

PROCEEDINGS OF SPIE

19th International Conference on **Optical Fibre Sensors**

David Sampson

Stephen Collins

Kyunghwan Oh

Ryozo Yamauchi

Editors

15–18 April 2008

Perth, Australia

Sponsors

The University of Western Australia (Australia)

OBEL—Optical and Biomedical Engineering Laboratory (Australia)

Technical Cosponsors

SPIE

The Optical Society of Japan (Japan)

The Optical Society of India (India)

The Japan Society of Applied Physics (Japan)

The Institute of Electronics, Information and Communication Engineers,

Japan Electronics Society (Japan)

The Optical Society of Korea (South Korea)

OSA—The Optical Society of America

The Australian Optical Society (Australia)

SICE—The Society of Instrument and Control Engineers (Japan)

Perth Convention Bureau (Australia)

Published by

SPIE

Part One of Two Parts

Volume 7004

Proceedings of SPIE, 0277-786X, v. 7004

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 *19th International Conference on Optical Fibre Sensors*, edited by David Sampson, Stephen Collins, Kyunghwan Oh, Ryozo Yamauchi, Proceedings of SPIE Vol. 7004 (SPIE, Bellingham, WA, 2008) Article CID Number.

ISSN 0277-786X
ISBN 9780819472045

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

Copyright © 2008, Society of Photo-Optical Instrumentation Engineers

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/08/\$18.00.

Printed in the United States of America.

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



SPIEDigitalLibrary.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

Part One

- xxv OFS-19 Conference Committees
xxvii Editors' Note

OPENING SESSION

- 7004 03 **Fiber-top micromachined devices (Invited Paper)** [7004-277]
D. Iannuzzi, S. de Man, C. J. Alberts, Vrije Univ. Amsterdam (Netherlands); J. W. Berenschot, M. C. Elwenspoek, Univ. of Twente (Netherlands); A. A. Said, M. Dugan, Translume, Inc. (USA)

MICROSTRUCTURED FIBRES I

- 7004 04 **Recent developments in microstructured optical fibers and optical fiber glasses (Invited Paper)** [7004-285]
J. M. Blondy, F. Gerome, J. L. Auguste, C. Restoin, G. Humbert, P. Roy, P. Leproux, S. Fevrier, XLIM, CNRS (France)
- 7004 05 **Photonic-crystal-diaphragm-based fiber-tip hydrophone optimized for ocean acoustics** [7004-104]
O. Kilic, M. Digonnet, G. Kino, O. Solgaard, Stanford Univ. (USA)
- 7004 06 **Merging porphyrins and structured optical fibres: future technology for chemical sensors** [7004-115]
C. Martelli, J. Canning, M. J. Crossley, D. Stocks, M. Sintic, The Univ. of Sydney (Australia)
- 7004 07 **High temperature sensor based on a photonic crystal fiber interferometer** [7004-110]
M. J. Kim, K. S. Park, H. Y. Choi, Gwangju Institute of Science and Technology (South Korea); S.-J. Baik, K. Im, Chonnam National Univ. (South Korea); B. H. Lee, Gwangju Institute of Science and Technology (South Korea)
- 7004 08 **Compact in-fiber polarizer based on the hollow-core photonic bandgap fiber** [7004-87]
H. Xuan, The Hong Kong Polytechnic Univ. (Hong Kong China) and Tsinghua Univ. (China); W. Jin, J. Ju, Y. P. Wang, The Hong Kong Polytechnic Univ. (Hong Kong China); M. Zhang, Y. B. Liao, Tsinghua Univ. (China); Y. H. Yang, Beihang Univ. (China)

FIBRE BRAGG GRATING SENSORS

- 7004 09 **Progress in photosensitivity for writing Bragg gratings (Invited Paper)** [7004-276]
J. Canning, Univ. of Sydney (Australia)
- 7004 0A **Ratiometric interrogation of dynamically strained fiber Bragg gratings** [7004-50]
R. R. J. Maier, J. S. Barton, Heriot-Watt Univ. (United Kingdom); M. Kuhn, Heriot-Watt Univ. (United Kingdom) and Univ. Würzburg (Germany)

- 7004 0B **Soldering fiber Bragg grating sensors for strain measurement** [7004-183]
M. S. Müller, L. Hoffmann, T. Lautenschlager, A. W. Koch, Technische Univ. München (Germany)
- 7004 0C **High-sensitivity temperature-independent strain sensor based on a long-period fiber grating with a CO₂-laser engraved rotary structure** [7004-76]
T. Zhu, Chongqing Univ. (China) and Univ. of Electronic Science & Technology of China (China); Y. J. Rao, Univ. of Electronic Science & Technology of China (China) and Chongqing Univ. (China); Y. Song, Chongqing Univ. (China); K. S. Chiang, City Univ. of Hong Kong (Hong Kong China), Univ. of Electronic Science & Technology of China (China), and Chongqing Univ. (China)
- 7004 0D **The spectral characteristics of femtosecond laser inscribed long period grating bend sensors written into a photonic crystal fibre** [7004-256]
T. Allsop, Aston Univ. (United Kingdom); K. Kalli, Cyprus Univ. of Technology (Cyprus); K. Zhou, G. Smith, D. J. Webb, V. Mezentsev, I. Bennion, Aston Univ. (United Kingdom)

PHYSICAL, MECHANICAL, AND ELECTROMAGNETIC SENSORS I

- 7004 0E **Nonlinearities in the high-current response of interferometric fiber-optic current sensors** [7004-68]
K. Bohnert, P. Gabus, J. Nehring, S. Wiesendanger, A. Frank, H. Brändle, ABB Ltd. (Switzerland)
- 7004 0F **Triple wavelength SOA-based fiber ring laser for use in wavelength-division-multiplexed FBG vibration sensor array** [7004-139]
S. Tanaka, H. Somatomo, K. Inamoto, N. Takahashi, National Defense Academy (Japan)
- 7004 0G **Radial deformation measurement of a cylinder under compression using multicore fibre** [7004-88]
A. Fender, W. N. MacPherson, R. R. J. Maier, J. S. Barton, J. D. C. Jones, Heriot-Watt Univ. (United Kingdom); K. S. Ellis, C. L. Leppard, P. G. Blackwell, J. R. Miller, B. J. S. Jones, S. McCulloch, AWE Plc (United Kingdom); X. Chen, R. Suo, L. Zhang, Aston Univ. (United Kingdom)
- 7004 0H **Optical temperature point-sensor array for oil and gas down-hole applications** [7004-95]
D. Taverner, E. Dowd, J. Grunbeck, J. Dunphy, G. Daigle, R. Jones, D. Norton, T. MacDougall, Weatherford (USA)
- 7004 0I **3D planar velocity measurements using Mach-Zehnder interferometric-filter-based planar Doppler velocimetry (MZI-PDV) and imaging fibre bundles** [7004-249]
Z. H. Lu, T. O. H. Charrett, H. D. Ford, R. P. Tatam, Cranfield Univ. (United Kingdom)
- 7004 0J **High-accuracy discriminative sensing of strain and temperature by use of birefringence and Brillouin scattering in a polarization-maintaining fiber** [7004-105]
W. Zou, Z. He, K. Hotate, The Univ. of Tokyo (Japan)

POSTER SESSION I

- 7004 0K **Self-referenced Fizeau strain sensors based on an electronic scanning mirror** [7004-03]
J. Yu, J. Zhang, J. Yang, W. Sun, L. Yuan, Harbin Engineering Univ. (China); G. D. Peng, Univ. of New South Wales (Australia)
- 7004 0L **Crosstalk analysis of a smart sensor unit based on FBG and FOWLI** [7004-04]
J. Yu, J. Zhang, W. Sun, L. Yuan, Harbin Engineering Univ. (China); G. D. Peng, Univ. of New South Wales (Australia)
- 7004 0M **A passive way to extend DTSS system distance** [7004-07]
Y. Gong, J. Hao, M. O. L. Chuen, V. Paulose, Institute for Infocomm Research (Singapore)
- 7004 0N **Revolutionizing the design of an evanescent-wave-based fiber-optic fluorometer** [7004-09]
J. Ma, W. J. Bock, Univ. du Québec en Outaouais (Canada)
- 7004 0O **Fusion of a FBG-based health monitoring system for wind turbines with a fiber-optic lightning detection system** [7004-10]
S. G. M. Krämer, B. Wiesent, M. S. Müller, F. Puente León, Technische Univ. München (Germany); Y. Méndez Hernández, GE Global Research (Germany)
- 7004 0P **Fiber-optic carbon dioxide sensor based on fluorinated xerogels doped with HPTS** [7004-11]
Y.-L. Lo, C.-S. Chu, National Cheng Kung Univ. (Taiwan)
- 7004 0Q **A plastic optical fiber sensor for the dual sensing of temperature and oxygen** [7004-12]
Y.-L. Lo, C.-S. Chu, National Cheng Kung Univ. (Taiwan)
- 7004 0R **Two-beam optical tweezers built by a two-core fiber** [7004-14]
L. Yuan, Z. Liu, J. Yang, C. Guan, Harbin Engineering Univ. (China)
- 7004 0S **Three-core fiber far field structured light pattern generator and its shape sensing application** [7004-15]
L. Yuan, J. Yang, Z. Liu, C. Guan, Q. Dai, F. Tian, Harbin Engineering Univ. (China)
- 7004 0T **High temperature sensors exploiting low coherence signal recovery** [7004-17]
D. A. Jackson, Univ. of Kent (United Kingdom)
- 7004 0U **Antiresonant guiding photonic crystal fibers for measuring refractive index** [7004-18]
J. Sun, C. C. Chan, Y. F. Zhang, P. Shum, Nanyang Technological Univ. (Singapore)
- 7004 0V **Maximum-intensity-projection images for dynamic analysis of mental sweating by optical coherence tomography** [7004-19]
H. Saigusa, Y. Ueda, A. Yamada, M. Ohmi, M. Haruna, Osaka Univ. (Japan)
- 7004 0W **Characteristics of a cavity ring-up gas amplified fiber loop** [7004-20]
N. Ni, C. C. Chan, J. Sun, L. Xia, Nanyang Technological Univ. (Singapore)
- 7004 0X **DFB laser injection locking on Brillouin radiation for probe Stokes generation in distributed fiber optical sensing** [7004-24]
V. Spirin, M. Castro, Ctr. de Investigación Científica y de Educación Superior de Ensenada (Mexico)

