

PROCEEDINGS OF SPIE

Optical Transmission Systems, Switching, and Subsystems VIII

Yikai Su
Ernesto Ciaramella
Xiang Liu
Naoya Wada
Editors

8–12 December 2010
Shanghai, China

Cosponsored by
IEEE Photonics Society • Optical Society of America • SPIE • Chinese Optical Society
China Institute of Communications

Local Organizing Committee
Fudan University • Pudong Optoelectronics Industry Association of Shanghai
Shanghai Jiao Tong University • Shanghai Institute of Optics and Fine Mechanics
Alcatel-Lucent Shanghai Bell

Best Student Paper Sponsor
Thorlabs, Inc.

Published by
SPIE • Optical Society of America • IEEE Photonics Society

Volume 7988

Proceedings of SPIE, 0277-786X, v. 7988

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.

The papers included in this volume were part of the technical conference cited on the cover and title page. Papers were selected and subject to review by the editors and conference program committee. Some conference presentations may not be available for publication. The papers published in these proceedings reflect the work and thoughts of the authors and are published herein as submitted. The publisher is not responsible for the validity of the information or for any outcomes resulting from reliance thereon.

Please use the following format to cite material from this book:

Author(s), "Title of Paper," in *Optical Transmission Systems, Switching, and Subsystems VIII*, edited by Yikai Su, Ernesto Ciaramella, Xiang Liu, Naoya Wada, Proceedings of SPIE-OSA-IEEE Asia Communications and Photonics, Vol. 7990 (SPIE, Bellingham, WA, 2011) Article CID Number.

ISSN 0277-786X

ISBN 9780819485564

Published by

SPIE

P.O. Box 10, Bellingham, Washington 98227-0010 USA

Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445

SPIE.org

Optical Society of America

210 Massachusetts Ave., N.W., Washington, D.C., 20036 USA

Telephone +1 202 223 8130 (Eastern Time) · Fax +1 202 223 1096

OSA.org

IEEE Photonics Society

445 Hoes Lane, Piscataway, New Jersey, 08855 USA

Telephone +1 732 562 8434 (Eastern Time) · Fax +1 732 562 8434

IEEE.org

Copyright © 2011, Society of Photo-Optical Instrumentation Engineers, Optical Society of America, and IEEE Photonics Society.

Copying of material in this book for internal or personal use, or for the internal or personal use of specific clients, beyond the fair use provisions granted by the U.S. Copyright Law is authorized by SPIE subject to payment of copying fees. The Transactional Reporting Service base fee for this volume is \$18.00 per article (or portion thereof), which should be paid directly to the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923. Payment may also be made electronically through CCC Online at copyright.com. Other copying for republication, resale, advertising or promotion, or any form of systematic or multiple reproduction of any material in this book is prohibited except with permission in writing from the publisher. The CCC fee code is 0277-786X/11/\$18.00.

Printed in the United States of America.

Publication of record for individual papers is online in the SPIE Digital Library.



SPIDigitalLibrary.org

Paper Numbering: Proceedings of SPIE follow an e-First publication model, with papers published first online and then in print and on CD-ROM. Papers are published as they are submitted and meet publication criteria. A unique, consistent, permanent citation identifier (CID) number is assigned to each article at the time of the first publication. Utilization of CIDs allows articles to be fully citable as soon they are published online, and connects the same identifier to all online, print, and electronic versions of the publication. SPIE uses a six-digit CID article numbering system in which:

- The first four digits correspond to the SPIE volume number.
- The last two digits indicate publication order within the volume using a Base 36 numbering system employing both numerals and letters. These two-number sets start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B ... 0Z, followed by 10-1Z, 20-2Z, etc.

The CID number appears on each page of the manuscript. The complete citation is used on the first page, and an abbreviated version on subsequent pages. Numbers in the index correspond to the last two digits of the six-digit CID number.

