

2019 IEEE 16th International Conference on Group IV Photonics (GFP 2019)

**Singapore
28 – 30 August 2019**



**IEEE Catalog Number: CFP19GFP-POD
ISBN: 978-1-7281-0906-0**

**Copyright © 2019 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

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

IEEE Catalog Number:	CFP19GFP-POD
ISBN (Print-On-Demand):	978-1-7281-0906-0
ISBN (Online):	978-1-7281-0905-3
ISSN:	1949-2081

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

SILICON NITRIDE WAVEGUIDING FOR PROSPECTIVE TECHNOLOGIES AT THE 2 μM WAVEBAND	1
<i>Jia Xu Brian Sia, Wanjun Wang, Zhongliang Qiao, Xiang Li, Xin Guo, Jin Zhou, Callum G. Littlejohns, Zecen Zhang, Chongyang Liu, Graham T. Reed, Hong Wang</i>	
INAs QDS MONOLITHICALLY GROWN ON COMS COMPATIBLE SI (001) AND SOI PLATFORM WITH STRONG EMISSION AT 1300 NM AND 1550 NM	3
<i>Ting Wang, Wen-Qi Wei, Jian-Jun Zhang</i>	
NON-VOLATILE INDIUM TIN OXIDE ELECTRO-OPTIC SWITCH	5
<i>Antoine Brimont, Irene Olivares, Jorge Parra, Pablo Sanchis</i>	
LIGHT EMISSION DRIVEN BY FANO RESONANCES IN SYMMETRY-BREAKING SILICON METASURFACE	7
<i>Chengcong Cui, Jinsong Xia, Shuai Yuan, Cheng Zeng</i>	
ULTRA-LOW THRESHOLD CW LASING IN TENSILE STRAINED GESN MICRODISK CAVITIES	9
<i>F. Boeuf, P. Boucaud, D. Buca, X. Checoury, M. El Kurdi, A. Elbaz, D. Grützmacher, J. M. Hartmann, E. Herth, Z. Ikonik, K. Pantzas, G. Patriarche, I. Sagnes, S. Sauvage, N. Von Den Driesch</i>	
MID-INFRARED SILICON WAVEGUIDE-BASED BOLOMETER	11
<i>Wei Cao, Ali Z. Khokhar, Goran Z. Mashanovich, Otto L. Muskens, Milos Nedeljkovic, Ahmed M. Osman, Jordi Soler Penades, Zhibo Qu, Yangbo Wu</i>	
DARK CURRENT ANALYSIS OF VERTICAL P-I-N PHOTODETECTORS ON A GERMANIUM-ON-INSULATOR PLATFORM	13
<i>Kwang Hong Lee, Yiding Lin, Bongkwon Son, Chuan Seng Tan</i>	
RELIABILITY OF CMOS-COMPATIBLE TI / N-INP AND TI / P-INGAAS OHMIC CONTACTS FOR HYBRID III-V / SI LASERS	15
<i>V. Amalberg, F. Boyer, J. Da Fonseca, M. Grégoire, C. Jany, Q. Raffay, P. Rodriguez, B. Szelag</i>	
TOWARD MONOLITHIC OPTOELECTRONIC INTEGRATION OF GESN PHOTODIODE AND FINFET ON GESNOI PLATFORM	17
<i>Xiao Gong, Yi-Chiau Huang, Dian Lei, Saeid Masudy-Panah, Shengqiang Xu, Yee-Chia Yeo</i>	
HIGH-EFFICIENCY OF NARROW-WIDTH MOS CAPACITOR TYPE SI OPTICAL MODULATOR WITH TM MODE EXCITATION	19
<i>Junichi Fujikata, Takahiro Nakamura, Masataka Noguchi, Shigeki Takahashi</i>	