- 7004 0Y **Twin-core fiber white light interferometric bending sensor** [7004-25]
J. Yang, L. Yuan, X. Zu, Y. Zhang, B. Liu, J. Zhang, Q. Dai, F. Tian, Harbin Engineering Univ. (China)
- 7004 0Z **Multiple wavelength Raman fibre laser with asymmetric cavities** [7004-29]
S. Hann, Korea Photonics Technology Institute (South Korea); Y.-E. Im, Korea Photonics Technology Institute (South Korea) and Gwangju Institute of Science and Technology (South Korea); D.-H. Kim, Korea Photonics Technology Institute (South Korea); C.-S. Park, Gwangju Institute of Science and Technology (South Korea)
- 7004 10 **A wavelength swept laser with the sweep rate of 150 kHz using vibrations of optical fiber** [7004-32]
R. Isago, K. Nakamura, S. Ueha, Tokyo Institute of Technology (Japan)
- 7004 11 **A high reading rate FBG sensor system using a high-speed swept light source based on fiber vibrations** [7004-36]
R. Isago, K. Nakamura, S. Ueha, Tokyo Institute of Technology (Japan)
- 7004 12 **Detection of sub-millimeter faults with a time domain distributed Brillouin sensor** [7004-37]
F. Ravet, F. Briffod, Omnisens S.A. (Switzerland); B. Glisic, SMARTEC S.A. (Switzerland); M. Nikles, Omnisens S.A. (Switzerland); D. Inaudi, SMARTEC S.A. (Switzerland)
- 7004 13 **Effect of temperature on Brillouin gain spectrum and aging behavior in carbon/polyimide coated fiber** [7004-39]
C. Zhang, X. Bao, W. Li, L. Chen, Univ. of Ottawa (Canada); M. Du, OFS Labs. (USA)
- 7004 14 **Optimization design of the pressure phase sensitivity of the fiber-optic air-backed mandrel hydrophone** [7004-44]
K. Yin, H. Zhou, M. Zhang, T. Ding, S. Lai, L. Wang, Y. Liao, Tsinghua Univ. (China)
- 7004 15 **Optically powered DFB fiber laser magnetometer** [7004-46]
G. A. Cranch, G. M. H. Flockhart, Naval Research Lab. (USA) and SFA, Inc. (USA); C. K. Kirkendall, Naval Research Lab. (USA)
- 7004 16 **Amplified CWDM self-referencing sensor network based on phase-shifted FBGs in transmissive configuration** [7004-48]
C. Elosua, R. A. Perez-Herrera, M. Lopez-Amo, C. Barriain, Univ. Pública de Navarra (Spain); R. Garcia-Olcina, S. Sales, J. Capmany, Univ. Politécnica de Valencia (Spain)
- 7004 17 **Highly accurate micro-displacement measurement based on Gaussian-chirped tilted fiber Bragg grating** [7004-52]
T. Guo, J. Albert, C. Chen, A. Ivanov, A. Laronche, Carleton Univ. (Canada)
- 7004 18 **Radiation mode resonances of tilted fiber Bragg gratings for high index media measurement** [7004-53]
C. Chen, T. Guo, A. Laronche, J. Albert, Carleton Univ. (Canada)
- 7004 19 **Detection of micrometer crack by Brillouin-scattering-based distributed strain and temperature sensor** [7004-55]
L. Zou, OZ Optics Ltd. (Canada); M. Q. Feng, Univ. of California, Irvine (USA)

- 7004 1A **Fibre Bragg grating use in fluid dynamic studies** [7004-58]
 S. A. Wade, M. Nazarinia, S. B. Wong, D. Lo Jacono, Monash Univ. (Australia)
- 7004 1B **Wavelength domain interrogation of polarimetric temperature sensor based on polarization maintaining fiber** [7004-59]
 Y. Yang, T. Shen, J. Guo, BeiHang Univ. (China); W. Jin, The Hong Kong Polytechnic Univ. (Hong Kong China)
- 7004 1C **Shot noise limited fiber laser source for sensing applications** [7004-60]
 J. H. Chow, T. T. Y. Lam, I. C. M. Littler, D. E. McClelland, M. B. Gray, The Australian National Univ. (Australia)
- 7004 1D **Optical fiber temperature sensor using a thin film band pass filter and dual wavelength push-pull reflectometry** [7004-62]
 Y. Komatsu, K. Inoue, M. Nakano, S. Onoda, Watanabe, Inc. (Japan)
- 7004 1E **Miniature in-line photonic-crystal-fiber etalon fabricated by 157nm laser micromachining** [7004-63]
 Z. Ran, Univ. of Electronic Science & Technology of China (China); Y. Rao, Univ. of Electronic Science & Technology of China (China) and Chongqing Univ. (China); H. Deng, X. Liao, Univ. of Electronic Science & Technology of China (China)
- 7004 1F **Fiber Bragg grating based on nanostructure core fiber** [7004-64]
 X. Yu, P. Shum, Nanyang Technological Univ. (Singapore)
- 7004 1G **Pressure and temperature characterization of Bragg gratings in grapefruit microstructured optical fibers** [7004-65]
 B.-O. Guan, D. Chen, Y. Zhang, Dalian Univ. of Technology (China); Z. Wang, B. Liu, Nankai Univ. (China)
- 7004 1H **Laser-micromachined Fabry-Perot fiber-optic tip sensor for temperature-independent measurement of refractive index** [7004-69]
 Z.-L. Ran, Y.-J. Rao, W.-J. Liu, X. Liao, Univ. of Electronic Science & Technology of China (China); K.-S. Chiang, Univ. of Electronic Science & Technology of China (China) and City Univ. of Hong Kong (Hong Kong China)
- 7004 1I **Technique for estimating the tuning speed of fiber Bragg gratings** [7004-72]
 A. A. P. Pohl, Federal Univ. of Technology, Parana (Brazil) and The Univ. of Sydney (Australia); P. T. Neves, Jr., R. A. Oliveira, Federal Univ. of Technology, Parana (Brazil); M. Stevenson, N. Groothoff, J. Canning, The Univ. of Sydney (Australia)
- 7004 1L **Rotational dependence of laser light accessing photonic crystal fibre cores from the side** [7004-275]
 J. L. Holdsworth, Univ. of Sydney (Australia) and Univ. of Newcastle (Australia); J. Canning, C. Dewhurst, Univ. of Sydney (Australia)

- 7004 1M **Generation of ultra-narrow sensing filters using cross polarisation in a linear SOI photonic crystal waveguide** [7004-74]
J. Canning, Univ. of Aarhus (Denmark) and Univ. of Sydney (Australia); M. Kristensen, N. Skivesan, Univ. of Aarhus (Denmark); C. Martelli, Univ. of Aarhus (Denmark) and Univ. of Sydney (Australia); A. Tetu, Univ. of Aarhus (Denmark); L. Frandsen, Technical Univ. of Denmark (Denmark); J. Chevallier, Univ. of Aarhus (Denmark)
- 7004 1N **Strain sensor using phase measurement techniques in polymer optical fibers** [7004-78]
A. Bachmann, M. Luber, H. Poisel, O. Ziemann, Univ. of Applied Sciences Nuernberg (Germany)
- 7004 1O **Highly sensitive optical refractometer based on edge-written ultra-long period fiber grating formed by periodic grooves** [7004-79]
Y. Song, Chongqing Univ. (China); Y. J. Rao, T. Zhu, Chongqing Univ. (China) and Univ. of Electronic Science & Technology of China (China); C. H. Shi, Chongqing Univ. (China)
- 7004 1P **Development of borehole multiple deformation sensor system** [7004-82]
Y. Kashiwai, S. Daimaru, Taisei Kiso Sekkei Co., Ltd. (Japan); H. Sanada, H. Matsui, Japan Atomic Energy Agency (Japan)
- 7004 1Q **Bi₂O₃-based erbium doped fiber laser with over 110 nm tunable range for fiber sensor sources** [7004-85]
S. Ohara, T. Hasegawa, Y. Kondo, N. Sugimoto, Asahi Glass Co., Ltd. (Japan)
- 7004 1R **Polarimetric implementation of a low loss interferometric sensor array** [7004-91]
A. Eyal, A. Isseroff, A. Oni, E. Raanan, M. Tur, Tel-Aviv Univ. (Israel)
- 7004 1S **Sensing and splicing applications of small core Ge-doped photonic crystal fibers** [7004-92]
Y. Wang, Institute of Photonic Technology (Germany) and Shanghai Jiao Tong Univ. (China); S. Brueckner, J. Kobelke, M. Rothhardt, W. Ecke, R. Willsch, H. Bartelt, Institute of Photonic Technology (Germany)
- 7004 1T **Crack detection in reinforced concrete beam by use of distributed Brillouin fiber sensor** [7004-93]
C. Zhang, X. Bao, W. Li, L. Chen, A. Deif, Univ. of Ottawa (Canada); B. Cousin, Univ. Montpellier II (France); B. Martín-Pérez, Univ. of Ottawa (Canada)
- 7004 1U **Concrete pavement vibration monitoring due to the car passing using optical fiber sensor** [7004-94]
Z. Zhang, S. LeBlanc, X. Bao, Univ. of Ottawa (Canada)
- 7004 1V **Performance improvement of a cascaded tapered long period grating refractometer by using nano-sized high refractive index coatings** [7004-96]
P. Pilla, Univ. of Sannio (Italy) and Institute for Composite and Biomedical Materials, CNR (Italy); P. Foglia Manzillo, Univ. of Sannio (Italy); M. Giordano, Institute for Composite and Biomedical Materials, CNR (Italy); M. L. Korwin-Pawlowski, W. J. Bock, Univ. du Québec en Outaouais (Canada); A. Cusano, Univ. of Sannio (Italy)
- 7004 1X **Highly efficient fluorescence sensing using microstructured optical fibres: side-access and thin-layer configurations** [7004-99]
S. C. Warren-Smith, S. Afshar V., T. M. Monro, Univ. of Adelaide (Australia)