Contents

xi	<i>Symposium Committees</i>
xiii	<i>Conference Committee</i>

SESSION 1 OPTICAL SIGNAL PROCESSING I

- 7988 02 **All-optical signal regeneration using SOAs (Invited Paper)** [7988-25]
G. Contestabile, Scuola Superiore Sant'Anna (Italy)
- 7988 03 **Study on the capability of four-level partial response equalization in RSOA-based WDM-PON** [7988-35]
Q. Guo, A. V. Tran, NICTA Ltd. (Australia) and The Univ. of Melbourne (Australia)
- 7988 04 **An improved 3-stage L-band erbium-doped fiber amplifier** [7988-94]
S. Qin, J. He, Y. Zou, Alcatel-Lucent Shanghai Bell (China); Z. Qiang, Univ. of Texas at Arlington (United States)
- 7988 05 **Wavelength conversion of RZ-OOK PDM signals by XPM in a highly nonlinear fiber** [7988-12]
A.-L. Yi, L.-S. Yan, B. Luo, W. Pan, J. Ye, Southwest Jiaotong Univ. (China)
- 7988 06 **Optoelectronic oscillator based on injection locking of Fabry-Perot laser diode** [7988-05]
W. Wang, J. Yu, B. Wu, Tianjin Univ. (China); B. Han, Tianjin Univ. (China) and Shanxi Datong Univ. (China); J. Luo, J. Guo, E. Yang, Tianjin Univ. (China)

SESSION 2 COHERENT TRANSMISSION

- 7988 07 **Improving O-OFDM system performance with constellation fine adjustment** [7988-23]
C. Lei, C. Tang, H. Chen, M. Chen, S. Xie, Tsinghua Univ. (China)

SESSION 3 OPTICAL SIGNAL PROCESSING II

- 7988 08 **Numerical modeling and experimental testing of reflective semiconductor optical amplifier (RSOA) with modulation bandwidth optimization** [7988-241]
M. Liu, M. Zhang, L. Liu, Y. Zhan, Z. Liu, P. Ye, Beijing Univ. of Posts and Telecommunications (China)
- 7988 09 **Wavelength conversion characteristics of optical packets using digital wavelength converter based on optical SSB modulator** [7988-77]
K. Takahiro, S. Kenichi, I. Katsushi, Kochi Univ. of Technology (Japan)
- 7988 0A **40-Gb/s 2-channel all-optical 3R regeneration using data-pumped Fiber parametric amplification based on HNLF** [7988-48]
J. Wang, J. Yu, J. Luo, W. Wang, Tianjin Univ. (China); B. Han, Tianjin Univ. (China) and Shanxi Datong Univ. (China); B. Wu, J. Guo, E. Yang, Tianjin Univ. (China)

- 7988 0B **All-optical 1x2 switch using Fabry-Perot laser diodes** [7988-220]
M. Rakib-Uddin, T. Q. Hoai, B. Nakarmi, Y. H. Won, KAIST (Korea, Republic of)

SESSION 4 ADVANCED MODULATION FORMAT I

- 7988 0C **Switch scale evaluation for optical cross-connects considering add/drop ratio restriction** [7988-73]
R. Hirako, K. Ishii, H. Hasegawa, K. Sato, Nagoya Univ. (Japan)
- 7988 0D **Ring connecting node architecture employing variable filter** [7988-46]
T. Oono, K. Ishii, H. Hasegawa, K. Sato, Nagoya Univ. (Japan)
- 7988 0E **A dynamic bandwidth assignment algorithm designed for ring topology** [7988-39]
Z. Ma, Y. Zhang, Beijing Univ. of Posts and Telecommunications (China); Y. Cao, Huawei Technologies Co. Ltd (China); C. Cao, W. Wang, R. Chen, Y. Zhao, W. Gu, Beijing Univ. of Posts and Telecommunications (China)
- 7988 0F **Intelligent dynamic bandwidth allocation algorithm for metro networks** [7988-38]
R. Chen, Y. Zhang, C. Cao, Beijing Univ. of Posts and Telecommunications (China); Y. Cao, Huawei Technologies Co., Ltd. (China); W. Wang, Z. Ma, W. Gu, Beijing Univ. of Posts and Telecommunications (China)

