



**6th International Forum on Opto-electronic Sensor-
based Monitoring in Geo-engineering
(6th OSMG-2017)**

Frontiers and Applications of Infrastructure Monitoring Technologies

Second Announcement

Nanjing, China

3-5 November 2017



1. INTRODUCTION

During the 13th Five-Year Plan period of China, the construction of transportation, water conservancy, and energy related civil infrastructures continues to flourish. The opto-electronic sensor-based monitoring technologies, especially the distributed fiber optic sensing technologies, such as Brillouin Optical Time Domain Analysis/Reflectometry (BOTDA/R), Raman Optical Time Domain Reflectometry (ROTDR), and Fiber Bragg Grating (FBG), have played an increasingly important role in monitoring and early warning of the construction and operation of various infrastructures. Compared with the traditional monitoring elements, the new infrastructure sensors not only have the advantages of anti-electromagnetic interference, corrosion resistance, durability, easy installation, but also can realize distributed, long distance and intelligent monitoring. These sensors are embedded in the "dead" geomaterials or structures, acting as human nerves. When their loading-deformation characteristics change, the online monitoring system can sense the magnitudes and distributions of strain, displacement, temperature, pressure, etc. In some developed countries such as USA, UK, France, Japan, Switzerland, and Canada, the development of innovative infrastructure monitoring technologies and their applications have become a research focus.

The past five International Forums on Opto-electronic Sensor-based Monitoring in Geo-engineering was held by Nanjing University in 2005, 2007, 2010, 2012, and 2014, respectively. The sixth forum will focus on the subject of **“Frontiers and Applications of Infrastructure Monitoring Technologies”**, on which related topics will be discussed and communicated. During the forum, some well-known foreign and domestic scholars and experts will be invited to give keynote lectures on up-to-date research findings, hotspots and difficult issues in the geo-engineering monitoring field. An information release and communication platform for new technologies and products of relevant suppliers will be provided, as well.

2. OFFICIAL LANGUAGES

English and Chinese

3. ORGANIZATIONS

Sponsor:	Nanjing University
Organizers:	CEMOES, Nanjing University Nanjing University High-tech Institute at Suzhou
Co-organizers:	National Natural Science Foundation of China (NSFC) China National Group, International Association for Engineering Geology and the Environment (IAEG) International Society for Structural Health Monitoring of Intelligent Infrastructure (ISHMII) International Society of Environmental Geotechnology (ISEG) The Hong Kong Polytechnic University

FibrisTerre GmbH
 Suzhou Nanzee Sensing Technology Co., Ltd.
 41st Institute of China Electronics Technology Group Corporation
 Key Laboratory of Earth Fissures Geological Disaster, MLR
 Nanjing Center of China Geological Survey

4. ADVISORY COMMITTEE

Chair: Wang, Sijing (Institute of Geology and Geophysics, Chinese Academy of Sciences, China)

Co-Chairs: Ansari, Farhad (University of Illinois at Chicago, USA)
 Thévenaz, Luc (École Polytechnique Federale of Lausanne, Swiss)

Members:

Bao, Xiaoyi (Canada)	Mufti, Aftab (Canada)
Chen, Yong (China)	Ou, Jinping (China)
Chen, Yunming (China)	Peng, Suping (China)
Chen, Zuyu (China)	Qian, Qihu (China)
Cui, Peng (China)	Soga, Kenichi (USA)
Du, Yanliang (China)	Song, Zhenqi (China)
Gong, Xiaonan (China)	Spencer, Billie F. (USA)
He, Manchao (China)	Wang, Fuming (China)
Lai, Yuanming (China)	Zimmie, Thomas F. (USA)
Lopez-Higuera, Jose M. (Spain)	

5. 学术委员会

Chair: Wu, Zhishen (Professor, Southeast University, China)

Co-Chairs: Chang, Ki-Tae (Professor, Kumoh National Institute of Technology, Korea)
 Zeni, Luigi (Professor, University of Campania Luigi Vanvitelli, Italy)

Members:

Cai, De-Suo (China)	Li, Wen-Ping (China)
Chai, Jin (China)	Lienhart, Werner (Austria)
Chapman, David (UK)	Mei, Guoxiong (China)
Kevin P. Chen (USA)	Mendez, Alexis (USA)
Chong, Mun Fai (Malaysia)	Ni, Yi-Qing (Hong Kong, China)
Dai, Fei (USA)	Nother, Nils (Germany)
Ding, Ke-Qing (China)	Palmieri, Luca (Italy)
Dixon, Neil (UK)	Peng, Jian-Bin (China)
Dong, Yong-Kang (China)	Picarelli, Luciano (Italy)
Fen, Xia-Ting (China)	Puzrin, Alexander M. (Swiss)
Garg, Ankit (China)	Saarela, J. (Finland)
Glisic, Branko (USA)	Schenato, Luca (Italy)
Gu, Chongshi (China)	Shi, Bin (China)
Habel, Wolfgang (Germany)	Strelnikov, Aleksey (Russia)