- 7004 1Y **Simultaneous measurement for temperature and strain by use of Sagnac interferometer with controlled sensitivity** [7004-100]
G. Sun, D. S. Moon, A. Lin, W.-T. Han, Y. Chung, Gwangju Institute of Science and Technology (South Korea)
- 7004 1Z **Structure optimization of air-hole fibers for high-sensitivity fiber Bragg grating pressure sensors** [7004-102]
C. Jewart, D. Xu, K. P. Chen, Univ. of Pittsburgh (USA); J. Canning, Univ. of Sydney (Australia)
- 7004 20 **Self-referenced fiber microbend displacement sensor based on dual-wavelength fiber-Bragg gratings interposed with a multimode fiber micro bender** [7004-103]
X. Yang, V. Paulose, L. Y. Teo, Z. Chen, J. H. Ng, Institute for Infocomm Research (Singapore)
- 7004 21 **Suppression of polarization sensitivity in BOTDA fiber distributed sensing system** [7004-106]
J. Yang, National Univ. of Singapore (Singapore); C. Yu, National Univ. of Singapore (Singapore) and Institute for Infocomm Research (Singapore); Z. Chen, J. Ng, X. Yang, Institute for Infocomm Research (Singapore)
- 7004 22 **Fast four step digital demodulation for multiplexed fibre laser sensors** [7004-107]
M. Milnes, A. Tikhomirov, S. Foster, S. Goodman, Defence Science and Technology Organisation (Australia)
- 7004 23 **FBG sensor interrogation based on RF signal measurement** [7004-109]
X. Dong, L.-Y. Shao, H. Y. Fu, H. Y. Tam, C. Lu, The Hong Kong Polytechnic Univ. (Hong Kong China)
- 7004 24 **Monitoring surface crystal growth using an intrinsic exposed-core optical fiber sensor (IECOFS)** [7004-112]
D. W. Lamb, M. Boerkamp, P. Lye, Univ. of New England (Australia)
- 7004 25 **Fail-safe sensor for structural health monitoring** [7004-113]
A. F. Dethlefsen, Swinburne Univ. of Technology (Australia); H. C. H. Li, RMIT Univ. (Australia); C. E. Davis, Defence Science and Technology Organisation (Australia); P. R. Stoddart, Swinburne Univ. of Technology (Australia)
- 7004 26 **Pressure compensated distributed feedback fibre laser hydrophone** [7004-114]
S. Goodman, A. Tikhomirov, S. Foster, Defence Science and Technology Organisation (Australia)
- 7004 27 **Slotted microstructured optical fibers** [7004-120]
F. M. Cox, M. C. J. Large, Univ. of Sydney (Australia); C. M. B. Cordeiro, Instituto de Fisica, UNICAMP (Brazil); R. Lwin, A. Argyros, Univ. of Sydney (Australia)
- 7004 28 **Backscatter immune Mach-Zehnder-Sagnac hybrid interferometric sensor** [7004-121]
J. H. Chow, I. C. M. Littler, D. E. McClelland, M. B. Gray, The Australian National Univ. (Australia)
- 7004 29 **Quasi-static fiber strain sensing with absolute frequency referencing** [7004-125]
J. H. Chow, I. C. M. Littler, D. E. McClelland, M. B. Gray, The Australian National Univ. (Australia)

- 7004 2A **Biaxial measurement of optical frequency domain reflectometry using polarization maintaining fiber Bragg grating** [7004-126]
 K. Omichi, A. Sakamoto, S. Hirafune, T. Sakai, Fujikura Ltd. (Japan); H. Murayama, The Univ. of Tokyo (Japan); H. Igawa, Japan Aerospace Exploration Agency (Japan)
- 7004 2B **U-shaped plastic optical fiber dissolved oxygen sensor** [7004-127]
 H. Cai, F. Chu, R. Qu, Z. Fang, Shanghai Institute of Optics and Fine Mechanics (China)
- 7004 2C **Fabrication and characterization of long period gratings in air-core photonic bandgap fibers** [7004-128]
 W. Jin, Y. P. Wang, J. Ju, H. F. Xuan, H. L. Ho, L. M. Xiao, D. N. Wang, The Hong Kong Polytechnic Univ. (Hong Kong China)
- 7004 2D **Design and clinical results from a fibre optic manometry catheter for oesophageal motility studies** [7004-131]
 J. W. Arkwright, S. N. Doe, M. C. Smith, N. G. Blenman, I. D. Underhill, S. A. Maunder, J. A. Glasscock, B. Lim, CSIRO Materials Science and Engineering (Australia); M. M. Szczesniak, P. G. Dinning, I. J. Cook, Univ. of New South Wales (Australia)
- 7004 2E **Characteristics of gas breakdown in hollow-core fibers** [7004-132]
 X. Shi, The Hong Kong Polytechnic Univ. (Hong Kong China); X. B. Wang, Huazhong Univ. of Science and Technology (China); W. Jin, M. S. Demokan, The Hong Kong Polytechnic Univ. (Hong Kong China)
- 7004 2F **Multiplexed fiber optic sensor array for geophysical survey** [7004-133]
 I. C. M. Littler, J. H. Chow, D. A. Shaddock, D. E. McClelland, M. B. Gray, Australian National Univ. (Australia)
- 7004 2G **Time-resolved all fiber fluorescence spectroscopy system** [7004-134]
 A. Y. H. Chen, F. Vanholsbeeck, D. C. S. Tai, S. Swift, N. Singhal, J. D. Harvey, D. A. Hooks, B. H. Smaill, The Univ. of Auckland (New Zealand)
- 7004 2H **Nanoimprinting on optical fiber end faces for chemical sensing** [7004-135]
 G. Kostovski, RMIT Univ. (Australia); D. J. White, Swinburne Univ. of Technology (Australia); A. Mitchell, M. W. Austin, RMIT Univ. (Australia); P. R. Stoddart, Swinburne Univ. of Technology (Australia)
- 7004 2I **10 kHz linewidth distributed feedback photonic crystal fibre (DFB-PCF) laser** [7004-136]
 J. D. De Iuliis, Univ. of Newcastle (Australia); N. Groothoff, Univ. of Sydney (Australia); J. L. Holdsworth, Univ. of Newcastle (Australia); J. Canning, C. Martelli, A. Michie, S. Jackson, Univ. of Sydney (Australia)
- 7004 2J **Vibration sensing of solid using long-period fiber grating** [7004-140]
 H. Somatomo, S. Tanaka, N. Takahashi, National Defense Academy (Japan)
- 7004 2K **Azimuthally symmetric long period fibre grating fabrication with a TEM_{01*}-mode CO₂ laser** [7004-141]
 R. Kritzinger, D. Schmieder, A. Booysen, Univ. of Johannesburg (South Africa)

