Novel 3D Hollow Optical Waveguide with Lateral and Vertical Periodicity for Tunable Photonic Integrated Circuits***
Mukesh Kumar (Tokyo Institute of Technology Japan, Japan); Chris Chase (University of California Berkeley, USA); Vadim Karagodsky (University of California Berkeley, USA); Takahiro Sakaguchi (Tokyo Institute of Technology, Japan); Fumio Koyama (Tokyo Institute of Technology, Japan); Connie J. Chang-Hasnain (University of California Berkeley, USA)

- P2.17: *Multisection RSOA for 2.5 Gbps Colorless WDM-PON***
Hyun-Soo Kim (Electronics and Telecommunications Research Institute, Korea); Byung-Seok Choi (Electronics and Telecommunications Research Institute, Korea); Ki Soo Kim (Electronics and Telecommunications Research Institute, Korea); Dong Churl Kim (Electronics and Telecommunications Research Institute, Korea); O-Kyun Kwon (Electronics and Telecommunications Research Institute, Korea); Dae-Kon Oh (Electronics and Telecommunications Research Institute, Korea)
- P2.18: *A 1 × 8 Optical Switch of Mach-Zehnder Interferometers Using Si-Waveguides with Ferroelectric Liquid Crystal Cladding***
Takahiro Sawa (Kanagawa Institute of Technology, Japan); Katsumi Nakatsuhara (Kanagawa Institute of Technology, Japan); Takakiyo Nakagami (Kanagawa Institute of Technology, Japan)
- P2.19: *720-fs Pulse Generation with 40 GHz Passively-Mode Locked Quantum-Dash Fabry-Pérot Laser***
Ramón Maldonado-Basilio (Dublin City University, Ireland); Sylwester Latkowski (Dublin City University, Ireland); Pascal Landais (Dublin City University, Ireland)
- P2.20: *Ge-on-Si Photodetectors for Optical Communications***
Johann Osmond (Institut d'Electronique Fondamentale, France); Laurent Vivien (Institut d'Electronique Fondamentale, France); Jean-Marc Fedeli (CEA-LETI, France); Delphine Marris-Morini (Institut d'Electronique Fondamentale, France); Paul Crozat (Institut d'Electronique Fondamentale, France); Jean-François Damlencourt (CEA, France); Eric Cassan (Institut d'Electronique Fondamentale, France); Suzanne Laval (Institut d'Electronique Fondamentale, France)
- P2.21: *Characterization of a Mode-Locked Quantum-Dash Fabry-Perot Laser Based on Measurement of the Complex Optical Spectrum***
Xuefeng Tang (Queen's University, Canada); Abdullah Karar (Queen's University, Canada); John Cartledge (Queen's University, Canada); Alexandre Shen (Alcatel-Thales III-V Lab, France); Guang-Hua Duan (Alcatel Thales III-V Lab, France)
- P2.22: *Influence of SG-DBR Laser Linewidth on 10.7 Gb/s DPSK and OOK Transmission***
Frank Smyth (Dublin City University, Ireland); Kai Shi (Dublin City University, Ireland); Prince Anandarajah (Dublin City University, Ireland); Douglas Reid (Dublin City University, Ireland); Liam Barry (Dublin City University, Ireland)
- P2.23: *Fabry-Perot Resonator Based on InGaAs/AlGaAs/AlAsSb Quantum Well Waveguide and its all-optical Tuning at GHz-Repetition Rate***
Kazi Abedin (National Institute of Information and Communications Technology – NICT, Japan); Ryoichi Akimoto (National Institute of Advanced Industrial Science and Technology, Japan); Haruhiko Kuwatsuka (National Institute of Advanced Industrial Science and Technology, Japan); Tetsuya Miyazaki (NICT, Japan)
- P2.24: *MMI-Reflector: A Novel On-chip Reflector for Photonic Integrated Circuits***
Xaveer Leijtens (TU/e, The Netherlands); Ling Xu (COBRA – Eindhoven University of Technology, The Netherlands); Boudewijn Docter (Eindhoven University of Technology, The Netherlands); Tjibbe de Vries (TU/e, The Netherlands); Barry Smalbrugge (Technische Universiteit Eindhoven, The Netherlands); Fouad Karouta (Technische Universiteit Eindhoven, The Netherlands); Meint Smit (TU/e, The Netherlands)
- P2.25: *Effect of the wetting layer on intensity noise in quantum dot laser***
Jean-François Hayau (Foton / CNRS / Université de Rennes I, France); Pascal Besnard (Foton / CNRS / Université de Rennes I, France); Olivier Dehaese (Foton / CNRS / Insa, France); Frédéric Grillot (Foton / CNRS / Insa, France); Madhoussoudhana Dontabouctouny (Foton / CNRS / Insa, France); Rozenn Piron (Foton / CNRS / Insa, France); Slimane Loualiche (Foton / CNRS / Insa, France); Anthony Martinez (CNRS/LPN, France); Kamel Merghem (CNRS/LPN, France); Abderrahim Ramdane (CNRS/LPN & Institut National des Télécommunications, France)
- P2.26: *Athermal and Tunable Operations of 850 nm VCSEL with Thermally Actuated Cantilever Structure***
Hayato Sano (Tokyo Institute of Technology, Japan); Akihiro Matsutani (Tokyo Institute of Technology, Japan); Fumio Koyama (Tokyo Institute of Technology, Japan)
- P2.27: *All-Optical Spatial Multicasting Using Cascaded Silicon Photonic Devices***
Aleksandr Biberman (Columbia University, USA); Noam Ophir (Columbia University, USA); Benjamin Lee (Columbia University, USA); Amy Turner-Foster (Cornell University, USA); Mark Foster (Cornell University, USA); Nicolás Sherwood-Droz (Cornell University, USA); Carl Poitras (Cornell University, USA); Michal Lipson (Cornell University, USA); Alexander Gaeta (Cornell University, USA); Keren Bergman (Columbia University, USA)

Poster Session 3: Subsystems and Network Elements for Optical Networks

- P3.01: *Low Cost Multi-Impairment Monitoring Technique for 43 Gbps DPSK and 86 Gbps DP-DPSK Using Delay Tap Asynchronous Sampling Method***
David Dahan (ECI telecom, Israel); David Levy (ECI Telecom, Israel); Uri Mahlab (Ecitele, Israel)
- P3.02: *Efficient Interleaving of FEC Codewords for Optical PSK Systems***
Sami Mumtaz (Télécom ParisTech, France); Yves Jaouen (Telecom ParisTech, France); Ghaya Rekaya (ENST Paris, France); Gabriel Charlet (Bell Labs, Alcatel-Lucent, France)