1550NM-WAVELENGTH METALENS DEMONSTRATED ON 12-INCH SI CMOS PLATFORM	21
<i>Vladimir Bliznetsov, Yuan Dong, Yuan Hsing Fu, Ting Hu, Dongdong Li, Nanxi Li, Yu Li, Qun Ying Lin, Navab Singh, Zhengji Xu, Qize Zhong, Shiyang Zhu</i>	
SILICON MACH-ZEHNDER MODULATOR FOR 120 GBPS PAM-4 AND 200 GBPS 16-QAM SIGNAL GENERATION	23
<i>Jincheng Dai, Xin Fu, Sizhu Shao, Pengfei Wang, Lin Yang, Fan Zhang, Gaolu Zhang, Lei Zhang, Lingchen Zheng, Yixiao Zhu</i>	
LOW-LOSS SILICON TECHNOLOGY FOR HIGH-Q BRIGHT QUANTUM SOURCES	25
<i>D. Bajoni, H. El Dirani, M. Galli, F. Garrisi, J. M. Hartmann, M. Liscidini, C. Monat, E. Pargon, C. Petit-Etienne, F. A. Sabbatoli, C. Sciancalepore</i>	
SILICON PHOTONICS POLARIZATION FILTER WITH 60 DB EXTINCTION RATIO FOR ON-CHIP GYROSCOPE APPLICATION	27
<i>Yung-Jr Hung, Ming-Yung Jung, Cheng-Tse Tang, Tzu-Hsiang Yen</i>	
AUTOMATED FUNCTION RECONFIGURATION OF SILICON OPTICAL MODULATOR BY SIMULATED ANNEALING ALGORITHM	29
<i>Guangwei Cong, Takashi Inoue, Yuriko Maegami, Morifumi Ohno, Makoto Okano, Koji Yamada, Noritsugu Yamamoto</i>	
NOVEL INTEGRATION APPROACH FOR III-V MICRODISK CAVITIES ON SI	31
<i>Yannick Baumgartner, Daniele Caimi, Svenja Mauthe, Kirsten E. Moselund, Heinz Schmid, Marilynne Sousa, Thilo Stöferle, Philipp Staudinger, Preksha Tiwari, Noelia V. Triviño</i>	
STRAIN-ENGINEERED GE EMBEDDED INTO MICRORESONATORS AS AN ACTIVE MEDIA FOR SI PHOTONICS	33
<i>Sergey A. Dyakov, Nikita S. Gusev, Zakhariy F. Krasil'Nik, Alexey V. Nezhdanov, Alexey V. Novikov, Evgeny V. Skorokhodov, Valeriy A. Verbus, Artem N. Yablonskiy, Dmitry V. Yurasov</i>	
STRAINED GERMANIUM LASING IN THE MID-INFRARED	35
<i>C. Bonzon, V. Calvo, A. Chelnokov, J. Faist, J. M. Hartmann, A. Lyasota, Y. M. Niquet, N. Pauc, F. T. Armand Pilon, V. Reboud, H. Sigg, J. Widiez</i>	

ION IMPLANTATION AND ELECTRICAL ANNEALING FOR TRIMMING SILICON MZIS AND FACILITATING ONE-TIME PROGRAMMABLE PHOTONIC CIRCUITS	37
<i>Xia Chen, Milan M. Milosevic, Graham T. Reed, Shinichi Saito, Xingzhao Yan, Xingshi Yu</i>	
DEVELOPMENT AND INTEGRATION OF SILICON PHOTONICS INTERPOSER FOR QUANTUM COMPUTING SYSTEM.....	39
<i>Anak Agung Alit Apriyana, Yu Dian Lim, Chuan Seng Tan, Jing Tao, Peng Zhao</i>	
TUNABLE SLOW-LIGHT IN SILICON PHOTONIC SUBWAVELENGTH GRATING WAVEGUIDES	41
<i>Antoine Gervais, Philippe Jean, Sophie Larochelle, Wei Shi</i>	
PROPOSAL AND SIMULATION OF A LOW LOSS, HIGHLY EFFICIENT MONOLITHIC III-V/SI OPTICAL PHASE SHIFTER.....	43
