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4 – 6 June 2018**



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Optical Interconnects Conference 2018

4-6 June 2018
Hilton Santa Fe Historic Plaza
Santa Fe, New Mexico USA

MA - Opening Remarks and Next Generation Optical Interconnects I - 8:30 am–10:00 am - Mesa Ballroom

MA.1: The ARPA-E ENLITENED Program: Will Co-Packaged Integrated Photonic Interconnects Transform Future Data-Centers? (Page N/A)

Michael Haney (ARPA)

MA.2: High Speed, Low Energy, Low Latency, and Low Cost Optical Interconnect for Servers and Data Centers (Page N/A)

Daniel Kuchta (IBM T. J. Watson Research Center)

MB - Advance Silicon Photonics Devices I - 10:15 am–11:45 am - Mesa Ballroom

MB.1: Impact of Backscattering on Microring-Based Silicon Photonic Links (Page 1)

Meisam Bahadori (Columbia University)

Sebastien Rumley (Columbia University)

Qixiang Cheng (Columbia University)

Keren Bergman (Columbia University)

MB.2: Improving Microresonators Reliability in Silicon Photonic Integrated Circuits (Page 3)

Mahdi Nikdast (Colorado State University)

Gabriela Nicoleseu (Polytechnique Montréal)

Odile Liboiron-Ladouceur (McGill University)

MB.3: A Stable Ultrahigh Extinction Silicon Photonic Amplitude Modulator (Page 5)

Hong Cai (Sandia National Laboratories)

Sheng Liu (Sandia National Laboratories)

Andrew Pomerene (Sandia National Laboratories)

Douglas C. Trotter (Sandia National Laboratories)

Andrew L. Starbuck (Sandia National Laboratories)

Christina Dallo (Sandia National Laboratories)

Dana Hood (Sandia National Laboratories)

Christopher T. DeRose (Sandia National Laboratories)

Anthony L. Lentine (Sandia National Laboratories)

MB.4: Thermal Effect on Semi-Conductor and Metal Heaters in FP-Based Modulator Using Thermal Simulation (Page 7)

M. Atif (Technische Universität Berlin, Sicoya GmbH, and GC University)

S. Mahdi (Technische Universität Berlin)

S. Kupijai (Sicoya GmbH)

C. Theiss (Sicoya GmbH)

H. Rhee (Sicoya GmbH)

A. Al-Saadi (Sicoya GmbH)

M. Henniges (Technische Universität Berlin and Sicoya GmbH)

D. Selicke (Technische Universität Berlin and Sicoya GmbH)

M. Vitali (Sicoya GmbH)

L. Yan (Sicoya GmbH)

D. Bronzi (Sicoya GmbH)

U. Woggon (Technische Universität Berlin)

S. Meister (Sicoya GmbH)

MB.5: Energy-Efficient Microsecond Silicon Photonic Switches (Page N/A)

Ming Wu (University of California, Berkeley)

MC - Advance Optical Co-Packaging - 1:30 pm–3:15 pm - Mesa Ballroom

MC.1: The PhotonicPlug - Scaling Up Silicon Photonics Packaging (Page 9)

Hesham Taha (Teramount Ltd.)

MC.2: Glass Tube Ferrule for Solder-Reflow-Compatible Embedded Optoelectronic Interconnections (Page 11)

James S. Sutherland (*Corning Research & Development Corporation*)
Douglas L. Butler (*Corning Research & Development Corporation*)
Jeffery S. Clark (*Corning Research & Development Corporation*)
Clifford G. Sutton (*Corning Research & Development Corporation*)
Robin M. Force (*Corning Research & Development Corporation*)
Alexander L. Cuno (*Corning Research & Development Corporation*)
Karl Heise (*Corning Research & Development Corporation*)
Lars Brusberg (*Corning Research & Development Corporation*)
Alan F. Evans (*Corning Research & Development Corporation*)
Michael de Jong (*Corning Optical Communications*)

MC.3: Transfer Printing for Silicon Photonics Transceivers and Interposers (Page 13)