- P3.03: *Improvement of Wavelength Switch Performance Consisting of a SSG-DBR-LD and a SOA-DISC with BPF Detuning***
Takayoshi Mori (Tokyo Institute of Technology, Japan); Hiroyuki Uenohara (Tokyo Institute of Technology, Japan); Kobayashi Kohroh (Tokyo Institute of Technology, Japan)
- P3.04: *Optical Performance Monitoring of PSK Data Channels Using Artificial Neural Networks Trained with Parameters Derived from Delay-Tap Asynchronous Diagrams via Balanced Detection***
Xiaoxia Wu (University of Southern California, USA); Jeffrey Jargon (National Institute of Standards and Technology, USA); Zhensheng Jia (Telcordia Technologies, USA); Loukas Paraschis (Cisco Systems, USA); Ronald Skoog (Telcordia Technologies, USA); Alan Willner (University of Southern California, USA)
- P3.05: *Widely Wavelength Flexible Operation of All-Optical Regeneration in RZ-OOK Signals Using Gain-Band Tunable Raman Amplifier***
Motoharu Matsuura (The University of Electro-Communications, Japan); Naoto Kishi (The University of Electro-Communications, Japan)
- P3.06: *Novel Opto-Electrical Tunable Dispersion Compensator for IM Signals***
Miguel Drummond (Instituto de Telecomunicações, pólo de Aveiro, Portugal); Rogério Nogueira (Nokia Siemens Networks Portugal S.A, Portugal); Manuel Violas (Instituto de Telecomunicações, Portugal); Paulo Monteiro (Nokia Siemens Networks Portugal, Portugal); Carola Sterner (Kista Photonic Research Centre – KPRC, Acreo AB, Sweden); Pierre-Yves Fonjallaz (Kista Photonic Research Centre – KPRC, Acreo AB, Sweden)
- P3.07: *Impact of Non-Ideal Pulse Carving Induced Phase Distortions on QPSK based Modulation Format***
Hwan Seok Chung (ETRI, Korea); Sun Hyok Chang (ETRI, Korea); Kwangjoon Kim (ETRI, Korea)
- P3.08: *Accurate Digital Frequency Offset Estimator for Coherent PolMux QAM Transmission Systems***
Mehrez Selmi (Telecom ParisTech, France); Yves Jaouen (Telecom ParisTech, France); Philippe Ciblat (ENST, France); Philippe Ciblat (Telecom ParisTech, France)
- P3.09: *Full-mesh Wavelength Routing over Interconnected AWG-STARs Employing Coprime-Channel-Cycle Arrayed-Waveguide Gratings***
Osamu Moriwaki (NTT Corporation, Japan); Kazuto Noguchi (Nippon Telegraph and Telephone Corporation, Japan); Tadashi Sakamoto (NTT Corporation, Japan); Hiroshi Takahashi (NTT Corporation, Japan)
- P3.10: *A novel linear photonic RF phase shifter base on polarization controller***
Han Chen (Shanghai Jiao Tong University, P. R. China); Yi Dong (Shanghai Jiao Tong University, P. R. China); Hao He (Shanghai Jiao Tong University, P. R. China); Weisheng Hu (Shanghai Jiao Tong University, P. R. China); Le Min Li (University of Electronic Science and Technology of China, P. R. China)
- P3.11: *Subcarrier Selection for IM/DD OFDM Systems***
Henning Paul (University of Bremen, Germany); Karl-Dirk Kammeyer (University of Bremen, Germany)
- P3.12: *Optical Comb and Filter Bank (De)Mux Enabling 1 Tb/s Orthogonal Sub-band Multiplexed CO-OFDM Free of ADC/DAC Limits***
Moshe Nazarathy (Technion, Israel Institute of Technology, Israel); Dan Marom (Hebrew University, Jerusalem, Israel); William Shieh (The University of Melbourne, Australia)
- P3.13: *Dispersion Compensation Using Decision-Feedback MLSE for Spectrally-Efficient Optical Transmission***
Jian Zhao (Tyndall National Institute, Ireland); Lian-Kuan Chen (The Chinese University of Hong Kong, Hong Kong)
- P3.14: *W-band 3.75-Gb/s 8PSK Wireless Signal Generation and Transmission via Optical Frequency Octupling and Bias Modulation of NBUTC-PD with Feed-Forward Equalizer***
Po Tsung Shih (National Chiao Tung University, Taiwan); Chun-Ting Lin (National Chiao Tung University, Taiwan); Han-Sheng Huang (National Chiao Tung University, Taiwan); Wen-Jr Jiang (National Chiao Tung University, Taiwan); Dar-Zu Hsu (National Chiao Tung University, Taiwan); Jyehong Chen (National Chiao Tung University, Taiwan); F. M. Kuo (National Central University, Taoyuan, Taiwan); Nan-Wei Chen (National Central University, Taoyuan, Taiwan); J. W. Shi (National Central University, Taoyuan, Taiwan); Sien Chi (National Chiao Tung University, Taiwan)
- P3.15: *Experimental 2.5 Gbit/s QPSK WDM Coherent Phase Modulated Radio-over-Fibre Link with Digital Demodulation by a K-means Algorithm***
Neil Guerrero Gonzalez (Technical University of Denmark, Denmark); Antonio Caballero Jambrina (Fotonik DTU, Denmark); Ferney Amaya (GIDATI Research Group, Colombia); Darko Zibar (DTU Fotonik, department of Photonic Engineering, Technical University of Denmark, Denmark); Idelfonso Tafur Monroy (Technical University of Denmark, Denmark)
- P3.16: *XPM Tolerant Adaptive Carrier Phase Recovery for Coherent Receiver Based on Phase Noise Statistics Monitoring***
Lei Li (Fujitsu Research & Development Center, P. R. China); Zhenning Tao (Fujitsu R&D Center Ltd., P. R. China); Ling Liu (Fujitsu R&D Center Ltd, P. R. China); Weizhen Yan (Fujitsu Research & Development Center Co., LTD., P. R. China); Shoichiro Oda (Fujitsu Laboratories Ltd., Japan); Takeshi Hoshida (Fujitsu Laboratories Limited, Japan); Jens Rasmussen (Fujitsu Laboratories Limited, Japan)

- P3.17:** *Optical trellis-coded modulation with multi-parallel MZM*
Takahide Sakamoto (National Institution of Information and Communications Technology, Japan); Akito Chiba (National Institution of Information and Communications Technology, Japan); Isao Morohashi (National Institute of Information and Communications Technology, Japan); Tetsuya Kawanishi (National Institute of Information and Communications Technology, Japan)
- P3.18:** *High Sensitive Clock Recovery for a 160 Gbit/s OTDM Signal by Optoelectronic Phase-Locked Loop Technique*
Shigehiro Takasaka (Furukawa Electric Co., Ltd., Japan); Yu Mimura (Furukawa Electric Co., Ltd., Japan); Takeshi Yagi (Furukawa Electric Co., Ltd., Japan)
- P3.19:** *An Optical Differential 8-PSK Modulator Using Cascaded QPSK Modulators*
Yanfu Yang (The Hong Kong Polytechnic University, Hong Kong); Linghao Cheng (The Hong Kong Polytechnic University, Hong Kong); Chao Lu (The Hong Kong Polytechnic University, Hong Kong); Xiaogeng Xu (Huawei Technologies Co. Ltd., P. R. China); Lei Liu (Huawei Technologies Co. Ltd., P. R. China); Tam (The Hong Kong Polytechnic University, Hong Kong); P. K. A. Wai (The Hong Kong Polytechnic University, Hong Kong)
- P3.20:** *Coherent Detection of a 50 Gb/s QPSK Signal Using an InP 90°Hybrid Monolithically Integrated with Balanced Photodetectors*
Reinhold Ludwig (Fraunhofer Heinrich-Hertz-Institut, Germany); Andreas Matiss (u2t Photonics AG, Germany); Heinz-Gunter Bach (Fraunhofer-Institut fuer Nachrichtentechnik, Germany); Lutz Molle (Fraunhofer Institute for Telecommunications, Heinrich-Hertz Institut, Germany); Christoph Leonhardt (u2t Photonics AG, Germany); Reinhard Kunkel (Fraunhofer Institute for Telecommunications, Germany); Detlef Schmidt (Fraunhofer Heinrich-Hertz-Institut, Germany)
- P3.21:** *All-Optical Counter Based on Optical Flip-Flop and Optical AND Gate*
Jing Wang (Department of Electronic Engineering, Tsinghua University, Italy); Gianluca Meloni (CNIT, Italy); Gianluca Berrettini (Scuola Superiore Sant'Anna, Italy); Luca Poti (Consorzio Nazionale Interuniversitario per le Telecomunicazioni, Italy); Antonella Bogoni (CNIT, Italy)
- P3.22:** *Multi-sampling Stacked Optical Code Label for Scalable Multicasting in Optical Packet Switching Networks*
Ming Xin (Tsinghua University, P. R. China); Minghua Chen (Broadband Optical Network Research Laboratory, P. R. China); Hongwei Chen (Tsinghua University, P. R. China); Feifei Yin (Tsinghua University, P. R. China); Shizhong Xie (Tsinghua University, P. R. China)
- P3.23:** *Optical Performance Monitoring of Data Degradation by Evaluating the Deformation of an Asynchronously Generated I/Q Data Constellation*
Vahidreza Arbab (University of Southern California, USA); Xiaoxia Wu (University of Southern California, USA); Alan Willner (University of Southern California, USA); Charles Weber (University of Southern California, USA)

Poster Session 4: Transmission Systems

- P4.01:** *Use of the Zero Forcing Method for Compensation of Polarization Dependent Loss in Coherent Fiber-Optic Links*
Anton Andrusier (Tel Aviv University, Israel); Mark Shtaf (Tel Aviv University, Israel)
- P4.02:** *8x114 Gbit/s, 25 GHz spaced, PoMux-RZ-8QAM straight-line transmission over 800 km of SSMF*
Jianjun Yu (NEC Labs America, USA); Xiang Zhou (AT&T Labs-Research, USA); Ming-Fang Huang (NEC Labs America, USA)
- P4.03:** *On the Relation between Atmospheric Visibility and the Drop Size Distribution of Fog for FSO Link Planning*
Martin Grabner (Czech Metrology Institute, Czech Republic); Vaclav Kvicera (Czech Metrology Institute, Czech Republic)
- P4.04:** *Suppression of XPM Penalty in Dispersion Managed Hybrid 10G/40G/100G DWDM Networks Using Group Delay Management*
Olga Vassilieva (Fujitsu Laboratories of America, USA); Takeshi Hoshida (Fujitsu Laboratories Limited, Japan); Kevin Croussore (Fujitsu Laboratories of America, USA); Inwoong Kim (Fujitsu Laboratories of America, USA); Takao Naito (Fujitsu Laboratories of America, USA)
- P4.05:** *Scaling of Nonlinear Threshold in WDM Transmission Systems using Electronic Precompensation of Intrachannel Nonlinearities*
Johannes Fischer (Technical University of Berlin, Germany); Klaus Petermann (Technical University of Berlin, Germany)
- P4.06:** *Gigahertz Clocked Quantum Key Distribution System using FPGA*
Toshimori Honjo (NTT Corporation, Japan)