<i>Yoojin Ban, Sanghyeon Kim, Younghyun Kim, Sebastien Lardenois, Marianna Pantouvaki, Joris Van Campenhout, Didit Yudistira</i>	
COMPACT POLARIZATION BEAM SPLITTER BASED ON A 3-WAVEGUIDE DIRECTIONAL COUPLER WITH BROAD BANDWIDTH PERFORMANCE.....	45
<i>Yan Cai, Qing Fang, Yujie Hu, Zhijuan Tu, Dawei Wang, Wei Wang, Mingbin Yu, Wencheng Yue, Youhong Zeng</i>	
BROADBAND OPTICAL SPLITTER THROUGH PHASE COMPENSATED MACH-ZEHNDER DIRECTIONAL COUPLER	47
<i>Shih-Hsiang Hsu, Chi-Ting Lin, Yi-Hsuan Tseng</i>	
HIGH-PERFORMANCE VERTICAL INTERLAYER COUPLER FOR MULTILAYER SILICON NITRIDE-ON-SILICON PHOTONIC PLATFORM.....	49
<i>Lirong Cheng, H. Y. Fu, Xin Mu, Xin Tu, Sailong Wu</i>	
GERMANIUM PHOTODETECTORS WITH 60-NM ABSORPTION COVERAGE EXTENSION AND~2X QUANTUM EFFICIENCY ENHANCEMENT ACROSS L-BAND	51
<i>Xin Guo, Kwang Hong Lee, Yiding Lin, Danhao Ma, Jurgen Michel, Chuan Seng Tan, Hong Wang, Rui-Tao Wen, Jin Zhou</i>	
ULTRA-BROADBAND POLARIZATION-INDEPENDENT SILICON BEAM SPLITTER BASED ON MODAL AND SYMMETRY ENGINEERING	53
<i>Carlos Alonso-Ramos, Mathias Berciano, Eric Cassan, Pavel Cheben, Elena Durán-Valdeiglesias, David González-Andrade, Christian Lafforgue, Xavier Le Roux, Delphine Marris-Morini, Aitor V. Velasco, Laurent Vivien</i>	
MULTILAYER SILICON NITRIDE BASED COUPLER INTEGRATED INTO A SILICON PHOTONICS PLATFORM WITH 0.5 DB COUPLING LOSS BETWEEN STANDARD SMF AND THE AS-DICED CHIP EDGE FACET	55
<i>Ravi S. Tummidi, Mark A. Webster</i>	
INVESTIGATION OF RESONANT-CAVITY-ENHANCED GESN PHOTODETECTORS IN SHORT-WAVELENGTH INFRARED REGIME	57
<i>Qimiao Chen, Yi-Chiau Huang, Kwang Hong Lee, Wei Li, Yiding Lin, Wan Khai Loke, Bong Kwon Son, Chuan Seng Tan, Lin Zhang, Hao Zhou</i>	
TEMPERATURE-INSENSITIVE POLYSILICON MACH-ZEHNDER INTERFEROMETER IN BULK CMOS.....	59
<i>Yung-Jr Hung, Ming-Yung Jung, Cheng-Tse Tang, Tzu-Hsiang Yen</i>	
COUPLED-RESONATOR-INDUCED-TRANSPARENCY ON GERMANIUM-ON-INSULATOR MID-INFRARED PLATFORM	61
<i>Chong Pei Ho, Qiang Li, Shinichi Takagi, Mitsuru Takenaka, Ziqiang Zhao</i>	
GESN LASERS WITH UNIAXIAL TENSILE STRAIN IN THE GAIN MEDIUM	63
<i>Mathieu Bertrand, Vincent Calvo, Lara Casiez, Alexei Chelnokov, Jérémie Chretien, Jerome Faist, Jean-Michel Hartmann, Rami Khazaka, Nicolas Pauc, Francesco Armand Pilon, Vincent Reboud, Hans Sigg, Quang-Minh Thai</i>	