SESSION 5 TRANSMISSION TECHNOLOGIES I

- 7988 0G **112 GBit/s PDM-CSRZ-DQPSK field trial over 1730 km deployed DWDM-link** [7988-80]
R.-P. Braun, Deutsche Telekom AG (Germany); D. Fritzsche, EICT GmbH (Germany); A. Ehrhardt, L. Schürer, P. Wagner, M. Schneiders, S. Vorbeck, Deutsche Telekom AG (Germany); C. Xie, Huawei Technologies Deutschland GmbH (Germany); Z. Zhao, W. Wan, P. Liu, Huawei Technologies Co., Ltd. (China); Q. Zhou, P. Hostalka, Huawei Technologies Deutschland GmbH (Germany)
- 7988 0H **OSNR sensitivity of multi-level modulation formats** [7988-44]
M. Eiselt, ADVA Optical Networking (Germany); A. Dochhan, W. Rosenkranz, Univ. of Kiel (Germany)
- 7988 0I **Performance monitoring for coherent DP-QPSK systems based on stokes vectors analysis** [7988-75]
H. Louchet, I. Koltchanov, A. Richter, VPIsystems GmbH (Germany)

SESSION 6 OPTICAL TRANSCEIVERS

- 7988 0J **Transmitter and receiver design for multilevel modulation (Invited Paper)** [7988-71]
N. Kikuchi, Hitachi, Ltd. (Japan)
- 7988 0K **Optoelectrical clock recovery with dispersion monitoring for high speed transmission** [7988-68]
H. Wen, J. Liao, X. Zheng, H. Zhang, Y. Guo, Tsinghua Univ. (China)

- 7988 OL **40Gbit/s interface conversion circuit for 40GbE, STM-256/OC-768 and OTU3 serial signal transport** [7988-24]
S. Aisawa, M. Tomizawa, NTT Network Innovation Labs. (Japan) and Photonics Electronics Technology Research Association (Japan)

SESSION 7 BEST STUDENT PAPER COMPETITION

- 7988 OM **Experimental investigation on security of temporal phase coding OCDMA system with code-shift keying and differential phase-shift keying** [7988-06]
B. Dai, Z. Gao, X. Wang, Heriot-Watt Univ. (United Kingdom); N. Kataoka, N. Wada, National Institute of Information and Communications Technology (Japan)
- 7988 ON **Optical mode group division multiplexing (MGDM) system over graded index-multimode fiber** [7988-10]
H. S. Chen, H. P. A. van den Boom, A. M. J. Koonen, Eindhoven Univ. of Technology (Netherlands)
- 7988 OO **A reconfigurable all-optical VPN based on XGM effect of SOA in WDM PON** [7988-54]
X. Hu, L. Zhang, P. Cao, T. Wang, Y. Su, Shanghai Jiao Tong Univ. (China)
- 7988 OP **Experimental demonstration of 40 Gbit/s 2-to-4 photonic decoder based on delay interferometers and semiconductor optical amplifiers** [7988-31]
Y. Zhang, J. Dong, F. Wang, D. Huang, X. Zhang, Huazhong Univ. of Science and Technology (China)
- 7988 OQ **Hybrid frequency-time domain Tx and Rx I/Q imbalance compensation for coherent optical OFDM transmission** [7988-18]
S. Chen, A. Al Amin, W. Shieh, The Univ. of Melbourne (Australia)
- 7988 OR **2D time domain spectral phase encoding/wavelength hopping coherent DPSK-OCDMA system using fiber Bragg gratings and phase modulator** [7988-14]
Z. Gao, B. Dai, X. Wang, Heriot-Watt Univ. (United Kingdom); N. Kataoka, N. Wada, NICT (Japan)
- 7988 OS **Benefits of digital backpropagation in coherent QPSK and 16QAM fibre links (Best Student Paper Award)** [7988-83]
C. Behrens, R. I. Killey, S. J. Savory, Univ. College London (United Kingdom); M. Chen, Huawei Technologies (Germany); P. Bayvel, Univ. College London (United Kingdom)

SESSION 8 RADIO-OVER-FIBER

- 7988 OT **A novel photonic method for millimetre-wave band vector signal modulation in 60GHz RoF systems (Invited Paper)** [7988-21]
R. Shi, H. Chen, M. Li, M. Chen, S. Xie, Tsinghua Univ. (China)
- 7988 OU **Simultaneous transmission of three services in a WDM-PON with wireless access for multicast data** [7988-26]
L. Zhang, Y. Wu, X. Hu, T. Wang, P. Cao, Y. Su, Shanghai Jiao Tong Univ. (China)