G. Roelkens (*Ghent University - imec*)
J. Zhang (*Ghent University - imec*)
A. De Groot (*Ghent University - imec*)
J. Juvert (*Ghent University - imec*)
N. Ye (*Ghent University - imec*)
S. Kumari (*Ghent University - imec*)
J. Goyaerts (*Ghent University - imec*)
G. Muliuk (*Ghent University - imec*)
S. Uvin (*Ghent University - imec*)
G. Chen (*Ghent University - imec*)
B. Haq (*Ghent University - imec*)
B. Snyder (*imec*)
J. Van Campenhout (*imec*)
D. Van Thourhout (*Ghent University - imec*)
A. J. Trindade (*X-Celeprint, Limited*)
C. A. Bower (*X-Celeprint, Limited*)
J. O'Callaghan (*University College Cork*)
R. Loi (*University College Cork*)
B. Roycroft (*University College Cork*)
B. Corbett (*University College Cork*)

MC.4: Large-Scale, Automated, High-Throughput Photonic Packaging (Page N/A)

Tymon Barwicz (*IBM T.J. Watson Research Center*)
Ted W. Lichoulas (*AFL Telecommunications*)
Yves Martin (*IBM T.J. Watson Research Center*)
Yoichi Taira (*IBM T.J. Watson Research Center*)
Shotaro Takenobu (*Asahi Glass Co.*)
Alexander Janta-Polczynski (*IBM Bromont*)
Eddie L. Kimbrell (*AFL Telecommunications*)
Jae-Woong Nah (*IBM T.J. Watson Research Center*)
Elaine Cyr (*IBM Bromont*)
Richard Langlois (*IBM Bromont*)
Bo Peng (*IBM T.J. Watson Research Center*)
Robert Leidy (*GlobalFoundries*)
Hidetoshi Numata (*IBM Research - Tokyo*)
Swetha Kamlapurkar (*IBM T.J. Watson Research Center*)
Sebastian Engelmann (*IBM T.J. Watson Research Center*)
Paul Fortier (*IBM Bromont*)
Nicolas Boyer (*IBM Bromont*)

TuA - Silicon Photonics Volume Manufacturing - 8:30 am–10:00 am - Mesa Ballroom

TuA.1: Advanced Silicon Photonics for High-Speed Interconnect (Page N/A)

Peter De Dobbelaere (*Luxtera*)

TuA.2: Versatile Silicon Photonic Platform for Datacom and Computercom Applications (Page N/A)

Karim Hassan (*CEA - LETI*)
Quentin Wilmart (*CEA - LETI*)
Laeticia Adelmini (*CEA - LETI*)
Vincent Reboud (*CEA - LETI*)
Corrado Sciancalepore (*CEA - LETI*)
David Fowler (*CEA - LETI*)
Stéphane Malhouitre (*CEA - LETI*)
Yvain Thonnart (*CEA - LETI*)
Olivier Castany (*CEA - LETI*)
Stéphanie Garcia (*CEA - LETI*)
Stéphanie Brision (*CEA - LETI*)
Viviane Muffato (*CEA - LETI*)
Olivier Lemonnier (*CEA - LETI*)
Karen Ribaud (*CEA - LETI*)
Philippe Grosse (*CEA - LETI*)
Benoit Charbonnier (*CEA - LETI*)
Stéphane Bernabe (*CEA - LETI*)
Ségolène Olivier (*CEA - LETI*)
Bertrand Szelag (*CEA - LETI*)
Christophe Kopp (*CEA - LETI*)

TuA.3: Direct Frequency Locking of Lasers to RF Oscillators (Page 15)

Zhe Xuan (*University of Pennsylvania*)
Lixiong Du (*University of Pennsylvania*)
Firooz Aflatouni (*University of Pennsylvania*)