A MILLIMETER SCALE LONG WAVEGUIDE GRATING ANTANNA WITH HIGH DIRECTIONALITY FOR OPTICAL PHASED ARRAY	65
<i>Yan Cai, Qing Fang, Zhijuan Tu, Qing Wang, Shuxiao Wang, Wei Wang, Mingbin Yu, Wencheng Yue, Youhong Zeng</i>	
OPTICAL MODE CONVERTER FOR ENHANCED SENSITIVITY IN EVANESCENT FIELD ABSORPTION CHEMICAL SENSORS.....	67
<i>Jones Arockiadoss, Lennon Lee, Nan Wang</i>	
TOWARDS MID-IR GERMANIUM DEFECT DETECTOR	69
<i>Goran Z. Mashanovich, Milos Nedeljkovic, Lauren Reid, Radan Slavik</i>	
III-V/SI MOS CAPACITOR MACH-ZEHNDER MODULATOR WITH LOW TEMPERATURE SENSITIVITY	71
<i>Takuma Aihara, Takuro Fujii, Hiroshi Fukuda, Tatsuro Hiraki, Takaaki Kakitsuka, Shinji Matsuo, Koji Takeda, Tai Tsuchizawa</i>	

SPECTRAL ENGINEERING OF PHOTONIC FILTERS BASED ON MODE SPLITTING IN SELF-COUPLED SILICON NANOWIRE WAVEGUIDES	73
<i>Linnan Jia, Tania Moein, David J. Moss, Yang Qu, Mengxi Tan, Jiayang Wu, Xingyuan Xu, Yuning Zhang</i>	
SPECTRAL BROADENING ENHANCEMENT IN GRAPHENE INTEGRATED SI WAVEGUIDES	75
<i>Hui Cong, Qi Feng, Jianhuan Wang, Ting Wang, Wenqi Wei, Bin Zhang, Jianjun Zhang</i>	
ENHANCED KERR OPTICAL NONLINEARITY OF WAVEGUIDES INTEGRATED WITH GRAPHENE OXIDE	77
<i>Sai T. Chu, Baohua Jia, Linnan Jia, Yao Liang, Brent E. Little, Roberto Morandotti, David Moss, Yang Qu, Jiayang Wu, Xingyuan Xu, Yunyi Yang, Yuning Zhang</i>	
OPTICAL KERR NONLINEARITY OF CMOS COMPATIBLE PECVD DEPOSITED SI-RICH-NITRIDE (SRN)	79
<i>Hui Cong, Qi Feng, Ting Wang, Wenqi Wei, Jianjun Zhang, Jieyin Zhang</i>	
UNDERSTANDING THE SIDEWALL DEPENDENCE OF LOSS FOR GE-ON-SI WAVEGUIDES IN THE MID-INFRARED	81
<i>Kevin Gallacher, Ugne Griskeviciute, Iain Macgilp, Ross W. Millar, Douglas J. Paul</i>	
BROADBAND MID-IR ON-CHIP FOURIER-TRANSFORM SPECTROMETER	83
<i>Carlos Alonso-Ramos, Andrea Ballabio, Jacopo Frigerio, Giovanni Isella, Xavier Le Roux, Qiankun Liu, Delphine Marris-Morini, Miguel Montesinos-Ballester, Joan Manel Ramirez, Enrico Talamas, Vladyslav Vakarin, Laurent Vivien</i>	
NEAR INFRARED ABSORPTION ENHANCEMENT OF GRAPHENE FOR HIGH-RESPONSIVITY PHOTODETECTION	85
<i>Xiyuan Cao, Yi Jin, Aimin Wu, Yijin Zhang</i>	
STRAIN PROPERTY OF GERMANIUM PHOTONIC CRYSTAL CAVITY ON SILICON	87
<i>Yong-Hoon Cho, Daegwang Choi, Sunghan Choi, Chulwon Lee, Hyun Gyu Song, Kie Young Woo</i>	
UV-LIGHT GENERATION IN SILICON NITRIDE RESONATORS PUMPED AT TELECOM WAVELENGTHS	89