- 7988 0V **Tunable optical frequency up-conversion in millimeter wave band** [7988-09]
B. Li, J. Yu, B. Wu, W. Wang, Tianjin Univ. (China); B. Han, Tianjin Univ. (China) and Shanxi Datong Univ. (China); J. Luo, J. Guo, Z. Yan, C. Gao, J. Liu, E. Yang, Tianjin Univ. (China)
- 7988 0W **10Gbit/s MSK modulation for radio-over-fiber system** [7988-59]
N. Zhang, C. Hou, L. Tao, B. Huang, X. Li, N. Chi, Fudan Univ. (China)
- 7988 0X **A multiband radio over fiber system using a single-drive Mach- Zehnder modulator** [7988-27]
L. Zhang, X. Hu, P. Cao, T. Wang, Y. Su, Shanghai Jiao Tong Univ. (China)
- 7988 0Y **Study of IQ imbalance in a single-side band radio-over-fiber system based on OFDM-MSK modulation** [7988-70]
X. Li, Y. Shao, W. Fang, B. Huang, J. Zhang, S. Zou, C. Hou, Y. Fang, X. Liu, X. Zheng, N. Chi, Fudan Univ. (China)
- 7988 0Z **Gigabit optical wireless communication system for indoor applications** [7988-11]
K. Wang, NICTA-VRL (Australia) and The Univ. of Melbourne (Australia); A. Nirmalathas, C. Lim, CUBIN (Australia) and The Univ. of Melbourne (Australia); E. Skafidas, NICTA-VRL (Australia) and The Univ. of Melbourne (Australia)

SESSION 9 ACCESS TECHNOLOGIES I

- 7988 10 **Demonstration of a data remodulation scheme with downstream ASK-DPSK signals and upstream OOK signal using RSOA for WDM-PONs** [7988-04]
D. Zeng, J. Liu, Zhejiang Univ. (China)
- 7988 11 **Effect of AWG filtering on spectrally sliced WDM PONs** [7988-84]
S. Taebi, S. S. Saini, Univ. of Waterloo (Canada)

SESSION 10 ADVANCED MODULATION FORMATS II

- 7988 12 **A novel chirp-free optical manchester signal transmitter with enhanced dispersion tolerance** [7988-20]
J. Xu, Z. Liu, W. Jia, L.-K. Chen, The Chinese Univ. of Hong Kong (Hong Kong, China)
- 7988 13 **An experiment of de-multiplexing for polarization division multiplexing system by PSO algorithm** [7988-86]
Q. Di, Beijing Univ. of Posts and Telecommunication (China); X. Weng, Y. Sun, F. Tian, L. Xi, X. Zhao, X. Zhang, Beijing Univ. of Posts and Telecommunications (China)
- 7988 14 **Adaptive PMD compensation using DPSO algorithm for high-speed optical fibre communication systems** [7988-03]
J. Zhang, Y. Zhang, X. Weng, X. Yuan, M. Lin, T. Jinjing, X. Zhang, Beijing Univ. of Posts and Telecommunications (China)
- 7988 15 **Polarization demultiplexing by constant rotating symbol training sequence in coherent optical PDM-QPSK system** [7988-47]
Y. Zhao, Y. Qiao, Y. Ji, Beijing Univ. of Posts and Telecommunications (China)

- 7988 16 **DSP-based high precision real-time inline PMD monitoring** [7988-65]
X. Yuan, Y. Zhang, M. Zhang, J. Zhang, Y. Huang, Beijing Univ. of Posts and Telecommunications (China)

SESSION 11 OPTICAL WIRELESS INTEGRATION

- 7988 17 **Optimized design of E/O and O/E converters for cost effective access points of WiMAX radio over fiber** [7988-28]
K. Chinen, H. Mikamori, Okinawa National College of Technology (Japan)
- 7988 18 **Photonic millimeter-wave signal generation and distribution using differential mach-zehnder modulator (DMZM) and SOA** [7988-240]
M. Liu, M. Zhang, W. Yang, L. Cai, P. Ye, Beijing Univ. of Posts and Telecommunications (China)