TuB - Advance Silicon Photonics Devices II - 10:15 am–11:45 am - Mesa Ballroom**TuB.1: Silicon Photonic Components for 400 Gb/s Transceivers (Page N/A)**Yuliya Akulova (*Intel*)**TuB.2: Advanced Control for Crosstalk Minimization in MZI-Based Silicon Photonic Switches (Page 17)**Yishen Huang (*Columbia University*)Qixiang Cheng (*Columbia University*)Keren Bergman (*Columbia University*)**TuB.3: Enhancing SOI Waveguide Nonlinearities via Microring Resonators (Page 19)**Thomas Ferreira de Lima (*Princeton University*)Hsuan-Tung Peng (*Princeton University*)Mitchell A. Nahmias (*Princeton University*)Siamak Abbaslou (*Princeton University*)Chaoran Huang (*Princeton University*)Alexander N. Tait (*Princeton University*)Bhavin J. Shastri (*Princeton University*)Paul R. Prucnal (*Princeton University*)**TuB.4: A Microring-Based Time-Division Demultiplexer with Differential Signaling (Page 21)**Ming Gong (*University of Rochester*)Francis Smith (*University of Rochester*)Hui Wu (*University of Rochester*)**TuB.5: Highly Efficient Polarization Rotation in Laterally Tapered 1D PhC Si Nanowire (Page 23)**Md Rezwanul H Khandokar (*University of Melbourne*)Masuduzzaman Bakaul (*University of Melbourne and Monash University Malaysia*)Md Asaduzzaman (*University of Melbourne*)Stan Skafidas (*University of Melbourne*)Thas Nirmalathas (*University of Melbourne*)**TuC - Silicon Photonics Interconnects and Fabrics - 1:30 pm–3:15 pm - Mesa Ballroom****TuC.1: PINE: An Energy Efficient Flexibly Interconnected Photonic Data Center Architecture for Extreme Scalability (Page 25)**Keren Bergman (*Columbia University*)John Shalf (*Lawrence Berkeley National Laboratory*)George Michelogiannakis (*Lawrence Berkeley National Laboratory*)Sebastien Rumley (*Columbia University*)Larry Dennison (*NVIDIA*)Monia Ghobadi (*Microsoft Research*)**TuC.2: Wavelength Locking of Multicast Signals Using Photo-Conductive Effect in Silicon Photonic Platform (Page 27)**Alexander Gazman (*Columbia University*)Ziyi Zhu (*Columbia University*)Meisam Bahadori (*Columbia University*)Keren Bergman (*Columbia University*)**TuC.3: Microring-Based Si/SiN Dual-Layer Switch Fabric (Page 29)**Qixiang Cheng (*Columbia University*)Liang Yuan Dai (*Columbia University*)Meisam Bahadori (*Columbia University*)Padraic Morrissey (*Tyndall*)Robert Polster (*Columbia University*)Sebastien Rumley (*Columbia University*)Peter O'Brien (*Tyndall*)Keren Bergman (*Columbia University*)**TuC.4: Characterization of Low Loss Photonic Waveguides Using Arrayed Waveguide Structure (Page 31)**Nicholas Boynton (*Sandia National Laboratories*)Michael Gehl (*Sandia National Laboratories*)Christina Dallo (*Sandia National Laboratories*)Andrew Pomerene (*Sandia National Laboratories*)Andrew Starbuck (*Sandia National Laboratories*)Dana Hood (*Sandia National Laboratories*)Douglas Trotter (*Sandia National Laboratories*)Anthony Lentine (*Sandia National Laboratories*)Christopher T. DeRose (*Sandia National Laboratories*)**TuC.5: Self-Organized Lightwave Network (SOLNET) Formed by Two-Photon Photochemistry for 3-D Integrated Optical Interconnects (Page 33)**Tetsuzo Yoshimura (*Tokyo University of Technology*)Shunya Yasuda (*Tokyo University of Technology*)Hideaki Yamaura (*Tokyo University of Technology*)Yusuke Yamada (*Tokyo University of Technology*)**TuC.6: Cross-Layer Optimization for High-Radix Integrated Optical Switches in Data Centers (Page 35)**Zhifei Wang (*Hong Kong University of Science and Technology*)Peng Yang (*Hong Kong University of Science and Technology*)Yi-Shing Chang (*Intel Corp.*)Jiang Xu (*Hong Kong University of Science and Technology*)Xuanqi Chen (*Hong Kong University of Science and Technology*)Zhehui Wang (*Hong Kong University of Science and Technology*)Luan H.K. Duong (*Hong Kong University of Science and Technology*)