- P4.07: *Enhancement of 43 Gb/s DPSK Transmission Through 66 Wavelength Selective Switches Using Adaptive Channel Shape Optimization***
Meinert Jordan (University of Karlsruhe, Israel); Er'el Granot (Ariel University Center of Samaria, Israel); Motti Caspi (Finisar Israel, Israel); Yinnon Stav (Finisar Israel, Israel); Niv Narkiss (Finisar Israel, Israel); Michael Roelens (Finisar Australia, Australia); Steve Frisken (Finisar Australia, Australia); Simon Poole (Finisar Australia, Australia); Juerg Leuthold (University of Karlsruhe, Germany); Shalva Ben-Ezra (Finisar Israel, Israel)
- P4.08: *Suppression of Inter-Channel Nonlinearities in WDM Coherent PDM-QPSK Systems Using Periodic-Group-Delay Dispersion Compensators***
Chongjin Xie (Bell Labs, Alcatel-Lucent, USA)
- P4.09: *111 Gb/s No-Guard-Interval OFDM using Low Sampling Rate Analogue-to-Digital Converter***
Riichi Kudo (NTT Corporation, Japan); Takayuki Kobayashi (NTT, Japan); Etsushi Yamazaki (NTT Corporation, Japan); Koichi Ishihara (NTT Corporation, Japan); Yasushi Takatori (NTT Network Innovation Laboratories, Japan); Akihide Sano (NTT Network Innovation Laboratories, Japan); Eiji Yoshida (NTT Corporation, Japan); Munehiro Matsui (NTT Corporation, Japan); Tadao Nakagawa (NTT Corporation, Japan); Masato Mizoguchi (Nippon Telegraph and Telephone Corporation, Japan); Yutaka Miyamoto (NTT Network Innovation Laboratories, Japan)
- P4.10: *111 Gb/s Transmission with Compensation of FBG-induced Phase Ripple Enabled by Coherent Detection and Digital Signal Processing***
Mohammad Alfiad (Eindhoven University of Technology, The Netherlands); Dirk van den Borne (Nokia Siemens Networks, Germany); Torsten Wuth (Nokia Siemens Networks, Germany); Sander Jansen (Nokia Siemens Networks, Germany); Maxim Kuschnerov (University of the Federal Armed Forces, Munich, Germany); Vladimir Veljanovski (Nokia Siemens Networks, Germany); Antonio Napoli (Nokia Siemens Networks, Germany); Huug de Waardt (Eindhoven University of Technology, The Netherlands)
- P4.11: *Non-Linear Propagation Limits and Optimal Dispersion Map for 222 Gbit/s WDM Coherent PM-16QAM transmission***
Vittorio Curri (Politecnico di Torino, Italy); Andrea Carena (Politecnico di Torino, Italy); Pierluigi Poggiolini (Politecnico di Torino, Italy); Fabrizio Forghieri (Cisco Photonics Italy srl, Italy)
- P4.12: *Nonlinear Phase Noise Mitigation by Polarization Mode Dispersion in Dispersion Managed coherent PDM-QPSK Systems***
Paolo Serena (University of Parma, Italy); Alberto Bononi (Università di Parma, Italy)
- P4.13: *Integrated Optical Receiver for Lens-Less Short Range Free-Space Gigabit Communication***
Wolfgang Gaberl (Vienna University of Technology, Austria); Robert Swoboda (A3PICs Electronics Development GmbH, Austria); Horst Zimmermann (Vienna University of Technology, Austria)
- P4.14: *Pre-compensation for the Effects of Cascaded Optical Filtering on 10 Gsymbol/s DPSK and DQPSK Signals***
Ying Jiang (Queen's University, Canada); Xuefeng Tang (Queen's University, Canada); John Cartledge (Queen's University, Canada); Kim Roberts (Nortel Networks, Canada)
- P4.15: *Electronic Equalization of Polarization Mode Dispersion in Coherent POL-MUX QPSK Systems***
Nikolaos Mantzoukis (University of Patras, Greece); Constantinos Petrou (University of Patras, Greece); Athanasios Vgenis (University of Patras, Greece); Ioannis Roudas (University of Patras, Greece); Thomas Kamalakis (University of Athens, Greece); L. Raptis (Lampros Raptis, Attika Telecom)
- P4.16: *Spectrally Efficient Direct-Detected Optical OFDM Transmission Using Carrier-Data Timely Multiplexing Technique***
Wei-Ren Peng (National Chiao Tung University, Taiwan)
- P4.17: *Node Modules and Protocols for the Quantum-Back-Bone of a Quantum-Key-Distribution Network***
Oliver Maurhart (Austrian Research Centers GmbH – ARC, Austria); Thomas Lorünser (Austrian Research Centers, Austria); Thomas Länger (Austrian Research Centers GmbH – ARC, Austria); Christoph Pacher (Austrian Research Centers GmbH – ARC, Austria); Momtchil Peev (Austrian Research Centers GmbH – ARC, Austria); Andreas Poppe (Austrian Research Centers GmbH – ARC, Austria)
- P4.18: *Feasibility Study of Integrated Optical Phased Arrays for Indoor Gb/s Wireless Optical Links***
Karel Van Acoleyen (Ghent University – IMEC, Belgium); Hendrik Rogier (Ghent University, Belgium); Roel Baets (Ghent University – IMEC, Belgium)
- P4.19: *Faults and Recovery Methods in Regional Undersea OADM Networks***
Alexey Turukhin (Tyco Telecommunications, USA); Adnan Akhtar (Tyco Telecommunications, USA); Georg Mohs (Tyco Telecommunications, USA); Ekaterina Golovchenko (Tyco Telecommunications, USA)
- P4.20: *Experimental Verification of the Dispersion Tolerance Improvement of Partial DPSK with Optimised Filtering***
Pablo Moreno-Gomez (Swansea University, United Kingdom); Donald Govan (University of Wales Swansea, United Kingdom); Nick Doran (IAT, Swansea University, United Kingdom)
- P4.21: *Realization of Optical OFDM Using Time Lenses and Its Comparison with Conventional OFDM for Fiber-optic Systems***
Dong Yang (McMaster University, Canada); Shiva Kumar (McMaster University, Canada)

P4.22: *Experimental Characterisation of the Impact of Neighbouring Modulation-Formats on 42.7 Gb/s P-DPSK over SSMF and LEAF*
Marc Stephens (Ericsson Ltd., United Kingdom); Michal Dlubek (Ericsson Ltd., United Kingdom); Ian Phillips (Ericsson Ltd., United Kingdom); Alan Squires (Ericsson Ltd., United Kingdom); Darren Cox (Ericsson Ltd., United Kingdom); Ian Riggs (Ericsson Ltd., United Kingdom); Nick Pike (Ericsson Ltd., United Kingdom); Hayden Fewes (Ericsson Ltd., United Kingdom); Liam Gleeson (Ericsson Ltd., United Kingdom)

P4.23: *Polarization-Multiplexed Multilevel LDPC-Coded Modulation for Optical Communication Systems*
Lyubomir Minkov (University of Arizona, USA); Ivan Djordjevic (University of Arizona, USA); Lei Xu (NEC Laboratories America, Inc., USA); Ting Wang (NEC Labs America/University of Virginia, USA)

Poster Session 5: Backbone and Core Networks

P5.01: *Scalability Study of a Prototype 640 Gbit/s/port Optical Packet Switch for Network Applications*
Szilárd Zsigmond (Budapest University of Technology and Economics, Hungary); Hideaki Furukawa (NICT, Japan); Naoya Wada (NICT, Japan); Tetsuya Miyazaki (NICT, Japan)

P5.02: *A Novel Optical Encoding Scheme for Network Node Tracing in All-Optical Reconfigurable Wavelength Routing Networks*
Kam Hon Tse (The Chinese University of Hong Kong, Hong Kong); Chun-Kit Chan (The Chinese University of Hong Kong, Hong Kong)

P5.03: *A Novel Scheme to Integrate All-optical Burst Amplification and Cloning/multicasting in OBS Node*
Xiaoyuan Cao (Beijing University of Posts and Telecommunications, P. R. China); Xiaobin Hong (Beijing University of Posts and Telecommunications, P. R. China); Jian Wu (Beijing University of Posts and Telecommunications, P. R. China); Hongxiang Guo (Beijing University of Posts and Telecommunications, P. R. China); Kun Xu (Beijing University of Posts and Telecommunications, P. R. China); Jintong Lin (Beijing University of Posts and Telecommunications, P. R. China); Yong Zuo (Beijing University of Posts and Telecommunications, P. R. China); Yan Li (Beijing University of Posts and Telecommunications, P. R. China)

P5.04: *Analysis of Static Versus Fully-Dynamic Routing in IP/GMPLS over WDM Optical Networks with Physical-Layer Impairment Constraints*
Stephan Pachnicke (TU Dortmund, Germany); Gokhan Sahin (Miami University, USA); Jens Mueller (Miami University, USA); Gregory Reese (Miami University, USA); Nicolas Luck (TU Dortmund, Germany); Peter Krummrich (TU Dortmund, Germany)

P5.05: *Experiment of Transport and Control Protocols in Control-plane Integrated Next Generation Wide Area Layer2 Network*
Daisuke Ishii (Keio University, Japan); Kou Kikuta (Keio University, Japan); Satoru Okamoto (Keio University, Japan); Naoaki Yamanaka (Keio University, Japan)

P5.06: *Multicast Protection in WDM Optical Networks with Scheduled Traffic*
Shuqiang Zhang (The Chinese University of Hong Kong, Hong Kong); Chun-Kit Chan (The Chinese University of Hong Kong, Hong Kong)

P5.07: *Weight-based Algorithm for Demand Aggregation in SONET/DWDM Networks*
Xi Wang (Fujitsu Laboratories of America, USA); Qiong Zhang (Fujitsu Laboratories of America, USA); Paparao Palacharla (FLA, USA); Takao Naito (Fujitsu Laboratories of America, USA)

P5.08: *Why Traffic Engineering Does Not Work for Physical Impairments Based Routing*
Péter Soproni (Budapest University of Technology and Economics, Hungary); Tibor Cinkler (Budapest University of Technology and Economics, Hungary)

P5.09: *Experimental Investigation of High Definition Video Clips (HDVC) Streaming over OBS Networks*
Wenjia Zhang (Beijing University of Posts and Telecommunications, P. R. China); Xiaobin Hong (Beijing University of Posts and Telecommunications, P. R. China); Yawei Yin (Beijing University of Posts and Telecommunications, P. R. China); Hongmei Jiang (Beijing University of Posts and Telecommunications, P. R. China); Lei Liu (Beijing University of Posts and Telecommunications – BUPT, P. R. China); Hongxiang Guo (Beijing University of Posts and Telecommunications, P. R. China); Jian Wu (Beijing University of Posts and Telecommunications, P. R. China); Jintong Lin (Beijing University of Posts and Telecommunications, P. R. China)