Han, Jie (USA)	Su, Huaizhi (China)
He, Zuyuan (China)	Sun, Tong (UK)
Hua, Jian-Xin (China)	Tang, Hui-Ming (China)
Huang, Anbin (Taiwan, China)	Todd, Michaela D. (USA)
Inaudi, Daniele (Swiss)	Wang, Ren (China)
Inyang, Hilary I. (USA)	Wu, Ai-Qing (China)
Jia, Yong-Gang (China)	Wu, Fa-Quan (China)
Jiang, Yue-Hua (China)	Wu, Qingbai (China)
Juang, Charng Hsein (USA)	Xiao, Henglin (China)
Kishida, Kinzo (Japan)	Xie, Xiong-Yao (China)
Klar, Assaf (Israel)	Xu, Bin (China)
Koh, Hyun-Moo (Korea)	Yan, Ji-Song (China)
Krebber, Katerina (Germany)	Yang, Yao-Wen (Singapore)
Kwon, Il-Bum (Korea)	Yin, Jian-Hua (Hong Kong, China)
Lee, Woojin (Korea)	Yin, Yue-Ping (China)
Li, Chuan (China)	Yu, Xiong (USA)
Li, Hong-Nan (China)	Yue, Zhong-Qi (Hong Kong, China)
Li, Hui (China)	Zhang, Ping-Song (China)
Li, Jian-Chun (Australia)	Zhang, Qing (China)
Li, Qing (China)	Zhou, Wan-Huan (Macau, China)
Li, Shucai (China)	Zhu, Hehua (China)

6. ORGANIZING COMMITTEE

Chair:	Shi, Bin (Professor, Nanjing University, China)
Secretary-General:	Zhu, Hong-Hu (Associate Professor, Nanjing University, China)
Deputy Secretary-General:	Zhang, Dan (Associate Professor, Nanjing University, China)
General:	Wei, Guang-Qing (CEO, Suzhou Nanzee Sening Co. Ltd, China)

Members:

Cai, Jin-Bao, China	Su, Lijun, China
Chen, Jian, China	Sui, Haibo, China
Cheng, Gang, China	Sun, Hongyue, China
Cui, Heliang, China	Sun, Li, China
Ding, Yong, China	Sun, Jian, China
Fang, Haidong, China	Suo, Wen-Bin, China
Gao, Jun-Qi, China	Tang, Chao-Sheng, China
Gao, Lei, China	Wang, Bao-Jun, China
Gu, Kai, China	Wang, Jing, China
Guo, Tuan, China	Wang, Tao, China
Han, Dong-Ya, China	Wang, Yujie, China
Liu, Chun, China	Xi, Jun, China
Lu, Yi, China	Xu, Hong-Zhong, China
Ma, Ji, China	Ye, Xiao-Wei, China
Pei, Hua-Fu, China	Zhang, Jie, China

Piao, Chun-De, China

Zhang, Wei, China

Qiao, Zhong-Fa, China

Zhang, Yong, China

Secretariat:

Zhang, Lei

Song, Yuanyuan

Zhu, Bao









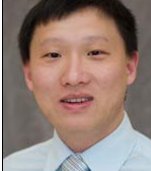
Luo, Xiao-Wei


7. INVITED SPEAKERS (Presentation order)

	Farhad Ansari Professor, University of Illinois at Chicago, USA
	Presentation Title: Applications of discrete and distributed fiber optic sensors for monitoring of civil infrastructure systems
	Luc Thévenaz Professor, École Polytechnique Federale de Lausanne (EPFL), Swiss
	Presentation Title: Recent progresses and challenges to upgrade the distributed Brillouin sensor performance
	Zhi-Shen Wu Professor, Southeast University, China
	Presentation Title: To be confirmed
	Manchao He Professor, China University of Mining and Technology, China
	Presentation Title: A new method for geo-disaster prediction based on double-blocks mechanics theory
	Ki-Tae Chang Professor, Kumoh National Institute of Technology, Korea
	Presentation Title: Comprehensive approach for anomaly detection in a bored pile using armored distributed fiber optics sensor cable
	Luigi Zeni Professor, University of Campania Luigi Vanvitelli, Italy
	Presentation Title: Brillouin distributed optical fiber sensors in railways field: Applications to the monitoring of train traffic and infrastructure
	Jian-Hua Yin Professor, Hong Kong Polytechnic University, Hong Kong
	Presentation Title: Monitoring a flexible barrier under impact of rock fall and debris flow in large-scale physical model tests using both FBG sensors and conventional sensors

