2017 2nd International Conference for Fibre-optic and Photonic Sensors for Industrial and Safety Applications (OFSIS 2017)

Brisbane, Australia
8-10 January 2017

IEEE Catalog Number: CFP17K63-POD
ISBN: 978-1-5090-5055-0

****** 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: CFP17K63-POD
ISBN (Print-On-Demand): 978-1-5090-5055-0
ISBN (Online): 978-1-5090-5054-3

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

2017 2nd International Conference of Fibre-optic and Photonic Sensors for Industrial and Safety Applications

OFSIS 2017

Table of Contents

Message from the Conference Chair.....vii

Committees.....viii

Sponsors.....ix

Technical Papers

A Curvature Sensor Based on Tapered Triple Cladding Quartz Specialty Fiber 1
Xinghu Fu, Jing Wen, Fan Liu, Chuanqing Yang, Shunyang Zhang, Siwen Wang, Jiangpeng Zhang, Dong Wang, Guangwei Fu, and Weihong Bi

Abnormal Noise-Like Pulse Fiber Laser for Disruptive Sensing Applications 8
Betty Meng Zhang, Xiaohui Li, Meng Liu, Mingzhe Guo, Xueping Cheng, and Perry Ping Shum

Development of Fiber Bragg Sensing Technologies for Industrial and Safe Applications at WUT and WUTOS 13
Minghong Yang, Linyun Zhao, and Yaobin Qi

Fiber Optic Seismometer Based on π-Phase-Shifted FBG and Swept Optical SSB-SC Interrogation Technique 21
Wentao Zhang, Wenzhu Huang, Li Li, Wenyi Liu, and Fang Li

Fibre Optic Sensing Based Slope Crest Tension Crack Monitoring System for Surface Mines 27
Ben Yang, Saiied M. Aminossadati, Zhongwei Chen, and Mehmet S. Kizil

Fibre-Optic Based Sensors for Dust Monitoring 33
F. Hasheminasab, S.M. Aminossadati, R. Bagherpour, and M. Amanzadeh

High Capacity Torque and Compression Measurements Using Fibre Optic Sensors 39
K. Hoehn, A. Olsson, and J. W. Arkwright

High Frequency Fibre Bragg Grating Interrogator for Monitoring Rock Cracking Events for Mining Applications 45
Ginu Rajan and Shivakumar Karekal

Mathematical Modelling of Gas Flow in a Hollow Core Optical Fibre 52
B.M. Masum, S.M. Aminossadati, C.R. Leonardi, and M. Amanzadeh

Mine Laser Methane Sensor and Its Application Development 56
Yubin Wei, Jie Hu, Tingting Zhang, Guangxian Jin, andTongyu Liu

Predictive Network Modelling with Live Sensor Data 63
Craig M. Stewart, Saiied M. Aminossadati, and Mehmet S. Kizil

Using Distributed Fibre Optic Sensors for Detecting Fires and Hot Rollers on Conveyor Belts 70
Henrik Hoff

Utilisation of Fibre-Optic Based Distributed Temperature Sensing in Examining the Flow Behaviour in Gas Drainage Boreholes 77
E. Prochon, N.N. Danesh, and S.M. Aminossadati

Validation of Bare FBG Sensors in Monitoring Compressive Rock Mass Deformation 85
Hongkui Gong, Mehmet S. Kizil, Zhongwei Chen, and Saiied M. Aminossadati

Wide-Range Fiber Bragg Grating Displacement Sensor with Temperature Compensation 91
Yan-jun Zhang, Yong-sheng Tian, Xing-hu Fu, and Weihong Bi

Author Index 97