P5.10: *Plug and Play Techniques for Optical Network Configuration*
Kaori Shimizu (NTT, Japan); Rie Hayashi (NTT, Japan); Ichiro Inoue (NTT, Japan); Kohei Shiimoto (NTT, Japan)

P5.11: *Evaluation of Recovery Methods for Layer-1 Bandwidth on Demand Service*
Kaori Shimizu (NTT, Japan); Shigeo Urushidani (National Institute of Informatics, Japan); Rie Hayashi (NTT, Japan); Ichiro Inoue (NTT, Japan); Kohei Shiimoto (NTT, Japan); Kensuke Fukuda (National Institute of Informatics, Japan); Michihiro Koibuchi (National Institute of Informatics, Japan); Shunji Abe (National Institute of Informatics, Japan); Yusheng Ji (National Institute of Informatics, Japan); Motonori Nakamura (National Institute of Informatics, Japan); Shigeki Yamada (National Institute of Informatics, Japan)

- P5.12: Power-Aware Routing and Wavelength Assignment in Optical Networks**
Yong Wu (Politecnico di Torino, Italy); Luca Chiaraviglio (Politecnico di Torino, Italy); Marco Mellia (Politecnico di Torino, Italy); Fabio Neri (Politecnico di Torino, Italy)
- P5.13: Impairment Aware Routing and End-to-End Compensation in WSON**
Xuping Cao (Beijing University of Posts and Telecommunications, P. R. China); Jie Zhang (Beijing University of Posts and Telecommunications, P. R. China); Guanjun Gao (Beijing University of Posts and Telecommunications, P. R. China); Xiuzhong Chen (Beijing University of Posts and Telecommunications, P. R. China); Dahai Han (Beijing University of Posts and Telecommunications, P. R. China); Cheng Xiaofei (Institute for Infocomm Research, Singapore); Wanyi Gu (Beijing University of Posts and Telecommunications, P. R. China); Yuefeng Ji (Beijing University of Posts and Telecommunications, P. R. China)
- P5.14: Management and Control Scheme Employing Wavelength-Grouped Transmission-Guaranteed Link for Highly-Manageable and Cost-Efficient Transparent Optical Mesh Networks**
Yoshiaki Sone (NTT Network Innovation Laboratories, Japan); Akihiro Kadohata (NTT Network Innovation Laboratories, Japan); Atsushi Watanabe (NTT, Japan); Wataru Imajuku (NTT Network Innovation Laboratories, Japan); Kazuhiro Matsuda (NTT Corporation, Japan); Masahiko Jinno (NTT Network Innovation Laboratories, Japan); Akio Sahara (NTT Network Innovation Laboratories, Japan); Tetsuo Takahashi (NTT Corporation, Japan); Shinji MATsuoka (NTT Corporation, Japan); Atsuhiko Suzuki (NTT East corporation, Japan); Hideyuki Tokuda (Keio University, Japan)
- P5.15: Efficient Routing Algorithms for Hierarchical ASON**
Pei Luo (Beijing University of Posts and Telecommunications, P. R. China); Shanguo Huang (Beijing University of Posts and Telecommunications, P. R. China); Weihua Lian (Beijing University of Posts and Telecommunications, P. R. China); Bingli Guo (Beijing University of Post and Telecommunication, P. R. China); Wanyi Gu (Key Laboratory of Optical Communication and Lightwave Technologies, Ministry of Education, Beijing U., P. R. China)
- P5.16: Successful Demonstration of the Compatibility of Optical Packet and Wavelength Circuit Switching in Optical Networks**
Dominique Chiaroni (Alcatel-Lucent Bell Labs France, France); Gema Buforn (Alcatel-Lucent Bell Labs France, France); Christian Simonneau (Alcatel-Lucent Bell Labs France, France); Jean-Christophe Antona (Alcatel-Lucent, France); Jesse Simsarian (Bell Labs Alcatel-Lucent, USA); Etienne Sophie (Alcatel-Lucent Bell Labs France, France)
- P5.17: Scalability Analysis and Evaluation of the Multi-domain, Optical Network Service Plane in Harmony**
Joan Garcia-Espin (Fundació i2CAT, Internet i Innovació Digital a Catalunya, Spain); Sergi Figuerola (Fundació i2CAT, Internet i Innovació Digital a Catalunya, Spain); Jordi Ferrer Riera (Fundació i2CAT, Internet i Innovació Digital a Catalunya, Spain); Alexander Willner (University of Bonn, Germany)

Poster Session 6: Access Networks and LAN

- P6.01: 3.125 Gb/s Impulse Radio UWB over Fiber Transmission**
Timothy Gibbon (Technical University of Denmark, Denmark); Xianbin Yu (Technical University of Denmark, Denmark); Romeo Gamatham (Nelson Mandela Metropolitan University, South Africa); Neil Guerrero Gonzalez (Technical University of Denmark, Denmark); Idelfonso Tafur Monroy (Technical University of Denmark, Denmark)
- P6.02: New Optical Fibre Line Testing System Function for Facility Location and Identification Using Multivalued Brillouin Frequency Shift Assigned Fibre**
Nazuki Honda (NTT Corp., Japan); Masaaki Inoue (NTT Corp., Japan); Noriyuki Araki (NTT Corp., Japan); Yuji Azuma (NTT Corp., Japan)
- P6.03: Simultaneous Broadband Wired/Millimeter-Wave Band Transmission with Broadcasting Signal Using Direct ASE Modulation of an RSOA for WDM/SCM-PON Systems**
Moon-Ki Hong (Yonsei University, Korea); Won Yong-Yuk (Dept. of Electrical and Electronic Engineering, Korea); Hyun-Seung Kim (Yonsei University, Korea); Han Sang-Kook (Dept. of Electrical and Electronic Engineering, Yonsei university, Seoul, Korea, Korea)
- P6.04: A UWB over Fibre Transmitter Reconfigurable for Multiple Modulation Schemes**
Shilong Pan (University of Ottawa, Canada); Jianping Yao (University of Ottawa, Canada)
- P6.05: Broadcast Capable 40-Gb/s WDM Passive Optical Networks**
Zhaowen Xu (Nanyang Technological University, Singapore); Tee Hiang Cheng (Nanyang Technological University, Singapore); Cheng Xiaofei (Institute for Infocomm Research, Singapore); Yong kee Yeo (Institute for Infocomm Research, Singapore); Yang Jing Wen (Huawei, USA); Yixin Wang (Institute for Infocomm Research, Singapore, Singapore); Weifeng Rong (Institute for Infocomm Research, Singapore)
- P6.06: A 82.5-GSample/s (10.3125-GHz x 8 phase-shifted clocks) sampling IC for 10G-EPON burst-mode CDR**
Naoki Suzuki (Mitsubishi Electric Corporation, Japan); Kenichi Nakura (Mitsubishi Electric Corporation, Japan); Seiji Kozaki (Mitsubishi Electric Corporation, Japan); Hitoyuki Tagami (Mitsubishi Electric Corporation, Japan); Masamichi Nogami (Mitsubishi Electric Corporation, Japan); Junichi Nakagawa (Mitsubishi Electric Corporation, Japan)