<i>M. Casale, H. El Dirani, A. N. Kamel, S. Kerdiles, J. Lægsgaard, X. Letartre, C. Monat, L. K. Oxenløwe, M. Pu, C. Sciancalepore, C. Socquet-Clerc, K. Yvind</i>	
GATE OXIDE PROCESS FOR III-V / SI HYBRID MOS CAPACITOR MODULATOR	91
<i>Y. Désières, K. Hassan, S. Malhouitre, V. Muffato, V. Ramez</i>	
SPARSE OPTICAL PHASED ARRAY DESIGN	93
<i>Francis Smith, Wuxiucheng Wang, Hui Wu</i>	
WIDEBAND, FLAT-TOP, SOI FILTER USING AN APODIZED SUB-WAVELENGTH-GRATING CONTRA-DIRECTIONAL COUPLER	95
<i>Lukas Chrostowski, Mustafa Hammood, Nicolas A. F. Jaeger, Han Yun</i>	
MULTI-SCALE ELECTRONIC STRUCTURE ANALYSIS OF DIRECT-GAP GROUP-IV ALLOYS: IMPLICATIONS FOR DEVICE APPLICATIONS	97
<i>Christopher A. Broderick, Michael D. Dunne, Amy C. Kirwan, Edmond J. O'Halloran, Eoin P. O'Reilly, Stefan Schulz, Daniel S. P. Tanner</i>	
PHOTOLUMINESCENCE ENHANCEMENT PHENOMENA IN PHOTONIC CRYSTAL SLABS FORMED ON SI STRUCTURES WITH THE SELF-ASSEMBLED GE NANOISLANDS	99
<i>Sergey Dyakov, Zakhary Krasilnik, Alexey Novikov, Sergey Sergeev, Evgeny Skorokhodov, Margarita Stepikhova, Artem Yablonskiy, Oleh Yermakov, Dmitry Yurasov</i>	
INTEGRATED PHOTONIC PHYSICAL UNCLONABLE FUNCTION USING HIGHLY NONLINEAR AMORPHOUS SILICON	101
<i>A. Brinton Cooper, Amy C. Foster, Mark A. Foster, Neil Macfarlane, Jasper R. Stroud</i>	
ENHANCED L-BAND OPTICAL ABSORPTION IN GE GROWN ON SI-ON-QUARTZ SUBSTRATE	103
<i>Yasuhiko Ishikawa, Junji Matsui, Michiharu Nishimura, Kyosuke Noguchi, Yoshiyuki Tsusaka</i>	
CONTRA-DIRECTIONAL COUPLERS AS PUMP REJECTION AND RECYCLING FILTERS FOR ON-CHIP PHOTON-PAIR SOURCES	105
<i>Abdelrahman Afifi, Lukas Chrostowski, Mustafa Hammood, Nicolas A. F. Jaeger, Sudip Shekhar, Jeff F. Young</i>	
TOWARDS TRANSPARENT ON-WAVEGUIDE ELECTRICAL CIRCUITS IN SIN-PHOTONIC PLATFORM	107
<i>Aneesh Dash, P. R. Yasasvi Gangavarapu, Vadivukkarasi Jeyaselvan, Viphetuo Mere, A. K. Naik, Siddharth Nambiar, S. K. Selvaraja</i>	
GERMANIUM LIGHT SOURCE FOR WAFER-LEVEL INSPECTION	109
<i>Hiroshi Fukuda, Yoshiho Maeda, Shinji Matsuo, Toru Miura</i>	
GEIGER MODE GE-ON-SI SINGLE-PHOTON AVALANCHE DIODE DETECTORS	111
<i>Gerald S. Buller, Derek C. S. Dumas, Zoë M. Greener, Jaroslaw Kirdoda, Kateryna Kuzmenko, Ross W. Millar, Muhammad M. Mirza, Douglas J. Paul, Peter Vines</i>	

ULTRA LOW-LOSS SILICON WAVEGUIDES FOR 200 MM PHOTONICS PLATFORM	113