- 7004 2L **A digital passive phase demodulation scheme using 3x3 coupler for fiber-optic interferometric sensors** [7004-142]
M. Pang, The Hong Kong Polytechnic Univ. (Hong Kong China); M. Zhang, L. W. Wang, Tsinghua Univ. (China); W. Jin, The Hong Kong Polytechnic Univ. (Hong Kong China); Y. B. Liao, Tsinghua Univ. (China)
- 7004 2M **Cladding mode resonance of special optical fiber for bending sensor with temperature insensitivity** [7004-143]
T. Wang, F. Pang, X. Zeng, W. Liang, W. Xiang, Z. Chen, Shanghai Univ. (China)
- 7004 2N **Blind source separation techniques for percolation type leakage detection in dikes using fiber optic DTS signals** [7004-146]
A. A. Khan, Grenoble Institute of Technology (France); V. Vrabie, Univ. de Reims (France); G. D'Urso, Electricité de France (France); J. I. Mars, Grenoble Institute of Technology (France)
- 7004 2O **Wavelength-tunable add/drop multiplexer using broadband transmission filters and a narrowband reflection filter** [7004-147]
R. Kitzinger, A. Booysen, Univ. of Johannesburg (South Africa)
- 7004 2P **Vulnerability of fiber-optic links for high-speed diagnostics to pulsed-power facilities** [7004-148]
S. Girard, J. Baggio, J.-L. Bourgade, S. Bazzoli, CEA DIF (France); V. Yu. Glebov, G. Pien, T. C. Sangster, Univ. of Rochester (USA)
- 7004 2Q **Highly efficient fluorescence sensing using microstructured optical fibres: general model and experiment** [7004-149]
S. Afshar V., Y. Ruan, S. C. Warren-Smith, H. Ebendorff-Heidepriem, T. M. Monro, Univ. of Adelaide (Australia)
- 7004 2R **Microstructured index-guiding fibers with large cladding holes for evanescent field chemical sensing** [7004-150]
H. Lehmann, J. Kobelke, K. Schuster, A. Schwuchow, R. Willsch, H. Bartelt, Institute of Photonic Technology (Germany)
- 7004 2S **Fiber Bragg grating based accelerometer** [7004-153]
H. Y. Au, The Hong Kong Polytechnic Univ. (Hong Kong China); S. K. Khijwania, Indian Institute of Technology Guwahati (India); H. Y. Tam, The Hong Kong Polytechnic Univ. (Hong Kong China)
- 7004 2T **Research on high-resolution distributed fiber optic stress sensor for landslide monitoring** [7004-154]
Z. Dai, Y. Liu, L. Zhang, Z. Ou, Univ. of Electronic Science and Technology of China (China); C. Zhou, Exploration Engineering Institute, GAGS (China)
- 7004 2U **10 keV x-ray radiation effects on Yb- and Er/Yb-doped optical fibers: a micro-luminescence study** [7004-157]
S. Girard, CEA DIF (France); Y. Ouerdane, Lab. Hubert Curien, CNRS (France); C. Marcandella, CEA DIF (France); T. Robin, iXFiber SAS (France); A. Boukenter, Lab. Hubert Curien, CNRS (France); B. Cadier, iXFiber SAS (France); J.-P. Meunier, B. Tortech, Lab. Hubert Curien, CNRS (France); P. Crochet, iXFiber SAS (France)

- 7004 2V **Novel fiber optic polarimetric torsion sensor based on polarization-maintaining photonic crystal fiber** [7004-158]
H. Y. Fu, The Hong Kong Polytechnic Univ. (Hong Kong China); S. K. Khijwania, Indian Institute of Technology Guwahati (India); H. Y. Au, X. Dong, H. Y. Tam, P. K. A. Wai, C. Lu, The Hong Kong Polytechnic Univ. (Hong Kong China)
- 7004 2W **Self aligning fibre for a fibre optic voltage sensor** [7004-159]
P. Hambley, A. Michie, I. Bassett, P. Henry, Univ. of Sydney (Australia); J. Ingram, ABB-PTPH (Australia)
- 7004 2X **Progress toward low-cost mass-produced polymer fibre tapers for liquid level monitors** [7004-163]
P. Hambley, J. Canning, Univ. of Sydney (Australia)
- 7004 2Y **Optical fiber sensor toward pyridine vapors detection** [7004-162]
C. Elosua, C. Barriain, I. R. Matias, Univ. Pública de Navarra (Spain); A. Rodriguez, E. Colacio, A. Salinas, A. Segura, A. Fernandez, Univ. de Granada (Spain)
- 7004 2Z **Hybrid optical fiber sensor and artificial neural network system for bioethanol quality control and productivity enhancement** [7004-161]
E. Gusken, R. M. Salgado, UNICAMP - The State Univ. of Campinas (Brazil); C. E. V. Rossell, Ministry of Science and Technology (Brazil); T. Ohishi, C. K. Suzuki, UNICAMP - The State Univ. of Campinas (Brazil)

CHEMICAL, ENVIRONMENTAL, BIOLOGICAL, AND MEDICAL SENSORS I

- 7004 30 **Fiber Bragg grating applications in biomechanics (Invited Paper)** [7004-286]
H. J. Kalinowski, Univ. Tecnológica Federal do Paraná (Brazil) and Univ. de Aveiro (Portugal)
- 7004 31 **Fiber-optic evanescent-field sensor device for CO₂ and explosive detection** [7004-156]
W. Schade, R. Orgisci, U. Willer, Clausthal Univ. of Technology (Germany); S. Waldvogel, Clausthal Univ. of Technology (Germany) and Univ. Bonn (Germany)
- 7004 32 **Novel FBG-based sensor configuration for H₂ leak detection in air** [7004-137]
C. Caucheteur, Faculté Polytechnique de Mons (Belgium); M. Debliquy, D. Lahem, Materia Nova ASBL (Belgium); C. Crunelle, P. Mégret, Faculté Polytechnique de Mons (Belgium)
- 7004 33 **Comparison of palladium thin films used in a transmission based optical fibre hydrogen sensor** [7004-180]
K. Gleeson, E. Lewis, Univ. of Limerick (Ireland)
- 7004 34 **All-fiber optical coherence tomography system incorporating a dual fiber stretcher dispersion compensator** [7004-237]
S. Iyer, S. Coen, F. Vanholsbeeck, The Univ. of Auckland (New Zealand)

SPECIAL SESSION ON OIL AND GAS: CURRENT PRACTICE AND FUTURE OPPORTUNITY

- 7004 35 **Active plug and play distributed Raman temperature sensing (Invited Paper)** [7004-287]
K. Suh, C. Lee, M. Sanders, K. Kalar, SensorTran, Inc. (USA)
- 7004 36 **Realisation of a full-scale fibre optic ocean bottom seismic system (Invited Paper)**
[7004-288]
H. Nakstad, J. T. Kringlebotn, Optoplan AS (Norway)
- 7004 38 **Fiber optic sensors for the exploration of oil and gas (Invited Paper)** [7004-290]
T. Yamate, Schlumberger K. K. (Japan)

Part Two

CHEMICAL, ENVIRONMENTAL, BIOLOGICAL, AND MEDICAL SENSORS II

- 7004 3B **Recognition of Japanese devoiced vowels using array of plastic optical fiber moisture sensors** [7004-27]
M. Morisawa, T. Taki, Y. Natori, S. Muto, Univ. of Yamanashi (Japan)
- 7004 3C **Application of Mach-Zehnder interferometer based on long period grating structure for salinity measurement in water environment** [7004-260]
G. R. C. Possetti, R. C. Kamikawachi, Univ. Tecnológica Federal do Paraná (Brazil);
C. L. Prevedello, Univ. Federal do Paraná (Brazil); M. Muller, J. L. Fabris, Univ. Tecnológica Federal do Paraná (Brazil)
- 7004 3D **Tissue ablation via optical fibre delivery of UV laser radiation** [7004-160]
J. Miller, The Univ. of Western Australia (Australia); X. Yu, The Univ. of Western Australia (Australia) and Fudan Univ. (China); P. K. Yu, S. J. Cringle, D.-Y. Yu, The Univ. of Western Australia (Australia)

PHYSICAL, MECHANICAL, AND ELECTROMAGNETIC SENSORS II

- 7004 3E **Fiber optic flow velocity sensor based on an in-fiber integrated Michelson interferometer**
[7004-16]
L. Yuan, J. Yang, Z. Liu, Harbin Engineering Univ. (China)
- 7004 3F **Optical fiber sensor cable for pipe thinning detection in high temperature environment conditions** [7004-138]
S. Tanaka, K. Kobayashi, T. Shimomichi, Y. Nomura, Fujikura Ltd. (Japan); K. Kishida, C.-H. Li, Y. Yamauchi, Neubrex Co., Ltd. (Japan); H. Suzuki, Chiyoda Advanced Solutions Corp. (Japan)
- 7004 3G **Passive and active optical sensing system for monitoring partial discharge on hydrogenerators** [7004-26]
J. B. Rosolem, C. Floridia, M. R. F. Hurtado, J. A. D. Rossi, A. A. Jurollo, CPqD (Brazil);
J. P. M. Sanz, Eletronorte S.A. (Brazil)

- 7004 3H **Hybrid LPFG/MEFPI sensor for simultaneous measurement of high-temperature and strain** [7004-70]
Y.-J. Rao, Univ. of Electronic Science & Technology of China (China) and Chongqing Univ. (China); Z.-L. Ran, X. Liao, H.-Y. Deng, Univ. of Electronic Science & Technology of China (China)
- 7004 3I **Lab tests of an all fibre voltage sensor system** [7004-270]
A. Michie, Univ. of Sydney (Australia); J. Ingram, ABB-PTPH (Australia); I. M. Bassett, J. H. Haywood, P. Hambley, P. Henry, Univ. of Sydney (Australia)
- 7004 3J **How sensitive is the fibre laser strain sensor?** [7004-116]
S. Foster, Defence Science and Technology Organisation (Australia); G. A. Cranch, SFA Inc. (USA); A. Tikhomirov, Defence Science and Technology Organisation (Australia)

DISTRIBUTED SENSING

- 7004 3K **Using dispersion decreasing fiber to generate pulse delay and compensate the pulse distortion** [7004-30]
X. Bao, W. Li, L. Chen, Univ. of Ottawa (Canada)
- 7004 3L **Highly sensitive reflectometry over 20 km with sub-meter spatial resolution based on phase-noise-compensated optical frequency domain reflectometry and concatenative reference method** [7004-56]
X. Fan, Y. Koshikiya, F. Ito, NTT Access Network Service Systems Labs. (Japan)
- 7004 3M **Proposal and experiment of BOCDR: Brillouin optical correlation-domain reflectometry** [7004-122]
Y. Mizuno, W. Zou, Z. He, K. Hotate, Univ. of Tokyo (Japan)
- 7004 3N **Distributed fiber sensing using Brillouin echoes** [7004-236]
L. Thévenaz, S. Foaleng Mafang, Swiss Federal Institute of Technology (Switzerland)
- 7004 3O **Wavelength sensitive time-domain interrogating system for a quasi-distributed temperature sensor** [7004-193]
C. Crunelle, M. Wuilpart, C. Caucheteur, P. Mégret, Faculté Polytechnique de Mons (Belgium)
- 7004 3P **Multipoint fiber-optic-based corrosion sensor** [7004-43]
J. F. Martins-Filho, E. Fontana, J. Guimarães, Federal Univ. of Pernambuco (Brazil); I. J. Souza Coêlho, Federal Univ. of Vale do São Francisco (Brazil)