- P6.07: *Novel Optical Fiber Identification Method for PONs Based on Polarization Modulation Caused by Pressure-Induced Retardation***
Koji Enbutsu (NTT Corporation, Japan); Noriyuki Araki (NTT Corporation Japan); Nazuki Honda (NTT Corporation, Japan); Yuji Azuma (NTT Corporation Japan)
- P6.08: *Dynamic Range in Hybrid DWDM/TDMA PON***
Martin Bouda (Fujitsu Laboratories of America, USA); Takao Naito (Fujitsu Laboratories of America, USA)
- P6.09: *Long Reach and Enhanced Power Budget DWDM Radio-over-Fibre Link Supported by Raman Amplification and Coherent Detection***
Antonio Caballero Jambriña (Fotonik DTU, Denmark); Neil Guerrero Gonzalez (Technical University of Denmark, Denmark); Ferney Amaya (GIDATI Research Group, Colombia); Darko Zibar (DTU Fotonik, department of Photonic Engineering, Technical University of Denmark, Denmark); Idelfonso Tafur Monroy (Technical University of Denmark, Denmark)
- P6.10: *Short Reach Radio over Polymer Fibre Links***
Fan Yang (University of Cambridge, United Kingdom); Michael Crisp (University of Cambridge, United Kingdom); Ke Fang (University of Cambridge, United Kingdom); Richard Penty (Cambridge University, United Kingdom); Ian White (University of Cambridge, United Kingdom)
- P6.11: *Effect of PDL in WDM-PON Based on ASE Seeded RSOA***
Jung-Hyung Moon (Korea Advanced Institute of Science and Technology, Korea); Sil-Gu Mun (Korea Advanced Institute of Science and Technology, Korea); Hoon-Keun Lee (Korea Advanced Institute of Science and Technology, Korea); Chang-Hee Lee (Korea Advanced Institute of Science and Technology, Korea)
- P6.12: *TCP Friendly Active Optical Access Network Having Automatic Ranging and Slot Allocation Function***
Kunitaka Ashizawa (Keio University, Japan); Kazumasa Tokuhashi (Keio University, Japan); Daisuke Ishii (Keio University, Japan); Yutaka Arakawa (Kyushu University, Japan); Naoaki Yamanaka (Keio University, Japan)
- P6.13: *A Novel Optical Access Network Architecture Supporting Seamless Integration of RoF and OFDMA Signals***
Lin Yu-Min (Optical Communications & Networking Technologies Department, ICRL/ITRI, Taiwan, Taiwan); Po L. Tien (National Chiao Tung University, Taiwan); Maria C. Yuang (National Chiao Tung University, Taiwan); Steven Lee (National Chung Cheng University, Taiwan); Jyehong Chen (National Chung Cheng University, Taiwan); Shing-Yu Chen (National Chiao Tung University, Taiwan); Yi-Min Huang (National Chiao Tung University, Taiwan); Julin Shih (National Chiao Tung University, Taiwan); Chih-Hung Hsu (Industrial Technology Research Institute, Taiwan)
- P6.14: *A Novel Multicast Overlay Scheme for WDM Passive Optical Networks using Optical Carrier Suppression Technique***
Yang Qiu (The Chinese University of Hong Kong, Hong Kong); Chun-Kit Chan (The Chinese University of Hong Kong, Hong Kong)
- P6.15: *Optimisation of In-Building Optical Networks***
Ton Koonen (COBRA, Eindhoven Univ. of Technology, The Netherlands); Anna Pizzinat (France Telecom Research and Development, France); Hyun-Do Jung (Eindhoven University of Technology, The Netherlands); Philippe Guignard (France Telecom R&D, France); Eduward Tangdionga (Eindhoven University of Technology, The Netherlands); Henrie van den Boom (TU Eindhoven, The Netherlands)
- P6.16: *Performance Assessment of Flexible Time-Wavelength Routing for a Self-aggregating Transparent Metro-Access Interface***
Marcin Więckowski (Warsaw University of Technology, Poland); Alexey Osadchiy (Technical University of Denmark, Denmark); Jarosław Turkiewicz (Warsaw University of Technology, Poland); Idelfonso Tafur Monroy (Technical University of Denmark, Denmark)
- P6.17: *Very low power of <math><7\text{mW/Gbps}</math>, 1060-nm 120-Gbps optical link employing high-density optical modules***
Hideyuki Nasu (The Furukawa Electric Co., Ltd., Japan); Yozo Ishikawa (The Furukawa Electric Co., Ltd., Japan); Yoshinobu Nekado (The Furukawa Electric Co., Ltd., Japan); Katsutoshi Takahashi (The Furukawa Electric Co., Ltd., Japan); Toshinori Uemura (The Furukawa Electric Co., Ltd., Japan); Atsushi Izawa (The Furukawa Electric Co., Ltd., Japan); Masakazu Yoshihara (The Furukawa Electric Co., Ltd., Japan)
- P6.18: *Transparent Radio-over-Multimode Fiber Transmission System with Novel Transceiver for Picocellular Infrastructures***
Ingo Möllers (Universität Duisburg-Essen, Germany); Dieter Jäger (University of Duisburg-Essen, Germany)
- P6.19: *C+L Band Remote Node for Amplification in Extended Reach Full-Duplex 10 Gb/s WDM/TDM Passive Optical Networks***
Bernhard Schrenk (Universitat Politècnica de Catalunya, Spain); Sotiria Chatzi (Universitat Politècnica de Catalunya, Spain); Francesc Bonada (Universitat Politècnica de Catalunya, Spain); Jose Lazaro (Universitat Politècnica de Catalunya, Spain); Dimitrios Klionidis (AIT, Greece); Ioannis Tomkos (AIT, Greece); Josep Prat (Universitat Politècnica de Catalunya, Spain)

- P6.20: *Network Coding in Passive Optical Networks***
Martin Belzner (University of Erlangen-Nuremberg, Germany); Herbert Haunstein (University of Erlangen-Nuernberg, Germany)
- P6.21: *SOA or EDFA Amplifying 10Gbit/s OFDM Signals for Access Networks***
Fabienne Saliou (Orange Labs, France); Philippe Chanclou (France Telecom R&D, France); Benoit Charbonnier (Orange Labs, France); Thanh Nga Duong (Orange Labs, France); Naveena Genay (France Telecom R&D, France); Ahmed Gharba (Orange Labs, France); Chloé Milion (Orange Labs, France); Meryem Ouzzif (Orange Labs, France)
- P6.22: *Generation and Transmission of FCC-Compliant Impulse Radio Ultra Wideband Signals over 100-m GI-POF***
S Abraha (COBRA Research Institute, Eindhoven University of Technology, The Netherlands); Hejie Yang (COBRA, Eindhoven University of Technology, The Netherlands); Eduward Tangdiongga (Eindhoven University of Technology, The Netherlands); Ton Koonen (COBRA, Eindhoven Univ. of Technology, The Netherlands)
- P6.23: *Passive OADM Network Element for Hybrid Ring-Tree WDM/TDM-PON***
Josep Prat (Universitat Politècnica de Catalunya – UPC, Spain); Jose Lazaro (UPC, Spain); Philippe Chanclou (France Telecom R&D, France); Sergio Cascelli (Italian Ministry of the Economic Development – Communications, Italy)
- P6.24: *Gain Transient Mitigation in Remote Erbium Doped Fibre Amplifiers by Burst Packet Carving at the ONU for Extended Power Budget PONs***
Francesc Bonada Bo (Universitat Politècnica de Catalunya – UPC, Spain); Bernhard Schrenk (UPC, Spain); Jose Lazaro (UPC, Spain); Victor Polo (UPC, Spain); Philippe Chanclou (France Telecom R&D, France); Josep Prat (UPC, Spain)
- P6.25: *Lightwave Centralized WDM-PON System at Symmetric Rate of 10 Gbit/s Employing Cost-effective Directly Modulated Laser***
Ming-Fang Huang (Georgia Tech, USA); Jianjun Yu (NEC Labs America, USA); Gee-Kung Chang (Georgia Tech, USA)
- P6.26: *SSB NRZ and SSB Manchester Downstream Signals for Remodulated Extended Reach WDM-TDM PONs***
Natasa Pavlovic (Instituto de Telecomunicações, Portugal); Liliana Costa (Instituto de Telecomunicações, Portugal); Antonio Teixeira (University of Aveiro, Portugal)
- P6.27: *ONU Optimal Gain and Position of the Distribution Element in Rayleigh-limited WDM and TDM PONs with reflective ONU***
Eduardo López-Pastor (Universitat Politècnica de Catalunya, Spain); Jose Lazaro (Universitat Politècnica de Catalunya – UPC, Spain); Victor Polo (UPC, Spain); Josep Prat (UPC, Spain); Cristina Arellano (VPI system, Germany)
- P6.28: *A New Architecture and MAC Protocol for Fully Flexible Hybrid WDM/TDM PON***
Goutam Das (University of Ghent, Belgium); Bart Lannoo (Ghent University – IBBT, Belgium); Hyun-Do Jung (Eindhoven University of Technology, The Netherlands); Ton Koonen (COBRA, Eindhoven Univ. of Technology, The Netherlands); Didier Colle (Ghent University, Belgium); Mario Pickavet (Ghent University, Belgium); Piet Demeester (Ghent University, Belgium)
- P6.29: *First Demonstration of a Fast Response/Locking Burst-mode Physical-layer Chipset for Emerging 10G PON Standards***
Frank Chang (Vitesse, USA)
- P6.30: *Mitigation of Laser Linewidth induced AM-PM Noise using Optical Phase Conjugation in OSSB Radio over Fiber Systems***
K. Esakki Muthu (Indian Institute of Technology Kharagpur, India); S. S. Pathak (Indian Institute of Technology Kharagpur, India)

Thursday, September 24, 2009

Session 9.1: Nonlinear Processing in Fibres

Chair: Christian Schaeffer (Helmut Schmidt University, Germany)

- 9.1.1** *1.56 μ s Continuously Tuneable 40-Gb/s Parametric Delay*
Evgeny Myslivets (University of California San Diego, USA); Nikola Alic (University of California San Diego, USA); Slaven Moro (University of California, San Diego, USA); Bill Ping Piu Kuo (University of California, San Diego, USA); Robert Jopson (Alcatel-Lucent, Bell Laboratories, USA); Alan Gnauck (Alcatel-Lucent, Bell Laboratories, USA); Magnus Karlsson (Chalmers University of Technology, Sweden); Colin McKinstrie (Alcatel-Lucent, Bell Labs, USA); Stojan Radic (University of California, San Diego, USA)
- 9.1.2** *Nearly octave-spanning cascaded four-wave-mixing generation in low dispersion highly nonlinear fiber*
Jose Chavez Boggio (University of California, San Diego, USA); Slaven Moro (University of California, San Diego, USA); Nikola Alic (University of California San Diego, USA); Magnus Karlsson (Chalmers University of Technology, Sweden); Joss Bland-Hawthorn (University of Sydney, Australia); Stojan Radic (University of California, San Diego, USA)
- 9.1.3** *Four-wave mixing-based wavelength conversion in a Short-Length of a Solid 1D Microstructured Fibre*
Angela Camerlingo (ORC, University of Southampton, United Kingdom); Francesca Parmigiani (ORC, University of Southampton, United Kingdom); Xian Feng (ORC, University of Southampton, United Kingdom); Francesco Poletti (University of Southampton, United Kingdom); Peter Horak (University of Southampton, United Kingdom); Wei Loh (ORC, University of Southampton, United Kingdom); David Richardson (University of Southampton, United Kingdom); Periklis Petropoulos (University of Southampton, United Kingdom)
- 9.1.4** *FWM-based All-Optical Phase Drop for Format Conversion from 320-Gb/s RZ-DQPSK to 160-Gb/s RZ-DPSK*
Guo-Wei Lu (National Institute of Information and Communications Technology – NICT, Japan); Tetsuya Miyazaki (NICT, Japan)
- 9.1.5** *Amplitude Limiting of Time-Interleaved Multi-Wavelength Optical Signals Using Saturation of Four-Wave Mixing in a Fiber*
Saori Tanabe (Osaka University, Japan); Masayuki Matsumoto (Osaka University, Japan)
- 9.1.6** *Fiber-Based Nonlinear Processing of Optical Signals (Invited)*
Robert Jopson (Alcatel-Lucent, Bell Laboratories, USA); A. H. Gnauck, (Alcatel-Lucent, Bell Laboratories, USA); C. J. McKinstrie (Alcatel-Lucent, Bell Laboratories, USA)