<i>Cyril Bellegarde, Stéphane Bernabé, Stéphane Brision, Benoît Charbonnier, Daivid Fowler, Stéphanie Garcia, Philippe Grosse, Jean-Michel Hartmann, André Myko, Erwine Pargon, Camille Petit-Etienne, Karen Ribaud, Corrado Sciancalepore, Bertrand Szelag, Quentin Wilmart, Laurene Youssef</i>	
SILICON MODE-SELECTIVE MODULATION DEVICE FOR ON-CHIP OPTICAL INTERCONNECT	115
<i>Xin Fu, Hao Jia, Lin Yang, Shanglin Yang, Lei Zhang, Ting Zhou</i>	
HIGH-SPEED WIRELESS COMMUNICATION USING BEAM STEERING BY OPTICAL PHASED ARRAY IN SILICON	117
<i>Hyo-Hoon Park, Hyun-Woo Rhee, Jong-Bum You</i>	
MID-INFRARED ALUMINUM NITRIDE ON INSULATOR (ALNOI) PLATFORM	119
<i>Kah Wee Ang, Bowei Dong, Dim-Lee Kwong, Chengkuo Lee, Patrick Guo-Qiang Lo, Xianshu Luo</i>	
CHARACTERIZATION OF SILICON PHOTONICS MODULATOR INTEGRATION AND HIGH EFFICIENCY TESTING PLATFORM	121
<i>Po-Chih Chang, Shang-Chun Chen, Ting-Hui Chen, Wei-Yen Chen, Chih-Hsiang Hsu, Chien-Ying Huang, Kai-Ning Ku, Ming-Chang Lee, Tai-Hsin Lee, Chen-Yu Lin, Chien-Chung Lin, Chung-Chih Wang, Sin-Jhu Wun, Jie Zhang</i>	
TEMPERATURE CHARACTERISTICS OF PHOTONIC-CRYSTAL LASERS COUPLED TO SI WAVEGUIDES	123
<i>Takuro Fujii, Takaaki Kakitsuka, Eiichi Kuramochi, Shinji Matsuo, Hidetaka Nishi, Masaya Notomi, Akihiko Shinya, Koji Takeda, Tai Tsuchizawa</i>	
HIGH RESOLUTION SILICON NITRIDE SPECTROMETER BY INTEGRATING MICRO-RINGS AND ARRAYED WAVEGUIDE GRATINGS IN TANDEM	125
<i>Hon Ki Tsang, Yi Wang, Zunyue Zhang</i>	
DESIGN AND ANALYSIS OF TENSILE-STRAINED GESN MID-INFRARED PHOTODETECTORS ON SILICON	127
<i>Guo-En Chang, H. H. Cheng, Munho Kim, Greg Sun</i>	
HIGH-SPEED GERMANIUM PIN PHOTODIODES INTEGRATED ON SILICON-ON-INSULATOR NANOPHOTONIC WAVEGUIDES	129
<i>C. Alonso-Ramos, F. Amar, G. Aubin, C. Baudot, D. Benedikovic, F. Boeuf, E. Cassan, P. Crozat, J.-M. Fédéli, J. M. Hartmann, C. Kopp, X. Le Roux, D. Marris-Morini, B. Szelag, L. Virot, L. Vivien</i>	
SUB-DECIBEL OFF-CHIP FIBER COUPLERS BASED ON L-SHAPED WAVEGUIDES AND SUBWAVELENGTH GRATING METAMATERIALS	131
<i>C. Alonso-Ramos, C. Baudot, D. Benedikovic, F. Boeuf, E. Cassan, P. Cheben, S. Guerber, X. Le Roux, G. Marcaud, D. Marris-Morini, D. Pérez-Galacho, V. Vakarín, L. Vivien</i>	
FABRICATION OF ULTRASMALL SILICON WAVEGUIDE LENSES DESIGNED BY WAVEFRONT-MATCHING METHOD	133
<i>Takeshi Fujisawa, Kunimasa Saitoh, Yusuke Sawada</i>	
MOLECULAR FINGERPRINT SENSING USING GE-ON-SI WAVEGUIDES	135
<i>L. Baldassarre, K. Gallacher, U. Griskeviciute, R. W. Millar, M. Ortolani, D. J. Paul, M. Sorel</i>	