PASSIVE AND ACTIVE DEVICES FOR PHOTONIC SENSING

- 7004 3Q **Two wave mixing-based optical fiber sensor** [7004-81]
E. Grellier, S. Molin, D. Dolfi, J.-P. Huignard, Thales Research & Technology (France); M. Doisy, Thales Underwater Systems (France)
- 7004 3R **Wide and fast wavelength-swept mode-locked fiber laser based on dispersion tuning and its application to dynamic FBG sensing** [7004-123]
Y. Nakazaki, S. Yamashita, The Univ. of Tokyo (Japan); K. Hsu, Micron Optics Inc. (USA)

- 7004 3S **Measurement of Bragg wavelength distribution in a long-length fiber Bragg grating by synthesis of optical coherence function** [7004-108]
K. Hotate, K. Kajiwara, The Univ. of Tokyo (Japan)
- 7004 3T **All-optical dynamic grating generation based on Brillouin scattering in polarization maintaining fiber** [7004-219]
K.-Y. Song, Chung-Ang Univ. (South Korea); K. Hotate, The Univ. of Tokyo (Japan)
- 7004 3U **Surface strain measurement of rotating objects using shearoxygraphy instrumentation based on fibre-optic imaging bundles** [7004-259]
D. Francis, S. W. James, R. P. Tatam, Cranfield Univ. (United Kingdom)

POSTER SESSION II

- 7004 3W **Photonic liquid crystal fibers for electric field and hydrostatic pressure sensing** [7004-166]
T. R. Woliński, S. Ertman, M. Tefelska, P. Lesiak, A. Czapla, A. W. Domański, Warsaw Univ. of Technology (Poland); E. Nowinowski-Kruszelnicki, R. Dąbrowski, Maria Curie Skłodowska Univ. (Poland); J. Wójcik, Military Univ. of Technology (Poland)
- 7004 3X **Tilted fibre Bragg gratings for the specific detection of biological species** [7004-168]
S. Maguis, G. Laffont, P. Ferdinand, CEA, LIST (France); M.-C. Millot, K. Kham, ICMPE, CNRS-Univ. Paris 12 (France); S. Péralta, Univ. de Cergy Pontoise (France)
- 7004 3Y **Optical fiber-coupled flow cells and their application in in-situ water analysis** [7004-169]
G. Schwotzer, H. Lehmann, L. Kröckel, T. Wieduwilt, R. Willsch, Institute of Photonic Technology (Germany)
- 7004 3Z **Measurement of spontaneous Brillouin scattering in optical fiber with a fiber Bragg grating Sagnac loop** [7004-172]
Z. Ou, L. Zhang, Z. Dai, Y. Liu, Univ. of Electronic Science and Technology of China (China)
- 7004 40 **PMMA optical fibers as intrinsic sensors of surface crystal growth** [7004-173]
M. Boerkamp, D. W. Lamb, P. G. Lye, Univ. of New England (Australia)
- 7004 41 **Fibre Fabry-Perot sensor for acoustic detection** [7004-174]
S. E. U. Lima, O. Frazão, INESC Porto (Portugal) and Univ. do Porto (Portugal); F. M. Araújo, L. A. Ferreira, INESC Porto (Portugal); V. Miranda, J. L. Santos, INESC Porto (Portugal) and Univ. do Porto (Portugal)
- 7004 42 **Experimental results of antigliadin antibodies detection using long period fiber grating** [7004-175]
J. M. Corres, I. R. Matias, J. Goicoechea, F. J. Arregui, Univ. Pública de Navarra (Spain); D. Viegas, Univ. do Porto (Portugal) and INESC Porto (Portugal); F. M. Araújo, INESC Porto (Portugal); J. L. Santos, Univ. do Porto (Portugal) and INESC Porto (Portugal)
- 7004 43 **Polarisation mode coupling of excessively tilted fibre Bragg gratings with directional transverse loading** [7004-176]
R. Suo, X. Chen, K. Zhou, L. Zhang, I. Bennion, Aston Univ. (United Kingdom)

- 7004 44 **Fiber Bragg gratings for measuring pH and strain in concrete structures** [7004-177]
 D. Barrera, S. Sales, Univ. Politécnica de Valencia (Spain); M. Cruz-Yusta, Instituto Tecnológico de la Construcción (Spain); M. L. Lozano, Technological Institute of Optics, Colour and Imaging (Spain); J. M. Lloris, Instituto Tecnológico de la Construcción (Spain); V. Micó, Technological Institute of Optics, Colour and Imaging (Spain); R. García-Olcina, Univ. Politécnica de Valencia (Spain); J. J. Esteve-Taboada, J. A. Carrión, Technological Institute of Optics, Colour and Imaging (Spain); M. J. López, Instituto Tecnológico de la Construcción (Spain); T. Molina-Jiménez, Technological Institute of Optics, Colour and Imaging (Spain)
- 7004 45 **Using fiber Bragg gratings to measure Lamb waves in an anisotropic composite plate** [7004-178]
 Y. Botsev, E. Arad, M. Tur, Tel-Aviv Univ. (Israel); I. Kressel, Israel Aircraft Industries Ltd. (Israel); S. Gali, Consultant (Israel); G. Thursby, B. Culshaw, Univ. of Strathclyde (United Kingdom)
- 7004 46 **Fibre refractometer based on a Fabry-Pérot interferometer** [7004-179]
 S. F. O. Silva, INESC Porto (Portugal); O. Frazão, INESC Porto (Portugal) and Univ. do Porto (Portugal); P. Caldas, INESC Porto (Portugal), Univ. do Porto (Portugal), and Escola Superior de Tecnologia e Gestão de Viana do Castelo (Portugal); J. L. Santos, INESC Porto (Portugal) and Univ. do Porto (Portugal); F. M. Araújo, L. A. Ferreira, INESC Porto (Portugal)
- 7004 47 **Curvature sensor based on a fibre loop mirror using a highly birefringent photonic crystal fibre with two asymmetric hole regions** [7004-182]
 O. Frazão, INESC Porto (Portugal); J. M. Baptista, Univ. da Madeira (Portugal) and INESC Porto (Portugal); J. L. Santos, Univ. do Porto (Portugal) and INESC Porto (Portugal); P. Roy, Xlim, CNRS-Univ. of Limoges (France)
- 7004 48 **Modal LPG-based Mach-Zehnder interferometer with controlled sensitivity for refractive index measurement** [7004-184]
 P. Caldas, INESC Porto (Portugal), Univ. do Porto (Portugal), and Escola Superior de Tecnologia e Gestão de Viana do Castelo (Portugal); P. A. S. Jorge, F. Araújo, L. A. Ferreira, INESC Porto (Portugal); G. Rego, INESC Porto (Portugal) and Escola Superior de Tecnologia e Gestão de Viana do Castelo (Portugal); J. L. Santos, INESC Porto (Portugal) and Univ. do Porto (Portugal)
- 7004 49 **Combined fiber optic network for communication and measurement using a hetero-core spliced fiber optic sensor** [7004-185]
 H. Sasaki, M. Nishiyama, E. Kondo, N. Shinomiya, K. Watanabe, Soka Univ. (Japan)
- 7004 4B **Embedded fibre Bragg grating array sensors in aluminium alloy matrix by ultrasonic consolidation** [7004-187]
 C. Mou, P. Saffari, Aston Univ. (United Kingdom); D. Li, Loughborough Univ. (United Kingdom); K. Zhou, L. Zhang, Aston Univ. (United Kingdom); R. Soar, Loughborough Univ. (United Kingdom); I. Bennion, Aston Univ. (United Kingdom)
- 7004 4C **Multiplexed sensor of dynamic strains using photorefractive wave mixing in reflection geometry** [7004-188]
 S. Di Girolamo, A. A. Kamshilin, Univ. of Kuopio (Finland); R. V. Romashko, Yu. N. Kulchin, Institute of Automation & Control Processes (Russia); J. C. Launay, ICMCB, CNRS-Univ. Bordeaux I (France)