Session 9.2: Photodetectors and Receivers

Chair: Christopher Doerr (Bell Labs, Alcatel-Lucent, USA)

- 9.2.1** *A 25-Gb/s, 2.8-mW/Gb/s Low Power CMOS Optical Receiver*
Takashi Takemoto (Hitachi, Ltd., Japan); Fumio Yuuki (Hitachi, Ltd., Japan); Hiroki Yamashita (Hitachi, Ltd., Japan); Takuma Ban (Hitachi, Ltd., Japan); Masashi Kono (Hitachi, Ltd., Japan); Yong Lee (Hitachi, Ltd., Japan); Tetsuya Saito (Hitachi, Ltd., Japan); Shinji Tsuji (Hitachi, Ltd., Japan); Shinji Nishimura (Central Research Lab., Hitachi, Ltd., Japan)
- 9.2.2** *Very Low Dark Current AlInAs/GaInAs SAGM Avalanche Photodiodes for 10 Gb/s applications*
Majda Lahrichi (Alcatel-Thales III-V Lab, France); Estelle Derouin (Alcatel-Thales III-V Lab, France); Danièle Carpentier (Alcatel-Thales III-V Lab, France); Nadine Lagay (Alcatel-Thales III-V Lab, France); Jean Decobert (Alcatel-Thales III-V Lab, France); Geneviève Glastre (Alcatel-Thales III-V Lab, France); Mohand Achouche (Alcatel-Thales III-V Lab, France)
- 9.2.3** *Ge on Si p-i-n Photodiodes for a Bit Rate of up to 25 Gbit/s*
Sandra Klinger (University of Stuttgart, Germany); Markus Groezing (University of Stuttgart, Germany); Wissem Sfar Zaoui (University of Stuttgart, Germany); Manfred Berroth (University of Stuttgart, Germany); Mathias Kaschel (University of Stuttgart, Germany); Michael Oehme (University of Stuttgart, Germany); Erich Kasper (University of Stuttgart, Germany); Joerg Schulze (University of Stuttgart, Germany)
- 9.2.4** *Highly Linear, High Power Handling Photodiode for RF Photonic Links*
Abhay Joshi (Discovery Semiconductors Inc., USA); Shubhashish Datta (Discovery Semiconductors Inc., USA)
- 9.2.5** *High Linearity and High Responsivity UTC Photodiode for Multi-Level Formats Applications*
Christophe Caillaud (Alcatel-Thales III-V Lab, France); Geneviève Glastre (Alcatel-Thales III-V Lab, France); Danièle Carpentier (Alcatel-Thales III-V Lab, France); Francois Lelarge (Alcatel-Thales III-V Lab, France); Benjamin Rousseau (Alcatel-Thales III-V Lab, France); Fabrice Blache (Alcatel-Thales III-V Lab, France); Mohand Achouche (Alcatel-Thales III-V Lab, France)

9.2.6 *Hybrid Co-Packaged Receiver Module with pin-Photodiode Chip and DEMUX-IC for 107 Gb/s Data Rates*
G. Giorgis Mekonnen (Fraunhofer Institute for Telecommunications/Heinrich-Hertz-Institut, Germany); Heinz-Gunter Bach (Fraunhofer-Institut fuer Nachrichtentechnik, Germany); Reinhard Kunkel (Fraunhofer Institute for Telecommunications, Germany); Colja Schubert (Fraunhofer Heinrich-Hertz-Institut, Germany); Detlef Pech (Fraunhofer Institute for Telecommunications, Germany); Thomas Rosin (Fraunhofer Institute for Telecommunications, Germany); Agnieszka Konczykowska (Alcatel-Thales 3-5 Lab, France); Filipe Jorge (Alcatel Thales III-V Lab, joint la: Bell Labs and Thales Research and Technology, France); André Scavennec (Alcatel Thales III-V Lab, joint la: Bell Labs and Thales Research and Technology, France); Muriel Riet (Alcatel Thales III-V Lab, joint la: Bell Labs and Thales Research and Technology, France)

9.2.7 *Investigation of DGD and Delay-Line Interferometer Phase Tolerance of Integrated Receiver Module for 86 Gb/s NRZ-DQPSK modulation*
Mads Nielsen (u2t Photonics AG, Germany); Andreas Steffan (U2T photonics AG, Germany); Georgios Tsianos (u2t Photonics AG, Germany); Günter Unterbörsch (u2t photonics AG, Germany); Andreas Umbach (u2t Photonics AG, Germany); Reinhold Ludwig (Fraunhofer Heinrich-Hertz-Institut, Germany); Aurelien Boutin (Kyliya, France); Ludovic Fulop (Kyliya, France); Frederic Verluise (Kyliya, France)

Session 9.3: Performance Monitoring

Chair: Alan Willner (University of Southern California, USA)

9.3.1 *In-service Monitoring of PMD Induced Optical Signal Degradation Using SOP Vector Trajectory on the Poincare Sphere for High-Speed Reconfigurable Optical Networks*
Hitoshi Takeshita (NEC Corporation, Japan); Kiyoshi Fukuchi (Principal Researcher, Japan); Satomi Shioiri (NEC Corporation, Japan); Emmanuel Le Taillandier de Gabory (NEC Corporation, Japan)

9.3.2 *Complete Characterization of PMD Vector through Time-resolved Waveform Analysis Based on xy-field Sampling*
Keiji Okamoto (NTT, Japan); Fumihiko Ito (NTT Access Network Service Systems Laboratories, NTT Corporation, Japan)

9.3.3 *Optical Performance Monitoring for Intelligent Optical Networks (Invited)*
Trevor Anderson (Monitoring Division Inc, Australia); Jonathan C. Li (Monitoring Division Inc, Australia); Don Hewitt (Monitoring Division Inc, Australia); Olivier Jerphagnon (Monitoring Division Inc, Australia)

9.3.4 *Demonstration of Simultaneous OSNR and CD Monitoring using Asynchronous Delay Tap Sampling on an 800 km WDM Test Bed*
Trevor Anderson (Monitoring Division Inc, Australia); Dan Beaman (Monitoring Division Inc, Australia); Jonathan Li (National ICT Australia, Australia); Olivier Jerphagnon (Monitoring Division Inc, USA); Esther Le Rouzic (Orange Labs, France); Frederic Neddham (Orange Labs, France); Suzanne Salaun (Orange Labs, France)

Session 9.4: Nonlinearity Mitigation in Coherent Systems

Chair: Sebastien Bigo (Alcatel-Lucent France Research & Innovation, France)

9.4.1 *System Benefits of Temporal Polarization Interleaving with 100 Gb/s Coherent PDM-QPSK*
Oriol Bertran-Pardo (Telecom Paristech (ENST-Paris), France); Jérémie Renaudier (Bell Labs, Alcatel-Lucent, France); Gabriel Charlet (Bell Labs, Alcatel-Lucent, France); Massimiliano Salsi (Bell Labs, Alcatel-Lucent, France); Marco Bertolini (Università degli Studi di Parma, Italy); Patrice Tran (Bell Labs, Alcatel-Lucent, France); Haïk Mardoyan (Bell Labs, Alcatel-Lucent, France); Clemens Koebele (Bell Labs, Alcatel-Lucent, France); Sébastien Bigo (Bell Labs, Alcatel-Lucent, France)

9.4.2 *The Impact of DWDM Channel De-correlation Method in Optical PSK Coherent Transmission Experiment*
Zhenning Tao (Fujitsu R&D Center Ltd., P. R. China); Weizhen Yan (Fujitsu Research & Development Center Co., LTD., P. R. China); Liang Dou (Fujitsu Research & Development Center Co., LTD., P. R. China); Lei Li (Fujitsu Research & Development Center, P. R. China); Shoichiro Oda (Fujitsu Laboratories Ltd., Japan); Takeshi Hoshida (Fujitsu Laboratories Limited, Japan); Jens Rasmussen (Fujitsu Laboratories Limited, Japan)

9.4.3 *Dispersion Management in WDM Coherent PDM-QPSK Systems*
Chongjin Xie (Bell Labs, Alcatel-Lucent, USA)

9.4.4 *Experimental Comparison of Nonlinear Compensation in Long-Haul PDM-QPSK Transmission at 42.7 and 85.4 Gb/s*
David Millar (University College London, United Kingdom); Sergejs Makovejs (University College London, United Kingdom); Robert Killey (University College London, United Kingdom); Vitaly Mikhailov (University College London, United Kingdom); Polina Bayvel (University College London – UCL, United Kingdom); Seb Savory (University College London, United Kingdom)

9.4.5 Systematic Analysis on Multi-Segment Dual-Polarisation Nonlinear Compensation in 112 Gb/s DP-QPSK Coherent Receiver

Takahito Tanimura (Fujitsu Laboratories Ltd., Japan); Takeshi Hoshida (Fujitsu Laboratories Limited, Japan); Shoichiro Oda (Fujitsu Laboratories Ltd., Japan); Toshiki Tanaka (Fujitsu Laboratories Ltd., Japan); Chihiro Ohsima (Fujitsu Laboratories Ltd., Japan); Zhenning Tao (Fujitsu R&D Center Ltd., P. R. China); Jens Rasmussen (Fujitsu Laboratories Ltd., Japan)

9.4.6 Multi-staged Nonlinear Compensation in Coherent Receiver for 16,340-km Transmission of 111-Gb/s No-Guard-Interval Co-OFDM