SESSION 12 ACCESS TECHNOLOGIES II

- 7988 1A **A flexible bandwidth scheduling scheme based on three dimensional divisions multiplexing of MSK-OFDM for WDM hybrid passive optical network** [7988-56]
J. Zhang, N. Chi, Y. Shao, X. Zheng, Fudan Univ. (China); B. Liu, X. Xin, Beijing Univ. of Posts and Telecommunications (China)
- 7988 1B **The study of wavelength interval between adjacent ONUs in OFDMA-PON** [7988-89]
X. Xie, Y. Qiao, Y. Ji, Beijing Univ. of Posts and Telecommunications (China)
- 7988 1C **Experimental demonstration of SCFDMA-PON with source-free ONUs** [7988-37]
S. Jiang, J. Li, C. Zhang, B. Lin, Y. He, Z. Chen, Peking Univ. (China)
- 7988 1D **Parallel and interlaced bandwidth allocation based on all-optical sub-banding WDM-OFDM PON network** [7988-62]
S. Zou, Fudan Univ (China); X. Zheng, W. Fang, X. Li, J. Zhang, Y. Shao, N. Chi, Fudan Univ. (China)

SESSION 13 TRANSMISSION TECHNOLOGIES II

- 7988 1E **100-Gb/s coherent optical fiber communication with frequency domain equalization (Invited Paper)** [7988-64]
F. Zhang, J. Li, C. Yang, Z. Chen, C. Zhao, S. Zhang, Peking Univ. (China)
- 7988 1F **Polarization-multiplexed LDPC-coded QAM robust to I-Q imbalance and polarization offset** [7988-32]
I. B. Djordjevic, The Univ. of Arizona (United States); L. Xu, NEC Labs. America, Inc. (United States); L. L. Minkov, The Univ. of Arizona (United States); T. Wang, S. Zhang, NEC Labs. America, Inc. (United States)

- 7988 1G **On the reduced-complexity of LDPC decoders for beyond 400 Gb/s serial optical transmission** [7988-33]
I. B. Djordjevic, The Univ. of Arizona (United States); L. Xu, T. Wang, NEC Labs. America, Inc. (United States)

SESSION 14 TRANSMISSION TECHNOLOGIES III

- 7988 1H **Frequency estimation for optical coherent MSK system** [7988-79]
Z. Zhang, N. Chi, Y. Shao, B. Huang, X. Li, W. Fang, J. Zhang, S. Zou, L. Tao, J. Zhu, Fudan Univ. (China)
- 7988 1I **Channel estimation based on linear interpolation algorithm in DDO-OFDM system** [7988-52]
J. Zhang, H. Zhang, M. Deng, K. Qiu, Y. Li, Univ. of Electronic Science and Technology of China (China)
- 7988 1J **A novel joint frequency offset and channel estimation method for CO-OFDM system** [7988-67]
Z. Wang, Y. Qiao, Y. Ji, Beijing Univ. of Posts and Telecommunications (China)
- 7988 1K **Compensating Gordon-Mollenauer phase noise by midlink optical phase conjugation for long-haul 40Gb/s CO-OFDM systems** [7988-50]
X. Liu, Beijing Univ. of Posts and Telecommunications (China) and Yanshan Univ. (China); Y. Qiao, Y. Ji, Beijing Univ. of Posts and Telecommunications (China)
- 7988 1L **Fiber nonlinearity post compensation via spectral inversion for 40Gb/s long-haul CO-OFDM transmission systems** [7988-91]
Y. Qiao, Beijing Univ. of Posts and Telecommunications (China); X. Liu, Beijing Univ. of Posts and Telecommunications (China) and Yanshan Univ. (China); Y. Ji, Beijing Univ. of Posts and Telecommunications (China)
- 7988 1M **The phase compensator for laser linewidth of 100Gb/s PDM-CO-OFDM systems** [7988-69]
X. Liu, Beijing Univ. of Posts and Telecommunications (China) and Yanshan Univ. (China); Y. Qiao, Y. Ji, Beijing Univ. of Posts and Telecommunications (China)
- 7988 1N **Pre-distortion to mitigate SPM effect in optical BPSK-SSB fiber transmission** [7988-82]
K. Takano, Y. Sawaguchi, Y. Ichijo, S. Sato, K. Nakagawa, Yamagata Univ. (Japan)