- 7004 4D **Simultaneous measurement of strain and temperature using a Lyot fiber filter and a fiber Bragg grating in linear configuration** [7004-189]
L. V. Nguyen, D. Hwang, D. S. Moon, Y. Chung, Gwangju Institute of Science and Technology (South Korea)
- 7004 4E **Intensity based optical fiber strain sensor using long period grating and core mode blocker** [7004-190]
D. Hwang, L. V. Nguyen, D. S. Moon, Y. Chung, Gwangju Institute of Science and Technology (South Korea)
- 7004 4F **Flexfuel vehicle alcohol-gasoline blend ratio determination by optical fiber sensing** [7004-191]
R. T. Takeishi, E. Gusken, K. Raizer, H. G. E. de Souza, B. M. Meirelles, UNICAMP - The State Univ. of Campinas (Brazil); J. L. Giacomassi, G. C. Lucio, Click Automotiva Industrial Ltda SA (Brazil); C. K. Suzuki, UNICAMP - The State Univ. of Campinas (Brazil)
- 7004 4G **Recent progress in polymer optical fibre gratings** [7004-194]
C. Zhang, K. Carroll, D. J. Webb, I. Bennion, Aston Univ. (United Kingdom); K. Kalli, Cyprus Univ. of Technology (Cyprus); G. Emiliyanov, O. Bang, E. Kjær, Technical Univ. of Denmark (Denmark); G. D. Peng, The Univ. of New South Wales (Australia)
- 7004 4H **Annealing and spectral characteristics of femtosecond laser inscribed long period gratings written into a photonic crystal fibre** [7004-195]
T. Allsop, Aston Univ. (United Kingdom); K. Kalli, Cyprus Univ. of Technology (Cyprus); K. Zhou, M. Dubov, Y. Lai, D. J. Webb, I. Bennion, Aston Univ. (United Kingdom)
- 7004 4I **A surface plasmon resonance fibre device for environmental sensing** [7004-196]
T. Allsop, Aston Univ. (United Kingdom); R. Neal, P. Brown, Univ. of Plymouth (United Kingdom); S. Saied, Aston Univ. (United Kingdom); S. Rehman, FiberLogix Ltd. (United Kingdom); K. Kalli, Cyprus Univ. of Technology (Cyprus); D. J. Webb, J. Sullivan, Aston Univ. (United Kingdom); D. Mapps, Univ. of Plymouth (United Kingdom); I. Bennion, Aston Univ. (United Kingdom)
- 7004 4J **Effect of pulse chirp on distributed Brillouin fiber sensing** [7004-197]
C. A. Galindez, Univ. of Cantabria (Spain) and Swiss Federal Institute of Technology (Switzerland); L. Thévenaz, Swiss Federal Institute of Technology (Switzerland)
- 7004 4K **Long-period grating fabricated using resistive filament heating** [7004-198]
L.-Y. Shao, Hong Kong Polytechnic Univ. (Hong Kong China) and Zhejiang Univ. (China); J. Zhao, X. Dong, H. Y. Tam, C. Lu, Hong Kong Polytechnic Univ. (Hong Kong China); S. He, Zhejiang Univ. (China)
- 7004 4L **A high-speed sinusoidally frequency-modulated optical reflectometry with continuous modulation-frequency sweeping** [7004-201]
Z. He, M. Konishi, K. Hotate, The Univ. of Tokyo (Japan)
- 7004 4M **Gamma ray effects on double pass backward superfluorescent fiber sources for gyroscope applications** [7004-202]
Z.-C. Hsu, Z.-S. Peng, L. A. Wang, National Taiwan Univ. (Taiwan); R.-Y. Liu, National Space Organization (Taiwan); F.-I. Chou, National Tsing Hua Univ. (Taiwan)

- 7004 4N **B-OTDR and OFDR distributed optical fiber strain sensing for sinkhole detection** [7004-204]
 S. Delepine-Lesoille, V. Lanticq, Lab. Central des Ponts et Chaussées (France); P. Magnien, L. Dieleman, Société Nationale des Chemins de fer Français (France); G. Vinceslas, Ctr. d'Etudes Techniques de l'Equipement-Normandie Ctr. (France); E. Bourgeois, Lab. Central des Ponts et Chaussées (France)
- 7004 4O **Humidity sensor based on a long-period fiber grating coated with a SiO₂-nanosphere film** [7004-205]
 D. Viegas, Univ. do Porto (Portugal) and INESC Porto (Portugal); J. Goicoechea, J. M. Corres, Univ. Pública de Navarra (Spain); J. L. Santos, Univ. do Porto (Portugal) and INESC Porto (Portugal); L. A. Ferreira, F. M. Araújo, INESC Porto (Portugal); I. R. Matias, Univ. Pública de Navarra (Spain)
- 7004 4P **Frequency modulated continuous wave technique for referencing and multiplexing intensity based fibre optic sensors** [7004-206]
 R. A. Perez-Herrera, Univ. Pública de Navarra (Spain); D. A. Pereira, O. Frazão, INESC Porto (Portugal) and Univ. do Porto (Portugal); J. M. Castro Ferreira, INESC Porto (Portugal); J. L. Santos, INESC Porto (Portugal) and Univ. do Porto (Portugal); F. M. Araújo, L. A. Ferreira, INESC Porto (Portugal); J. M. Baptista, INESC Porto (Portugal) and Univ. da Madeira (Portugal); M. Lopez-Amo, Univ. Pública de Navarra (Spain)
- 7004 4Q **Fiber optic sensor for determination of thickness of transparent plates** [7004-207]
 D. Sastikumar, G. Gobi, B. Renganathan, National Institute of Technology, Tiruchirappalli (India)
- 7004 4R **Gas sensor based on PBG fiber: possibilities and limitations** [7004-209]
 J. Pawłat, Waseda Univ. (Japan); T. Matsuo, Waseda Univ. (Japan) and Sakamoto Electric Mfg. Co., Ltd. (Japan); X. Li, Waseda Univ. (Japan); T. Sugiyama, Yokogawa Electric Corp. (Japan); T. Ueda, Waseda Univ. (Japan)
- 7004 4S **Hollow-core rib waveguide sensor** [7004-211]
 J. A. West, E. M. Kosik Williams, K. W. Koch, Corning Inc. (USA)
- 7004 4T **Fiber optic acoustic sensors for crack growth diagnostics** [7004-212]
 D.-C. Seo, I.-B. Kwon, C.-Y. Kim, D.-J. Yoon, Korea Research Institute of Standards and Science (South Korea)
- 7004 4U **Methane sensing using multiple-coupling gaps in hollow-core photonic bandgap fibers** [7004-213]
 J. M. Lazaro, A. M. Cubillas, M. Silva-Lopez, O. M. Conde, Univ. de Cantabria (Spain); M. Petrovich, Univ. of Southampton (United Kingdom); J. M. Lopez-Higuera, Univ. de Cantabria (Spain)
- 7004 4W **Effect of humidity on optical fiber distributed sensor based on Brillouin scattering** [7004-215]
 C. A. Galindez, F. J. Madruga, M. Lomer, A. Cobo, J. M. Lopez-Higuera, Univ. of Cantabria (Spain)
- 7004 4X **Fiber-optic gyroscope operated with a frequency-modulated laser** [7004-216]
 S. Blin, Ecole Nationale Supérieure des Sciences Appliquées et de Technologie (France); M. J. F. Digonnet, G. S. Kino, Stanford Univ. (USA)

- 7004 4Y **Laser-driven fiber optic gyroscope with reduced noise** [7004-217]
V. Dangui, M. J. F. Digonnet, G. S. Kino, Stanford Univ. (USA)
- 7004 4Z **Reduction of crosstalk in inline sensor arrays using inverse scattering** [7004-218]
O. H. Waagaard, E. Rønneklev, S. Forbord, D. Thingbø, Optoplan AS (Norway)
- 7004 50 **Improvement of accuracy of angular velocity detection in semiconductor fiber-optic ring laser gyroscope** [7004-220]
T. Ishida, ATR Wave Engineering Labs. (Japan) and Ritsumeikan Univ. (Japan); S. Tamura, S. Sunada, K. Inagaki, ATR Wave Engineering Labs. (Japan); S. Saito, Ritsumeikan Univ. (Japan); T. Harayama, ATR Wave Engineering Labs. (Japan)
- 7004 52 **Distributed strain measurement of welded tubular joint with long gauge FBG** [7004-222]
H. Murayama, K. Kageyama, K. Ohara, K. Uzawa, M. Kanai, The Univ. of Tokyo (Japan); H. Igawa, Japan Aerospace Exploration Agency (Japan)
- 7004 53 **Tunable fiber laser using concatenated non-adiabatic single-mode fiber tapers** [7004-223]
M. A. Quintela, A. Quintela, N. Becue, J. M. Lázaro, F. Anabitarte, J. M. Lopez-Higuera, Univ. of Cantabria (Spain)
- 7004 55 **Hollow-core photonic crystal fiber high-pressure gas cell** [7004-225]
Q. Sun, Anhui Institute of Optics and Fine Mechanics (China) and Univ. of Science and Technology of China (China); Q. Mao, E. Liu, R. Rao, Anhui Institute of Optics and Fine Mechanics (China); H. Ming, Univ. of Science and Technology of China (China)
- 7004 56 **A portable multi-function weight-in-motion (WIM) sensor system based on fiber Bragg grating (FBG) technology** [7004-227]
H. Zhang, Z. Wei, Q. Zhao, L. Guan, J. Zou, L. Fan, Stevens Institute of Technology (USA); S. Yang, Yantai Univ. (China); D. Song, G. Recine, H.-L. Cui, Stevens Institute of Technology (USA)
- 7004 57 **Low noise planar external cavity laser for interferometric fiber optic sensors** [7004-229]
L. Stolpner, S. Lee, S. Li, A. Mehnert, P. Mols, S. Siala, Redfern Integrated Optics Inc. (USA); J. Bush, Optiphasse, Inc. (USA)
- 7004 59 **A tracking and stabilization oriented fiber optic gyroscope** [7004-231]
B. Moslehi, R. J. Black, L. Oblea, G. Chen, A. Cordova, Intelligent Fiber Optic Systems Corp. (USA); J. Bush, A. Cekorich, Optiphasse, Inc. (USA); J. C. Ha, Air Force Research Lab. (USA)
- 7004 5A **Simultaneous measurement of bending and temperature incorporating a sampled chirped fiber Bragg grating** [7004-233]
Y.-G. Han, Hanyang Univ. (South Korea); C.-S. Kim, Pusan National Univ. (South Korea); Y. Chung, Gwangju Institute of Science and Technology (South Korea)
- 7004 5B **Process/health monitoring for wind turbine blade by using FBG sensors with multiplexing techniques** [7004-234]
S. H. Eum, K. Kageyama, H. Murayama, K. Uzawa, I. Ohsawa, M. Kanai, The Univ. of Tokyo (Japan); H. Igawa, Japan Aerospace Exploration Agency (Japan)
- 7004 5C **Validation of Bragg grating measurements of acoustic plate waves** [7004-238]
C. Davis, N. Rajic, C. Rosalie, Defence Science and Technology Organisation (Australia)