Etsushi Yamazaki (NTT Corporation, Japan); Hirohji Masuda (NTT Network Innovation Laboratories, Japan); Akihide Sano (NTT Network Innovation Laboratories, Japan); Toshihide Yoshimatsu (NTT Network Innovation Laboratories, Japan); Takayuki Kobayashi (NTT, Japan); Eiji Yoshida (NTT Corporation, Japan); Yutaka Miyamoto (NTT Network Innovation Laboratories, Japan); Riichi Kudo (NTT Corporation, Japan); Koichi Ishihara (NTT Corporation, Japan); Munehiro Matsui (NTT Corporation, Japan); Yasushi Takatori (NTT Network Innovation Laboratories, Japan)

9.4.7 Experimental Demonstration of Nonlinear Electrical Equalizer to Mitigate Intra-channel Nonlinearities in Coherent QPSK Systems

Yan Gao (Peking University, China, P. R. China); Fan Zhang (Peking University, P. R. China); Juhao Li (Peking University, China, P. R. China); Liang Liu (Peking University, China, P. R. China); Zhangyuan Chen (Peking University, P. R. China); Lixin Zhu (Peking University, China, P. R. China); Li Li (Peking University, China, P. R. China); Anshi Xu (Peking University, P.R. China)

Session 9.5: Access Components and Subsystems

Chair: Russell Davey (BT., United Kingdom)

9.5.1 Evolution of Optical Component Technologies for Access and Metro Networks (Invited)

Andy Carter (Bookham Technology, United Kingdom)

9.5.2 New RSOA Devices for Extended Reach and High Capacity Hybrid TDM/WDM -PON Networks

Guilhem de Valicourt (Alcatel-Thales III-V lab, France); Romain Brenot (Alcatel-Thales III-V Lab, France); Philippe Chanclou (France Telecom R&D, France); D. Maké (Alcatel-Thales III-V lab, France); J. Landreau (Alcatel-Thales III-V lab, France); M. Lamponi (Alcatel-Thales III-V lab, France); G.H. Duan (Alcatel-Thales III-V lab, France)

9.5.3 Hybrid Electro-Optical Feedback Gain-Stabilized EDFAs

Heinz Krimmel (Alcatel-Lucent Germany, Germany); Thomas Pfeiffer (Alcatel-Lucent, Germany); Bernhard Deppisch (Alcatel-Lucent, Germany); Lothar Jentsch (Alcatel-Lucent, Germany)

9.5.4 Operation of an Integrated DWDM Comb Source in a Reflection Modulated WDM-PON System

Amaia Legarrea (British Telecommunications PLC, United Kingdom); Richard Wyatt (CIP, United Kingdom); Derek Nasset (BT plc, United Kingdom); Alistair Poustie (CIP, United Kingdom); Kristan Farrow (BT plc, United Kingdom); Paul Wright (BT plc, United Kingdom)

9.5.5 Study on ISI Mitigation Capability of MLSE Equalizers in RSOA-based 10 Gbit/s WDM PON

Akira Agata (KDDI R&D Laboratories Inc., Japan); Keun Yeong Cho (KAIST, Korea); Yuichi Takushima (KAIST, Korea); Yun C. Chung (KAIST, Korea); Yukio Horiuchi (KDDI R&D Laboratories, Inc., Japan)

9.5.6 Simplified Wavelength-Tunable DWDM Selector using Removable Driving Circuit for Coexistence-Type WDM-PON

Hiro Suzuki (NTT, Japan); Masamichi Fujiwara (NTT Access Network Service Systems Laboratories, Japan); Naoto Yoshimoto (NTT Access Network Service Systems Laboratories, Japan); Hideaki Kimura (NTT Access Network Service Systems Laboratories, Japan); Kiyomi Kumozaki (NTT, Japan)

Session 9.6: Free-Space Optical Communications

Chair: Michel Joindot (FOTON-ENSSAT / University of Rennes 1/ CNRS, France)

9.6.1 Tutorial: Free-space Laser Communications: Global Communications and Beyond

David Caplan (MIT Lincoln Laboratory, USA); Mark Stevens (MIT Lincoln Laboratory, USA); Bryan Robinson (MIT Lincoln Laboratory, USA)

9.6.2 Sensitivity of Balanced Receivers for Polarization Shift Keying in Free-Space Optical Communications

Franz Fidler (Vienna University of Technology, Austria); Jasmin Grosinger (Vienna University of Technology, Austria); Walter Leeb (Vienna University of Technology, Austria)

9.6.3 100 Gb/s Per-Channel Free-Space Optical Transmission with Coherent Detection and MIMO Processing

Neda Cvijetic (NEC Laboratories America, Inc., USA); Dayou Qian (NEC Laboratories America, USA); Jianjun Yu (NEC Labs America, USA); Yue-Kai Huang (NEC Laboratories America, Inc., USA); Ting Wang (NEC Laboratories America, USA)

- 9.6.4** *125 Mbit/s over 5 m Wireless Distance by Use of OOK-Modulated Phosphorescent White LEDs*
Jelena Vucic (Fraunhofer Heinrich-Hertz Institut, Germany); Christoph Kottke (Fraunhofer HHI, Germany); Stefan Nerreter (Siemens AG, Germany); Kai Habel (Fraunhofer HHI, Germany); Andreas Buettnner (TFH Berlin, Germany); Klaus-Dieter Langer (Fraunhofer HHI, Germany); Joachim Walewski (Siemens Corporate Technology, Germany)

Session 9.7: Symposium: Subsea Communications: Recent advances and Future Prospects (1) – System Perspective

Chair: Stuart Walker (University of Essex, United Kingdom)

- 9.7.1** *Operator View: Drivers in the Submarine Networking Industry Today and moving Forward*
Nicolas Brochier (Orange Labs, France); D. Martinet (Orange Labs, France); M. André (France Telecom IBNF); E. Le Rouzic (Orange Labs, France)
- 9.7.2** *Lessons Learned Designing and Building Turnkey Submarine Systems Systems*
Ekaterina Golovchenko (Tyco Telecommunications, USA)
- 9.7.3** *Taking long repeatered submarine systems to 40 Gbit/s and beyond*
Massimiliano Salsi (Bell Labs, Alcatel-Lucent, France); Marco Bertolini (Università degli Studi di Parma, Italy); Gabriel Charlet (Bell Labs, Alcatel-Lucent, France)
- 9.7.4** *Recent Advances and Deployments in the Asia-Pacific Region*
Yasuhiro Aoki (NEC Corporation, Japan)

Session 10.1: Glasses for Nonlinear Processes and Amplification

Chair: Hans Limberger (EPFL & APL, Switzerland)

- 10.1.1** *Ultrafast Nonlinear Optics on a Chalcogenide Chip (Invited)*
Benjamin Eggleton (University of Physics, Australia)
(Paper not available at the time of printing)
- 10.1.2** *Ultra Highly Nonlinear AsSe Chalcogenide Holey Fiber for Nonlinear Applications*
Thanh Nam Nguyen (Foton / CNRS / Université de Rennes 1, France); Thierry Chartier (Laboratoire Foton, France); Quentin Coulombier (EVC, Umr CNRS 6226, France); Patrick Houizot (EVC, Umr CNRS 6226, France); Laurent Brilland (EVC, Umr CNRS 6226, France); Frederic Smektala (Institut Carnot de Bourgogne, UMR 5209 CNRS, France); Johann Troles (EVC, Umr CNRS 6226, France); Coraline Fortier (Institut Carnot de Bourgogne, UMR 5209 CNRS, France); Julien Fatome (Institut Carnot de Bourgogne, UMR 5209 CNRS, France); Monique Thual (Foton / CNRS / Université de Rennes 1, France)
- 10.1.3** *Fiber Bragg Gratings Made in Highly Nonlinear Bismuth Oxide Fibers Using IR Ultrafast Radiation*
Dan Grobnc (Communication Recrearch Center, Canada); Stephen Mihailov (Communications Research Centre, Canada); Robert Walker (Communications Research Centre, Canada)
- 10.1.4** *Exotic Emissions of Erbium and Ytterbium Doped Silica-Zirconia Nanostructured Optical Fibers*
Gurvan Brasse (XLIM Research Institute, France); Christine Restoin (XLIM Research Institute, France); Philippe Roy (XLIM Research Institute, France); Jean-Louis Auguste (XLIM Research Institute, France); Jean-Marc Blondy (XLIM Research Institute, France)
- 10.1.5** *Influence of AlPO4 Joint on Silica-Based Er-Doped Fibers Properties*
Mikhail Likhachev (Fiber Optics Research Center of RAS, Russia); Kiril Zotov (Fiber Optics Research Center of RAS, Russia); Mikhail Bubnov (Fiber Optics Research Center of RAS, Russia); Denis Lipatov (Institute of Chemistry of High Purity Substances of RAS, Russia); Mikhail Yashkov (Institute of Chemistry of High Purity Substances of RAS, Russia); Aleksey Guryanov (Institute of Chemistry of High Purity Substances of RAS, Russia)

Session 10.3: High-speed Coherent Systems

Chair: Werner Rosenkranz (University of Kiel, Germany)