S-C-L BAND COARSE WAVELENGTH DIVISION MULTIPLEXING ON ULTRA SILICON RICH NITRIDE PLATFORM	137
<i>George Feng Rong Chen, Ju Won Choi, Hong Wei Gao, Doris Keh Ting Ng, Dawn T. H. Tan, Peng Xing</i>	
HIGH SPEED SILICON CAPACITOR MODULATORS FOR TM POLARISATION	139
<i>Mehdi Banakar, James Byers, Wei Cao, Bigeng Chen, Kapil Debnath, Martin Ebert, Frederic Y. Gardes, Muhammad K. Husain, Ali Z. Khokhar, Ke Li, Callum Littlejohns, Shenghao Liu, Goran Mashanovich, Graham T. Reed, Jamie Dean Reynolds, Scott Reynolds, Shinichi Saito, David J. Thomson, Weiwei Zhang</i>	
MICRO-TRANSFER-PRINTED III-V-ON-SILICON C-BAND DISTRIBUTED BRAGG REFLECTOR LASER	141
<i>Brian Corbett, Sören Dhoore, Agnieszka Gocalinska, Sulakshna Kumari, Grigorij Muliuk, Emanuele Pelucchi, Gunther Roelkens, Jing Zhang</i>	
SI₃N₄ WAVEGUIDE-COUPLED MICRODISK RESONATORS WITH A QUALITY FACTOR OF 10⁷	143
<i>Andrew W. Poon, Kaiyi Wu</i>	
MID-INFRARED GESN-BASED LEDS WITH SN CONTENT UP TO 16%	145
<i>J. Aubin, M. Bertrand, V. Calvo, L. Casiez, A. Chelnokov, J. Chrétien, J. M. Hartmann, R. Khazaka, N. Pauc, A. Quintero, V. Reboud, P. Rodriguez, Q. M. Thai</i>	
A COMPACT CIRCUIT MODEL FOR SI-GE AVALANCHE PHOTODIODES OVER A WIDE RANGE OF GAIN	147
<i>Raymond G. Beausoleil, Marco Fiorentino, Zhihong Huang, Di Liang, Wayne V. Sorin, Binhao Wang, Xiaoge Zeng</i>	
ULTRA BROADBAND MID-INFRARED GE-ON-SI POLARIZATION ROTATOR	149
<i>Kevin Gallacher, Ugne Griskeviciute, Ross W. Millar, Douglas J. Paul</i>	

MULTI COMPOSITION GESI TUNEABLE CONCENTRATION SILICON-GERMANIUM WIRE STRUCTURES FOR CMOS PHOTONICS	151
<i>Andrea Ballabio, Mehdi Banakar, Andrea Barzaghi, Thalia Dominguez Bucio, Frederic Gardes, Katarzyna Grabska, Giovanni Isella, Callum Littlejohns, Milos Nedeljkovic, Shinichi Saito</i>	
HIGH-SPEED PLASMONIC-CONDUCTIVE OXIDE-SILICON MODULATOR BY EPSILON- NEAR-ZERO ELECTRO-ABSORPTION	153
<i>Yunfei Bo, Erwen Li, Alan X. Wang, Bokun Zhou</i>	
MID-INDEX SILICON NITRIDE DEVICES FOR ENHANCED LINEAR AND NON-LINEAR PHOTONIC FUNCTIONALITIES	155
<i>T. Domínguez Bucio, G. De Paoli, F. Y. Gardes, K. M. Grabska, S. T. Ilie, A. Z. Khokhar, C. Lacava, P. Petropoulos, I. Skandalos</i>	
AUTOMATIC TUNING AND LOCKING OF HITLESS ADD-DROP FILTERS	157
<i>Douglas Aguiar, Emanuele Guglielmi, Andrea Melloni, Maziyar Milanizadeh, Francesco Morichetti, Matteo Petrini, Fabio Toso, Francesco Zanetto</i>	
Author Index	