- 7004 5D **Magnetic field sensors and visualizers using magnetic photonic crystals** [7004-40]
M. Vasiliev, K. E. Alameh, Electron Science Research Institute (Australia); V. Kotov, Institute of Microtechnology - Spin MT (Russia)
- 7004 5E **Photonic nano-structures for water quality monitoring** [7004-239]
M. Vasiliev, K. Alameh, Electron Science Research Institute (Australia)
- 7004 5F **Earth's rotation rate detection using an extremely large semiconductor fiber optic gyroscope extending over 10,000 m²** [7004-240]
K. Inagaki, S. Tamura, T. Tanaka, H. Noto, T. Harayama, ATR Wave Engineering Labs. (Japan)
- 7004 5G **Fiber optical temperature and strain measurements for monitoring and quench detection of superconducting coils** [7004-241]
M. Willsch, H. Hertsch, T. Bosselmann, M. Oomen, Siemens AG (Germany); W. Ecke, I. Latka, H. Höfer, IPHT Jena (Germany)
- 7004 5H **Refractometric sensor based on induced losses in the region of transition from a curved side-polished POF fiber** [7004-242]
M. Lomer, C. A. Galindez, M. A. Quintela, A. Quintela, J. Mirapeix, J. M. Lopez-Higuera, Univ. de Cantabria (Spain)
- 7004 5I **FBG sensor interrogation on rotating parts of large machines in power generation plants** [7004-243]
M. Willsch, T. Bosselmann, Siemens AG (Germany); W. Ecke, I. Latka, IPHT Jena (Germany); M. Müller, Univ. Erlangen (Germany); H. Adolf, Siemens AG (Germany)
- 7004 5J **Train axle counters by Bragg and chirped grating techniques** [7004-245]
W. Li, N. Jiang, Wuhan Univ. of Technology (China); J. Liu, The 4th Survey and Design Institute of China Railways (China); Y. Zhang, Zhongbei Signal Software Co. Ltd. (China)
- 7004 5K **Photonic-based spectral reflectance sensor for ground-based plant detection and weed discrimination** [7004-248]
A. Paap, S. Askarba, K. Alameh, Edith Cowan Univ. (Australia); J. Rowe, Photonic Detection Systems Pty. Ltd. (Australia)
- 7004 5L **Response of the transmission spectrum of tapered optical fibres to the deposition of a nanostructured coating** [7004-250]
R. Jarzebinska, C. S. Cheung, S. W. James, Cranfield Univ. (United Kingdom); G. J. Ashwell, Bangor Univ. (United Kingdom); R. P. Tatam, Cranfield Univ. (United Kingdom)
- 7004 5M **Long period grating-based refractive index sensor for chloride concentration measurement** [7004-251]
C. C. C. Lam, M. Rajesh, T. Sun, K. T. V. Grattan, City Univ. (United Kingdom); S. K. T. Grattan, S. E. Taylor, P. A. M. Basheer, Queen's Univ. of Belfast (United Kingdom)
- 7004 5N **Structural concrete condition monitoring using a long period grating-based humidity sensor** [7004-252]
T. Venugopalan, T. Sun, K. T. V. Grattan, City Univ. (United Kingdom)

- 7004 5O **Development of a microsphere laser-based sensor system** [7004-253]
T. L. Yeo, S. Y. Chen, T. Sun, K. T. V. Grattan, City Univ. (United Kingdom); R. Lade, B. Powell, Kidde plc (United Kingdom); G. Foster-Turner, M. Osborne, Optek Systems (United Kingdom)
- 7004 5P **A long period grating based directional flow sensor** [7004-254]
S. J. Buggy, S. W. James, R. P. Tatam, Cranfield Univ. (United Kingdom)
- 7004 5Q **A transverse loading technique to enhance the pressure measurement capability of fibre Bragg gratings** [7004-255]
R. Correia, E. Chehura, S. W. James, R. P. Tatam, Cranfield Univ. (United Kingdom)
- 7004 5R **Optical fiber spectroscopy for measuring quality indicators of lubricant oils** [7004-257]
A. G. Mignani, L. Ciaccheri, Istituto di Fisica Applicata Nello Carrara, CNR (Italy);
N. Díaz-Herrera, Univ. Complutense de Madrid (Spain); A. A. Mencaglia, Istituto di Fisica Applicata Nello Carrara, CNR (Italy); H. Ottevaere, H. Thienpont, Vrije Univ. Brussel (Belgium); S. Francalanci, A. Paccagnini, MECOIL Diagnosi Meccaniche srl (Italy);
F. Pavone, Univ. di Firenze (Italy)
- 7004 5S **Optical fiber fluorescence spectroscopy for detecting AFM1 in milk** [7004-258]
A. G. Mignani, C. Cucci, L. Ciaccheri, Istituto di Fisica Applicata Nello Carrara, CNR (Italy);
C. Dall'Asta, G. Galaverna, A. Dossena, R. Marchelli, Univ. of Parma (Italy)
- 7004 5T **Fiber-optic level indicator for liquid hydrogen** [7004-261]
S. Khotaintsev, V. Svyryd, National Autonomous Univ. of Mexico (Mexico)
- 7004 5U **Polarization mode beating intracavity technique for fiber laser sensing** [7004-262]
A. Rosales-García, T. F. Morse, Boston Univ. (USA); J. Hernández-Cordero, Univ. Nacional Autónoma de México (Mexico)
- 7004 5V **Respiratory gating of endoscopic OCT images of the upper airway** [7004-263]
R. A. McLaughlin, J. J. Armstrong, S. Becker, Univ. of Western Australia (Australia);
J. H. Walsh, Sir Charles Gairdner Hospital (Australia); J. Kirkness, Sir Charles Gairdner Hospital (Australia) and Univ. of Western Australia (Australia); A. Jain, M. S. Leigh, Univ. of Western Australia (Australia); J. Williamson, Sir Charles Gairdner Hospital (Australia) and Univ. of Western Australia (Australia); D. R. Hillman, Sir Charles Gairdner Hospital (Australia);
P. R. Eastwood, Sir Charles Gairdner Hospital (Australia) and Univ. of Western Australia (Australia); D. D. Sampson, Univ. of Western Australia (Australia)
- 7004 5W **Smart sensors for the petroleum sector based on long period gratings supervised by artificial neural networks** [7004-265]
G. R. C. Possetti, F. K. Coradin, Univ. Tecnológica Federal do Paraná (Brazil); L. C. Côcco, C. I. Yamamoto, Univ. Federal do Paraná (Brazil); L. V. R. de Arruda, Univ. Tecnológica Federal do Paraná (Brazil); R. Falate, Univ. Estadual de Ponta Grossa (Brazil); M. Muller, J. L. Fabris, Univ. Tecnológica Federal do Paraná (Brazil)
- 7004 5X **Investigation of embedded near infrared fibre Bragg grating (FBG) sensors (830 nm) in structural health monitoring of glass fibre composite structures** [7004-266]
J. A. Epaarachchi, Univ. of Southern Queensland (Australia); J. Canning, M. Stevenson, Univ. of Sydney (Australia)

- 7004 5Y **A proposed fibre optic time domain optical coherence tomography system using a micro-photonic stationary optical delay line** [7004-268]
P. V. Jansz, G. Wild, S. Hinckley, Edith Cowan Univ. (Australia)
- 7004 5Z **Use of first-order diffraction wavelengths corresponding to dual-grating periodicities in a single fiber Bragg grating for simultaneous temperature and strain measurement** [7004-269]
S. P. Yam, Z. Brodzeli, Victoria Univ. (Australia); S. A. Wade, Monash Univ. (Australia); G. W. Baxter, S. F. Collins, Victoria Univ. (Australia)
- 7004 60 **Novel in-line fiber-optic etalon formed by hollow-core photonic crystal fiber** [7004-77]
Y. J. Rao, T. Zhu, Chongqing Univ. (China) and Univ. of Electronic Science & Technology of China (China); X. C. Yang, D. W. Duan, Chongqing Univ. (China)
- 7004 61 **Distributed intrusion detection based on combination of Φ-OTDR and POTDR** [7004-272]
Y. J. Rao, Univ. of Electronic Science & Technology of China (China) and Chongqing Univ. (China); J. Z. Li, Z. L. Ran, K. L. Xie, Univ. of Electronic Science & Technology of China (China)
- 7004 62 **Neural networks improving robustness on fiber Bragg gratings interrogation systems under optical power variations** [7004-274]
C. L. N. Veiga, L. S. Encinas, A. C. Zimmermann, Federal Univ. of Santa Catarina (Brazil)
- 7004 63 **A highly reliable liquid pressure sensor based on dual FBGs** [7004-278]
C. Lan, Z. Zhou, J. He, Harbin Institute of Technology (China); J. Ou, Harbin Institute of Technology (China) and Dalian Univ. of Technology (China)
- 7004 64 **Experimental investigation of RC beams using BOTDA(R)-FRP-OF** [7004-279]
Z. Zhou, J. He, Y. Huang, Harbin Institute of Technology (China); J. Ou, Harbin Institute of Technology (China) and Dalian Univ. of Technology (China)
- 7004 65 **Long-range quasi-distributed high temperature sensing based on fiber Bragg grating imbedded in high thermal conductive sheath cable** [7004-282]
W. Ha, J. Kim, M. Park, Yonsei Univ. (South Korea); A. Csipkes, Micron Optics Inc. (USA); K. Oh, Yonsei Univ. (South Korea)
- 7004 66 **Low cost interrogation technique for a FBG sensor for combined transverse and longitudinal strain measurement** [7004-284]
Z. Brodzeli, G. W. Baxter, S. F. Collins, Victoria Univ. (Australia); J. Canning, M. Stevenson, Univ. of Sydney (Australia); A. Buryak, VA FutureTech Pty Ltd. (Australia)