- 10.3.1** *Generation of 173-Gbits/s single-polarization QPSK signals by all-optical format conversion using a photonic integrated device*
Inuk Kang (Alcatel-Lucent, USA); Mahmoud Rasras (Alcatel-Lucent, USA); Larry Buhl (Bell Laboratories, Alcatel-Lucent, USA); Mihaela Dinu (Alcatel-Lucent, USA); Steve Cabot (LGS innovations, USA); Mark Cappuzzo (Bell Labs, Alcatel-Lucent, USA); Louis Gomez (Bell Labs, Alcatel-Lucent, USA); Yifan Chen (Bell Labs, Alcatel-Lucent, USA); Sanjay Patel (Alcatel-Lucent, USA); Niloy Dutta (LGS innovations, USA); Al Piccirilli (LGS innovations, USA); James Jaques (LGS innovations, USA); Randy Giles (Alcatel-Lucent, Bell Laboratories, USA)

- 10.3.2 Compact and Broadband Coherent Receiver Front-End for Complete Demodulation of a 1.12-Terabit/s Multi-Carrier PDM-QPSK Signal**
Xiang Liu (Alcatel-Lucent, Bell Laboratories, USA); Doug Gill (Bell Labs, Alcatel-Lucent, USA); Chandrasekhar Sethumadhavan (Alcatel-Lucent, Bell Laboratories, USA); Larry Buhl (Bell Laboratories, Alcatel-Lucent, USA); Mark Earnshaw (Bell Labs, Alcatel-Lucent, USA); Mark Cappuzzo (Bell Labs, Alcatel-Lucent, USA); Louis Gomez (Bell Labs, Alcatel-Lucent, USA); Yifan Chen (Bell Labs, Alcatel-Lucent, USA); Fred Klemens (Bell Labs, Alcatel-Lucent, USA); Ellsworth Burrows (Bell Labs, Alcatel-Lucent, USA); Young-Kai Chen (Bell Labs, Alcatel-Lucent, USA); Robert Tkach (Bell Labs, Alcatel-Lucent, USA)
- 10.3.3 Digital Modulation Challenges for High-Capacity Optical Transport Network with 100 G Channels and Beyond (Invited)**
Yutaka Miyamoto (NTT Network Innovation Laboratories, Japan)
- 10.3.4 Wavelength conversion of 4x 112 Gbit/s PD-RZ-QPSK Signals based on single pump polarization diversity FWM scheme**
Jianjun Yu (NEC Labs America, USA)
- 10.3.5 200-Gb/s PDM-16QAM generation using a new synthesizing method**
Xiang Zhou (AT&T Labs-Research, USA); Jianjun Yu (NEC Labs America, USA)
- 10.3.6 Transmission of 160-Gbit/s QPSK Signals on a Single Carrier over 1,000 km using Digital Coherent Receivers**
Chao Zhang (The University of Tokyo, Japan); Yojiro Mori (The University of Tokyo, Japan); Masatoshi Usui (The University of Tokyo, Japan); Koji Igarashi (University of Tokyo, Japan); Kazuhiro Katoh (The University of Tokyo, Japan); Kazuro Kikuchi (University of Tokyo, Japan)

Session 10.4: Nonlinearity-Impaired Transmission

Chair: Giovanni Bellotti (Alcatel-Lucent, Italy)

- 10.4.1 Reducing the Impact of Intrachannel Nonlinearities by Pulse-Width Optimisation in Multi-level Phase-Shift-Keyed Transmission**
Carsten Behrens (University College London, United Kingdom); Robert Killely (University College London, United Kingdom); Seb Savory (University College London, United Kingdom); Ming Chen (European Research Centre, Huawei Technologies, Germany); Polina Bayvel (University College London – UCL, United Kingdom)
- 10.4.2 Revisiting the evaluation of non-linear propagation impairments in highly dispersive systems**
Edouard Grellier (Alcatel-Lucent Bell Labs France, France); Jean-Christophe Antona (Alcatel-Lucent, France); Sébastien Bigo (Bell Labs, Alcatel-Lucent, France)
- 10.4.3 Nonlinear Penalty Reduction Induced by PMD in 112 Gbit/s WDM PDM-QPSK Coherent Systems**
Paolo Serena (University of Parma, Italy); Nicola Rossi (Università degli Studi di Parma, Italy); Alberto Bononi (Università di Parma, Italy)
- 10.4.4 Interchannel Nonlinearities in Polarization-Multiplexed Transmission**
Marcus Winter (Technische Universität Berlin, Germany); Dario Setti (Nokia Siemens Networks GmbH & Co. KG, Germany); Klaus Petermann (Technical University of Berlin, Germany)
- 10.4.5 Investigating the Noise Statistics in Practical Systems**
Ernesto Ciaramella (Scuola Superiore Sant'Anna University, Italy); Luca Banchi (Scuola Superiore Sant'Anna University, Italy); Andrea Di Mauro (Scuola Superiore Sant'Anna University, Italy); Giampiero Contestabile (Scuola Superiore Sant'Anna University, Italy); Marco Presi (Scuola Superiore Sant'Anna University, Italy)
- 10.4.6 Modeling of Signal-Noise Interactions in Nonlinear Fiber Transmission with Different Modulation Formats (Invited)**
Alberto Bononi (Università di Parma, Italy)

Session 10.5: Advanced Techniques for Access

Chair: Josep Prat (UPC, Spain)

- 10.5.1 Simultaneous Triple Data Transmissions on a Single Wavelength**
Zhaowen Xu (Nanyang Technological University, Singapore); Cheng Tee Hiang (Institute for Infocomm Research, Singapore); Yong kee Yeo (Institute for Infocomm Research, Singapore); Yixin Wang (Institute for Infocomm Research, Singapore, Singapore); Cheng Xiaofei (Institute for Infocomm Research, Singapore); Jianguo Liu (Nanyang Technological University, Singapore)
- 10.5.2 A Novel Optical Direct-Detection I/Q Up-Conversion with I/Q Imbalance Compensation via Gram-Schmidt Orthogonalization Procedure**
Wen-Jr Jiang (National Chiao Tung University, Taiwan); Chun-Ting Lin (National Chiao Tung University, Taiwan); Po Tsung Shih (National Chiao Tung University, Taiwan); Jyehong Chen (National Chung Cheng University, Taiwan); Sien Chi (Yuan Ze University, Taiwan)

- 10.5.3 Sensing Ultra-Low-Power Radio Signals by Photonic Analog-to-Digital Conversion**
Roberto Llorente (Universidad Politecnica de Valencia, Spain); Maria Morant (Universidad Politecnica de Valencia, Spain); Jose Puche (DAS Photonics S.L, Spain); Jac Romme (IMST GmbH, Germany); Tiago Alves (Instituto de Telecomunicações, Portugal)
- 10.5.4 Bandwidth-On-Demand Ultra Dense WDM Access (1.25/2.5 Gb/s × N-ch) Employing Time-Domain Interleaved Wavelength-Swept Transmitter**
Tomohiro Taniguchi (NTT Corporation, Japan); Naoya Sakurai (NTT Corporation, Japan); Hideaki Kimura (NTT Access Network Service Systems Laboratories, Japan); Kiyomi Kumozaki (NTT, Japan)
- 10.5.5 Next Generation Optical Access: 1 Gbit/s for Everyone (Invited)**
Harald Rohde (Nokia Siemens Networks, Germany); Sylvia Smolorz (Nokia Siemens Networks GmbH Co. KG, Germany); Karl Kloppe (Nokia Siemens Networks, Germany); Erich Gottwald (Nokia Siemens Networks GmbH & Co. KG, Germany)

Session 10.6: Symposium: Optical Space Communications

Chair: Josep Maria Perdignes Armengol (ESA, The Netherlands); Zoran Sodnik (ESA, The Netherlands)

- 10.6.1 High Data Rate Optical Inter-Satellite Links**
Robert Lange (Tesat-Spacecom, Germany); Frank Heine (Tesat-Spacecom, Germany); Hartmut Kämpfner (Tesat-Spacecom, Germany); Rolf Meyer (DLR, German Aerospace Center)
- 10.6.2 Free space laser communications: the Japanese experience**
Morio Toyoshima (National Institute of Information and Communications Technology, Japan); Yoshihisa Takayama (National Institute of Information and Communications Technology, Japan)
- 10.6.3 Microwave Photonic Technologies for Flexible Satellite Telecom Payloads**
Michael Sotom (Thales Alenia Space, France); Benoit Benazet (Thales Alenia Space, France); Arnaud Le Kerneec (Thales Alenia Space, France); Michel Maignan (Thales Alenia Space, France)
- 10.6.4 The Fiber Optic Subsystem Components on Express Logistics Carrier for International Space Station**
Melanie Ott (NASA Goddard Space Flight Center, USA); Robert Switzer (MEI Technologies); William Joe Thomes (MEI Technologies); Richard Chuska (MEI Technologies); Frank LaRocca (MEI Technologies); Lance Day (MEI Technologies)

Session 10.7: Symposium: Subsea Communications: Recent advances and Future Prospects (2) – Future Technology Enablers

Chair: Vincent Letellier (Alcatel-Lucent Submarine Networks, France)

- 10.7.1 The future of Submarine Systems – Where Do Upgrades Fit?**
Tony Frisch (Xtera Communications, United Kingdom); Sumudu Edirisinghe (Xtera Communications, United Kingdom)
- 10.7.2 Coherent Electronic Compensation Techniques for Long-Haul Optical Fibre Transmission – Opportunities and Challenges**
Polina Bayvel (University College London – UCL, United Kingdom); C. Behrens (University College London – UCL, United Kingdom); R. I. Killey (University College London – UCL, United Kingdom); S. Makovejs (University College London – UCL, United Kingdom); D. S. Millar (University College London – UCL, United Kingdom); S. J. Savory (University College London – UCL, United Kingdom)
- 10.7.3 Advances in Fibers and Transmission Line Technology for Long Haul Submarine Systems**
Ole A. Levring (OFS Fitel Denmark, Denmark); Dave Peckham (OFS, 2000 USA)