WA - Next Generation Hyperscale Data Centers I - 8:30 am–10:00 am - Mesa Ballroom**WA.1: The Road to 400G Optics (Page N/A)**

Andreas Bechtolsheim (*Arista Networks*)

WA.2: Requirements for Next Generation Data Center (Page N/A)

Hans-Juergen Schmidtke (*Facebook*)

WA.3: Technical Feasibility of New 200 Gb/s and 400 Gb/s Links for Data Centers (Page 37)

Yi Sun (*OFS Fitel, LLC*)

Robert Lingle, Jr. (*OFS Fitel, LLC*)

WB - Next Generation Hyperscale Data Centers II - 10:15 am–11:45 am - Mesa Ballroom**WB.1: Requirements for Next Generation Networks in High Performance Computing (Page N/A)**

Robert Senger (*IBM TJ Watson Research Center*)

WB.2: Integrated Silicon Photonics for Future Data Center Applications (Page N/A)

Drew Alduino (*Intel Corp.*)

WB.3: Reconfigurable Integrated Photonics Based on Optical Phase Change Materials (Page N/A)

Tian Gu (*Massachusetts Institute of Technology*)

WC - Advance Communication I - 1:30 pm–3:15 pm - Mesa Ballroom**WC.1: DSP-Free Coherent Interconnects for Data Center Networks (Page N/A)**

Joseph Kahn (*Stanford University*)

Anujit Shastri (*Stanford University*)

Jose Krause (*Stanford University*)

WC.2: Clock and Data Recovery in High-Speed PAM-4 Transmission Systems (Page 39)

Nebojsa Stojanovic (*Huawei Technologies Duesseldorf GmbH*)

Fotini Karinou (*Huawei Technologies Duesseldorf GmbH*)

Cristian Prodanuic (*Huawei Technologies Duesseldorf GmbH*)

Zhang Qiang (*Huawei Technologies Duesseldorf GmbH*)

Zhang Liang (*Huawei Technologies Duesseldorf GmbH*)

Jinlong Wei (*Huawei Technologies Duesseldorf GmbH*)

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Chenyu Liang (*Shanghai Jiao Tong University*)

Wenjia Zhang (*Shanghai Jiao Tong University*)

Zuyuan He (*Shanghai Jiao Tong University*)

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S. N. ElAhmadi (*Menara Networks*)

S. ElAhmadi (*Menara Networks*)

A. Puc (*Menara Networks*)

WC.5: 100G VCSELs (Page N/A)

Stephen Ralph (*Georgia Tech*)

WD - Advance Communication II - 3:45 pm–5:00 pm - Mesa Ballroom**WD.1: Recent Advances of PAM4 Signaling for Data Center Optics (Page N/A)**

Frank Chang (*Inphi*)

WD.2: A Pair of Integrated Optoelectronic Chips for Optical Interconnects (Page 45)

Kai Liu (*Beijing University of Posts and Telecommunications*)

Yongqing Huang (*Beijing University of Posts and Telecommunications*)

Xiaofeng Duan (*Beijing University of Posts and Telecommunications*)

Qi Wang (*Beijing University of Posts and Telecommunications*)

Qi Wei (*Beijing University of Posts and Telecommunications*)

Xiaomin Ren (*Beijing University of Posts and Telecommunications*)

Shiwei Cai (*Beijing University of Posts and Telecommunications*)

WD.3: Transmission and Switching Technologies for 5G Transport Networks (Page 47)

Fabio Cavaliere (*Ericsson Research*)

Luca Giorgi (*Ericsson Research*)

Luca Poti (*CNT*)