POLYMER/STRUCTURED FIBERS

- 7004 67 **Single-mode polymer optical fiber sensors for high-strain applications (Invited Paper)** [7004-54]
S. Kiesel, K. Peters, T. Hassan, M. Kowalsky, North Carolina State Univ. (USA)
- 7004 68 **The role of material properties in the strain testing using microstructured polymer optical fibres (mPOF)** [7004-118]
M. C. J. Large, J. Moran, L. Ye, Univ. of Sydney (Australia)

- 7004 69 **A POF-based distributed strain sensor for detecting deformation of wooden structures** [7004-66]
T. Fukumoto, K. Nakamura, S. Ueha, Tokyo Institute of Technology (Japan)
- 7004 6A **Photonic bandgap fiber optical correlation spectroscopy gas sensor** [7004-199]
A. van Brakel, E. Austin, C. Grivas, M. N. Petrovich, D. J. Richardson, Univ. of Southampton (United Kingdom)
- 7004 6B **The inner cladding mode in a photonic crystal fiber for temperature- and refractive index-independent strain sensing applications** [7004-208]
C. Chen, A. Laronche, Carleton Univ. (Canada); G. Bouwmans, L. Bigot, Y. Quiquempois, Univ. des Sciences et Technologies de Lille (France); J. Albert, Carleton Univ. (Canada)

SENSOR SYSTEMS

- 7004 6C **Ultra-long-distance (230 km) FBG sensor system (Invited Paper)** [7004-144]
T. Saitoh, K. Nakamura, Y. Takahashi, H. Iida, Y. Iki, K. Miyagi, Anritsu Corp. (Japan)
- 7004 6D **Optical system with potential for remote health monitoring of subsea machinery** [7004-23]
D. A. Jackson, Univ. of Kent (United Kingdom)
- 7004 6F **Monitoring of flexible oil lines using FBG sensors** [7004-155]
S. R. K. Morikawa, C. S. Camerini, D. R. Pipa, J. M. C. Santos, G. P. Pires, Petrobras Research Ctr. (Brazil); A. M. B. Braga, R. W. A. Llerena, A. S. Ribeiro, Catholic Univ. of Rio de Janeiro (Brazil)
- 7004 6G **Underwater blast loading of a composite twisted rudder with FBGs** [7004-181]
M. Seaver, S. T. Trickey, Naval Research Lab. (USA)

POSTDEADLINE PAPERS

- 7004 6K **Ultra-fast 31 kHz interrogation of FBG sensors using FDML wavelength swept laser** [7004-298]
E. J. Jung, Pusan National Univ. (South Korea) and Univ. of California, Irvine (USA);
M. Y. Jeong, C.-S. Kim, Pusan National Univ. (South Korea); W. Jung, Z. Chen, Univ. of California, Irvine (USA); M. Y. Jeon, Chungnam National Univ. (South Korea)
- 7004 6L **A multiplexed CW Brillouin system for precise interrogation of a sensor array made from short discrete sections of optical fibre** [7004-299]
J. P. Dakin, Univ. of Southampton (United Kingdom); S. Chin, L. Thévenaz, Ecole Polytechnique Fédérale de Lausanne (Switzerland)
- 7004 6O **Novel all in-line photonic crystal fiber interferometer with liquid crystal transducer** [7004-303]
L. R. Jaroszewicz, K. Stasiewicz, Military Univ. of Technology (Poland); T. R. Woliński, Warsaw Univ. of Technology (Poland); K. Czupryński, P. Marć, Military Univ. of Technology (Poland); A. Czapla, Warsaw Univ. of Technology (Poland); E. Nowinowski-Kruszelnicki, Military Univ. of Technology (Poland)

- 7004 6P **Correlation-based distributed measurement of SBS-generated dynamic grating spectrum in a polarization-maintaining fiber** [7004-305]
W. Zou, Z. He, The Univ. of Tokyo (Japan); K.-Y. Song, Chung-Ang Univ. (South Korea);
K. Hotate, The Univ. of Tokyo (Japan)
- 7004 6Q **Antibody immobilization within glass microstructured fibers: a route to sensitive and selective biosensors** [7004-306]
T. M. Monro, Y. Ruan, H. Ebendorff-Heidepriem, H. Foo, P. Hoffmann, R. C. Moore, Univ. of
Adelaide (Australia)

Author Index

OFS-19 Conference Committees

Conference Chair

David Sampson, The University of Western Australia (Australia)

Conference Cochairs

Stephen Collins, Victoria University (Australia)
Kyunghwan Oh, Yonsei University (South Korea)
Ryozo Yamauchi, Fujikura Ltd. (Japan)

International Steering Committee

Young J. Chung, Kwangju Institute of Science & Technology (South Korea)
Richard O. Claus, Virginia Polytechnic Institute and State University (USA)
Anthony D. Dandridge, Naval Research Laboratory (USA)
Masamitsu Haruna, Osaka University (Japan)
Julian D.C. Jones, Heriot-Watt University (United Kingdom)
José M. López-Higuera, Universidad de Cantabria (Spain)
Alexis Mendez, MCH Engineering, LLC (USA)
Glen A. Sanders, Honeywell Technology (USA)
Marc R.-H. Voet, I.D.FOS + FOS&S (Belgium)
Reinhardt Willsch, IPHT Jena (Germany)

Technical Program Committee

Xiaoyi Bao, University of Ottawa (Canada)
Wojtek J. Bock, Université du Québec en Outaouais (Canada)
Thomas Bosselmann, Siemens AG (Germany)
John Canning, The University of Sydney (Australia)
James H. Cole, Naval Research Laboratory (USA)
Brian Culshaw, University of Strathclyde (United Kingdom)
John P. Dakin, University of Southampton (United Kingdom)
Michael A. Davis, CiDRA Corporation (USA)
Wolfgang Ecke, IPHT Jena (Germany)
Pierre Ferdinand, Commissariat à l'Energie Atomique - LIST (France)
E. Joseph Friebel, Naval Research Laboratory (USA)
Juan Hernández-Cordero, Universidad Nacional Autónoma de México
(Mexico)
Daniele Inaudi, Smartec SA (Switzerland)
Hisashi Izumita, Nippon Telephone and Telegraph Corporation (Japan)
Leszek R. Jaroszewicz, Military University of Technology (Poland)
Wei Jin, The Hong Kong Polytechnic University (Hong Kong, China)

Hypolito José Kalinowski, Universidade Tecnológico Federal do Paraná (Brazil)
Alan D. Kersey, Illumina, Inc. (USA)
Byoungho Lee, Seoul National University (South Korea)
Robert A. Lieberman, Intelligent Optical Systems, Inc. (USA)
Manuel López-Amo, Universidad Pública de Navarra (Spain)
Trevor W. MacDougall, Qorex LLC (USA)
Anna G. Mignani, Istituto di Fisica Applicata Nello Carrara, CNR (Italy)
Koichiro Miyagi, Anritsu Corporation (Japan)
Kentaro Nakamura, Tokyo Institute of Technology (Japan)
Aritaka Ohno, Japan Aviation Electronics Industry (Japan)
Yun Jiang Rao, University of Electronic Science and Technology of China (China)
Glen A. Sanders, Honeywell Technology (USA)
José Luís Santos, Universidade de Porto (Portugal)
William B. Spillman, Virginia Polytechnic Institute and State University (USA) and NanoSonic, Inc. (USA)
Luc Thévenaz, Ecole Polytechnique Fédérale de Lausanne (Switzerland)
Moshe Tur, Tel Aviv University (Israel)
Akira Wada, Fujikura Ltd. (Japan)
Shinji Yamashita, University of Tokyo (Japan)

Local Organising Committee

Kamal Alameh, Edith Cowan University (Australia)
John Canning, The University of Sydney (Australia)
Stephen Collins, Victoria University (Australia)
Benjamin Eggleton, The University of Sydney (Australia)
Simon Fleming, The University of Sydney (Australia)
Min Gu, Swinburne University (Australia)
John Haywood, Smart Digital Optics (Australia)
John Love, Australian National University (Australia)
David McClelland, Australian National University (Australia)
Tanya Monro, University of Adelaide (Australia)
Graeme Pendock, University of Melbourne (Australia)
Ann Roberts, University of Melbourne (Australia)
Andrei Zvyagin, Macquarie University (Australia)

Editors' Note

All contributed papers in their entirety (i.e. not merely an abstract or extract) were peer reviewed for their significance, innovation, and quality by independent members of the Technical Program Committee, and then rated.