SESSION 15 OPTICAL DEVICE TECHNOLOGIES

- 7988 1O **All-optical ON-OFF switch using a single-mode Fabry-Perot laser diode** [7988-217]
M. Rakib-Uddin, B. Nakarmi, T. Q. Hoai, Y. H. Won, KAIST (Korea, Republic of)
- 7988 1P **All-optical logic not gate based on cross phase modulation in highly nonlinear fiber using pre-chirped pulse probe** [7988-17]
J. Luo, J. Yu, W. Wang, J. Guo, Tianjin Univ. (China); B. Han, Tianjin Univ. (China) and Shanxi Datong Univ (China); E. Yang, Tianjin Univ. (China)
- 7988 1Q **Analysis and design of a novel optical switch based on quantum-dot semiconductor optical amplifier** [7988-43]
X. Li, Z. Yu, Y. Liu, X. Guo, Beijing Univ. of Posts and Telecommunications (China)

SESSION 16 TRANSMISSION TECHNOLOGIES IV

- 7988 1R **Gigahertz quantum cryptography (Invited Paper)** [7988-22]
G. S. Buller, R. J. Collins, P. J. Clarke, Heriot-Watt Univ. (United Kingdom); P. D. Townsend, Univ. College Cork (Ireland)
- 7988 1S **160 Gb/s OTDM demultiplexing based on two cascaded electro-absorption sampling windows** [7988-42]
M. Wang, N. Jia, K. Zhong, T. Li, J. Chi, M. Chen, T. Gong, D. Lu, S. Jian, Beijing Jiaotong Univ. (China)
- 7988 1T **Ultrafast optical pulse repetition rate multiplication based on time domain spectral amplitude/phase filtering** [7988-15]
Z. Gao, B. Dai, X. Wang, Heriot-Watt Univ. (United Kingdom); N. Kataoka, N. Wada, NICT (Japan)
- 7988 1U **Optical frequency comb based on cascading intensity modulation for optical arbitrary waveform generation** [7988-53]
X. Zhou, X. Zheng, H. Wen, H. Zhang, Y. Guo, B. Zhou, Tsinghua Univ. (China)
- 7988 1V **An optical MMF communication system based on mode group diversity multiplexing and space time block coding** [7988-40]
Y. Li, Central China Normal Univ (China); Y. Fan, F. Ye, W. Li, Huazhong Univ. of Science and Technology (China)

POSTER SESSION

- 7988 1W **Comparison between MZI and single phase modulator for generating 112 Gbit/s PDM-QPSK signal** [7988-01]
J. Wang, K. Gao, L. Yang, X. He, Z. Pan, Univ. of Louisiana at Lafayette (United States)
- 7988 1X **40 Gb/s optical demultiplexing with amplitude regeneration based data pump FOPA** [7988-07]
J. Guo, J. Yu, J. Luo, W. Wang, B. Wu, Tianjin Univ. (China); B. Han, Tianjin Univ. (China) and Shanxi Datong Univ. (China); E. Yang, Tianjin Univ. (China)
- 7988 1Y **A new algorithm with coordinated node and link mapping for virtual network embedding based on LP relaxation** [7988-08]
X. Gao, H. Yu, Univ. of Electronic Science and Technology of China (China); V. Anand, State Univ. of New York (United States); G. Sun, H. Di, Univ. of Electronic Science and Technology of China (China)
- 7988 1Z **All optical microwave photonic filter with bandpass and notch filtering shapes** [7988-19]
Y. Yu, J. Dong, X. Li, L. Zhou, X. Zhang, Huazhong Univ. of Science and Technology (China)
- 7988 20 **Widely tunable microwave photonic filter based on semiconductor optical amplifier** [7988-30]
X. Li, Y. Yu, J. Dong, X. Zhang, Huazhong Univ. of Science and Technology (China)