	<p>An-Bin Huang Professor, National Chiao Tung University, Taiwan</p>
	<p>Presentation Title: Offshore meteorology mast oscillation monitoring with FBG sensors</p>
	<p>Michael D. Todd Professor, University of California at San Diego, USA</p>
	<p>Presentation Title: Impact detection and localization in composite laminates with embedded Fiber Bragg Gratings</p>
	<p>Alexis Mendez Director, Micron Optics Inc., USA</p>
	<p>Presentation Title: Overview of structural health monitoring using fiber optic sensors</p>
	<p>Il-Bum Kwon Researcher, Korea Research Institute of Standards and Science, Korea</p>
	<p>Presentation Title: Fiber optic distributed sensors : From meter range to cm range</p>
	<p>Yi-qing Ni Professor, Hong Kong Potechnic University, Hong Kong</p>
	<p>Presentation Title: Fiber Bragg grating sensing systems for online monitoring of railway infrastructure</p>
	<p>Hilary I. Inyang Chairman, Global Education and Infrastructure Services, USA</p>
	<p>Presentation Title: Extension of electronic sensing to management of natural and technological hazards: Opportunities and schemes</p>
	<p>Tong Sun Professor, City University of London, UK</p>
	<p>Presentation Title: Novel sensor design and implementation driven by applications</p>
	<p>Jose M. Lopez-Higuera Professor, University of Cantabria, Spain</p>
	<p>Presentation Title: Smart photonic sensors for real structures supervision</p>
	<p>Zuyuan He Professor, Shanghai Jiaotong University, China</p>
	<p>Presentation Title: Review on fiber-optic distributed acoustic sensors</p>

	Yonggang Jia Professor, Ocean University of China, China
	Presentation Title: In-Situ long-term monitoring of pore water pressure in the sediments of seabed
	Werner Lienhart Professor, Graz University of Technology, Austria
	Presentation Title: New approaches to monitor geotechnical structures using mobile mapping systems, fiber optic sensors and image based techniques
	Zhong-qi Yue Professor, University of Hong Kong, Hong Kong
	Presentation Title: Challenges and issues in monitoring and pre-warning of disastrous landslides illustrated with case studies
	Yongkang Dong Professor, Harbin Institute of Technology, China
	Presentation Title: Ultra-fast distributed Brillouin optical fiber sensor for dynamic strain measurement with MHz sampling rate
	Qing Zhang Professorate Senior Engineer, China Geological Survey, China
	Presentation Title: Deep hole temperature measurement based on DFOS engineering
	Xiongyao Xie Professor, Tongji University, China
	Presentation Title: Numerical modeling and FBG monitoring of settlements of existed tunnel due to twin curve shield tunnelling in Shanghai soft clay
	Nils Nöther Director, fibrisTerre GmbH, Germany
	Presentation Title: Getting the whole picture – distributed fiber-optic sensing as a powerful tool for industrial and geotechnical monitoring
	Xiong (Bill) Yu Professor, Case Western Reserve University, USA
	Presentation Title: Development and application of innovative time domain reflectometry technologies for civil infrastructure
	Kevin P. Chen Professor, University of Pittsburgh, USA
	Presentation Title: To be confirmed

	Bin Shi Professor, Nanjing University, China
	Presentation Title: On the ground sensing system and ground sensing engineering
	Yang Yaowen Associate Professor, Nanyang Technological University, Singapore
	Presentation Title: Wireless FBG sensing for civil engineering applications
	Sascha Liehr Researcher, Bundesanstalt für Materialforschung und -prüfung (BAM), Germany
	Presentation Title: Distributed fiber optic sensing techniques: from high strain applications to nanostrain sensitivity
	Aldo Minardo Associate Professor, University of Campania Luigi Vanvitelli, Italy
	Presentation Title: Temperature compensation in distributed sensors based on dual-wavelength Brillouin measurements
	Luca Schenato Researcher, Italian National Research Council, Italy
	Presentation Title: Application of high resolution OFDR-based distributed sensing to geotechnical problems: from a large scale physical model of landslide to a foundation pile monitoring
	Wanhuan Zhou Associate Professor, University of Macau, Macau
	Presentation Title: Field-monitored variations of soil moisture and matric suction in soils vegetated with <i>Phyllostachys acuta</i>
	Ankit Garg Associate Professor, Shantou University, China
	Presentation Title: Exploring use of visual analysis as non-destructive techniques for monitoring of green infrastructures
	Kevin Kuang Sze Chiang Assistant Professor, National University of Singapore, Singapore
	Presentation Title: To be confirmed
	Fei Dai Assistant Professor, West Virginia University, USA
	Presentation Title: Visual data sensing and analytics for infrastructure and geotechnical monitoring