- 7988 21 **Multi-channel non-return-to-zero format to return-to-zero format conversion with duplicate output** [7988-41]
Y. Yu, X. Zhang, D. Huang, Huazhong Univ. of Science and Technology (China)
- 7988 22 **A novel GPON-based transmission hierarchy for metropolitan-area network** [7988-45]
W. Wang, Y. Zhang, C. Cao, Beijing Univ. of Posts & Telecommunications (China); Y. Cao, Huawei Technologies Co., Ltd. (China); R. Chen, Z. Ma, Y. Zhao, W. Gu, Beijing Univ. of Posts & Telecommunications (China)
- 7988 23 **An optical switch-based self-restored WDM-PON architecture against fiber faults** [7988-55]
C. H. Yeh, Industrial Technology Research Institute (Taiwan, China); C. W. Chow, F. Y. Shih, Y. F. Wu, S. Chi, National Chiao Tung Univ. (Taiwan, China)
- 7988 24 **Two-mode semiconductor laser for mm-wave in radio over fiber transmission** [7988-57]
C. H. Yeh, Industrial Technology Research Institute (Taiwan, China); C. W. Chow, Y. F. Wu, F. Y. Shih, C. H. Wang, S. Chi, National Chiao Tung Univ. (Taiwan, China)
- 7988 25 **Coherent detection of 40-Gb/s optical minimum-shift keying modulation** [7988-60]
L. Tao, Fudan Univ. (China); B. Huang, Huazhong Univ. of Science and Technology (China); Y. Shao, J. Zhang, J. Zhu, N. Chi, Fudan Univ. (China)
- 7988 26 **The structure design and analysis of OFDM symbol in CO-OFDM system** [7988-66]
Z. Wang, Y. Qiao, Y. Ji, Beijing Univ. of Posts and Telecommunications (China)
- 7988 27 **FSK/ASK re-modulation WDM-PON with image rejection receiver** [7988-72]
Y. Fang, X. Liu, X. Zheng, W. Fang, C. Hou, Y. Shao, N. Chi, Fudan Univ. (China)
- 7988 28 **An experimental study on digital predistortion for radio-over-fiber links** [7988-74]
L. C. Vieira, N. J. Gomes, A. Nkansah, Univ. of Kent (United Kingdom)
- 7988 29 **Four-wave mixing degradation compensation with digital coherent detection in optical amplifier repeater system** [7988-76]
N. Kazuhumi, L. Jing, I. Kastushi, Kochi Univ. of Technology (Japan)
- 7988 2A **Joint-symbol MLSE receiver for phase-shift keying to mitigate PMD by polarization diversity** [7988-85]
H. Wen, M. Wei, X. Zheng, H. Zhang, Y. Guo, Tsinghua Univ. (China)
- 7988 2B **A modified SPM-based 2R-regenerator based on an imbalanced nonlinear optical loop mirror** [7988-88]
W. Yu, C. Lou, L. Huo, J. Chen, Tsinghua Univ. (China)
- 7988 2C **The experiment of the OPMDC performance in a 43-Gb/s RZ-DQPSK 1200km transmission testbed** [7988-92]
X. Zhang, X. Weng, F. Tian, L. Xi, Beijing Univ. of Posts and Telecommunications (China); Q. Xiong, X. Li, G. Zhang, Huawei Technologies Co., Ltd. (China)

Author Index

Symposium Committees

General Chairs

Weisheng Hu, Shanghai Jiao Tong University (China)
Ming-Jun Li, Corning, Inc. (United States)
Dennis L. Matthews, University of California, Davis (United States)

Technical Program Chairs

Dominique Chiaroni, Alcatel-Lucent (France)
Jian-Jun He, Zhejiang University (China)
Ken-ichi Kitayama, Osaka University (Japan)
Xingde Li, Johns Hopkins University (United States)

Local Organizing Committee

Nan Chi (Chair), Fudan University (China)
Chansai Cheng, Pudong Optoelectronics Industry Association of Shanghai (China)
Meiyu Cao, Pudong Optoelectronics Industry Association of Shanghai (China)
Yaohui Jin, Shanghai Jiao Tong University (China)
Ronghui Qu, Shanghai Institute of Optics and Fine Mechanics (China)
Feng Huang, Alcatel-Lucent Shanghai Bell (China)

Organizing Committee

Lirong Zheng, Fudan University (China)
Liangyao Chen, Fudan University (China)
Yiwei Shi, Fudan University (China)
Bo Hu, Fudan University (China)
Rongjun Zhang, Fudan University (China)
Zhengcai Bian, Fudan University (China)
Jianjun Yin, Fudan University (China)
Xinyue Guo, Fudan University (China)
Xiaolu Wan, Fudan University (China)

General Secretariat

Yufeng Shao, Fudan University (China)

Steering Committee Chairs

Kwok-Wai Cheung, Chinese University of Hong Kong (Hong Kong, China)
Thomas Koch, Lehigh University (United States)
John Zyskind, Mintera Corporation (United States)

Steering Committee Members

Connie Chang-Hasnain, University of California, Berkeley (United States)
Chongcheng Fan, Tsinghua University (China)
Sailing He, Zhejiang University (China)
Peter Kaiser, Telcordia Technologies (retired) (United States)
Thomas Koch, Lehigh University (United States)
Ming-Jun Li, Corning, Inc. (United States)
Tingye Li, AT&T Laboratories (retired) (United States)
Mao Qian, WRI-Fiberhome (China)
Xiaomin Ren, Beijing University of Posts and Telecommunications (China)
Bingkun Zhou, Tsinghua University (China)

Conference Committee

Conference Chair

Xiang Liu, Alcatel-Lucent Bell Laboratories (United States)

Conference Cochairs

Yikai Su, Shanghai Jiao Tong University (China)

Ernesto Ciaramella, Scuola Superiore Sant'Anna (Italy)

Naoya Wada, National Institute of Information and Communications
Technology (Japan)

Program Committee

Henning Buelow, Alcatel-Lucent Deutschland AG (Germany)

Jin-Xing Cai, Tyco Telecommunications (United States)

S. Chandrasekhar, Alcatel-Lucent Bell Laboratories (United States)

Ivan Djordjevic, University of Arizona (United States)

Magnus Karlsson, Chalmers University (Sweden)

Junichi Nakagawa, Mitsubishi Electric Corporation (Japan)

Thas Nirmalathas, University of Melbourne (Australia)

Richard Penty, University of Cambridge (United Kingdom)

Werner Rosenkranz, Christian-Albrechts Universität of Kiel (Germany)

William Shieh, University of Melbourne (Australia)

Ryo Takahashi, NTT Corporation (Japan)

Hideaki Tanaka, KDDI R&D Laboratories (Japan)

Stefan Wabnitz, Università degli Studi di Brescia (Italy)

Ting Wang, NEC Laboratories America (United States)

Xu Wang, Heriot-Watt University (United Kingdom)

Tiejun Xia, Verizon Communications (United States)

Lianshan Yan, Southwest Jiaotong University (China)

Session Chairs

Optical Signal Processing I

Tetsuya Miyazaki, National Institute of Information and
Communications Technology (Japan)

Coherent Transmission

Xiang Liu, Alcatel-Lucent Bell Laboratories (United States)

Optical Signal Processing II

Jean-Louis Oudar, Laboratoire de Photonique et de Nanostructures
(France)

Advanced Modulation Format I

Fred Buchali, Alcatel-Lucent Deutschland AG (Germany)

Transmission Technologies I

Sorin Tibuleac, ADVA Optical Networking (United States)

Optical Transceivers I

Nobuhiko Kikuchi, Hitachi, Ltd. (Japan)

ROADM Technologies

Michael Eiselt, ADVA Optical Networking (Germany)

Optical Transceivers II

Jin Hong, StrataLight Communications (United States)

Best Student Paper Competition

Nanguang Chen, National University of Singapore (Singapore)

Radio-Over-Fiber

Fenghai Liu, Mintera Corporation (United States)

Access Technologies I

Fan Zhang, Peking University (China)

Advanced Modulation Formats II

Zhensheng Jia, Telcordia Technologies, Inc. (United States)

Optical Wireless Integration

Yutaka Miyamoto, NTT Corporation (Japan)

Access Technologies II

Naoki Suzuki, Mitsubishi Electric Corporation (Japan)

Masaki Noda, Mitsubishi Electric Corporation (Japan)

Transmission Technologies II

Yoshinori Arimoto, National Institute of Information and
Communications Technology (Japan)

Media Access Control

Dirk Breuer, Deutsche Telekom AG (Germany)

Transmission Technologies III

Gerald S. Buller, Heriot-Watt University (United Kingdom)

Optical Device Technologies

Yukio Horiuchi, KDDI R&D Laboratories (Japan)

Transmission Technologies IV

Yun C. Chung, Korea Advanced Institute of Science and Technology
(Korea, Republic of)