	Loizos Pelecanos Assistant Professor, University of Bath, UK
	Presentation Title: The use of distributed fibre-optic strain data to develop finite element models for foundation piles

8. CALL FOR PAPERS/ POSTERS

The full-length papers in MS-Word should be submitted to osmg2017@163.com or 6thosmg2017@gmail.com before **31 August 2017**. Please download the paper template from the forum website (www.fosmg.com). All accepted papers will be collected in the unofficially published proceedings. Several Best Paper Awards will be granted during the forum. The authors of selected high-quality papers will be asked to extend their papers, which will be considered for publication in the special issues of *Engineering Geology* (Elsevier) and *Journal of Rock Mechanics and Geotechnical Engineering* (Elsevier).

The forum delegates can also choose to present their research outputs by posters in the forum. Character size no smaller than 50 points and with the poster size of no more than 0.8 m×1.2 m. All figures, photographs, and diagrams to be used for poster presentation must be clearly discernible and tidy. Please submit the poster in MS-PPT or PDF (<10MB) to osmg2017@163.com or 6thosmg2017@gmail.com before **30 October 2017**. The poster should be printed by the delegates prior to the forum.

9. IMPORTANT DATES AND GENERAL PROGRAM

31 August 2017 (Thursday)	Deadlines of paper submission and early-bird registration
3 November 2017 (Friday)	8:00-20:00 On-site registration 9:00-17:30 Short course
4 November 2017 (Saturday)	8:30-9:00 Opening ceremony 9:00-17:00 Invited presentations 18:00-21:00 Banquet
5 November 2017 (Sunday)	8:30-16:00 Invited presentations 16:00-17:30 Exhibitors' presentations 17:30-18:00 Closing ceremony
6-7 November 2017 (Monday & Tuesday)	Post-forum tour

10. SHORT COURSE

A short course on opto-electronic sensing technologies will be held on 3 November 2017. The presentation language will be Chinese. The main topic will be the principles of ROTDR, BOTDR, BOTDA, FBG and other advanced opto-electronic technologies, and their practical applications. Various technical problems associated with field instrumentation, such as technology and sensor selection criteria, infrastructure monitoring solutions,

sensor installation techniques, data processing and analysis methods, will be discussed. Besides lecture presentations, the trainees can also participate in operating relevant equipment and facilities. Qualified trainees will be granted a training certificate.



11. POST-FORUM TOUR

Dates: 6-7 November 2017

Iteration: Nanjing-Wuxi-Suzhou-Nanjing

6 November 2017 (Monday)	
09:00-11:00	From Nanjing to Wuxi by bus
11:00-12:30	Visit the ground fissure monitoring site in Wuxi
12:30-13:30	Lunch
13:30-14:30	From Wuxi to Suzhou by bus
14:30-18:00	Visit Nanjing University High-Tech Institute at Suzhou and Suzhou Nanzee Sensing Co. Ltd
18:00-19:30	Transfer to the hotel in downtown Suzhou and have dinner together
7 November 2017 (Tuesday)	
08:00-09:00	Breakfast
09:00-10:00	Visit Dushu Lake Higher Education Town
10:00-13:00	Go back to Nanjing by bus. You can choose to stay in Suzhou or go to Shanghai (one-hour ride) by yourself.



12. REGISTRATION

Online registration only. You can pay the registration fee using Bank Transfer or Paypal.

The invoice will be issued by Nanjing University High-Tech Institute at Suzhou and can be obtained at the forum reception. Please check the website (www.fosmg.com) for more details.

Registration Type	Registration Fee (USD\$)	Note
Formal Delegate	300	Early-bird registration till 31 August 2017
	370	After 31 August 2017
Student	180	Early-bird registration till 31 August 2017
	230	After 31 August 2017
Accompany	180	Early-bird registration till 31 August 2017
	230	After 31 August 2017
Short Course (in Chinese)	150	For the forum delegates
	180	For others
Post-forum Tour	220	Inter-city transportation, one-night accommodation, and food included

13. ACCOMONDATION

The forum hotel is Nanjing University International Conference Center. Please book the rooms through the online registration system. You can also book other nearby hotels by yourself, such as the Athletes Training and Communication Center of Jiangsu Sports Bureau Training Center (Tel: +86-25-85788889).

Dates	Room Type	Price (USD\$/Night)	Note
11/3 -11/5	Double room	65	Two breakfasts included
	Single room	65	One breakfast included



14. INFO FOR EXHIBITORS

The exhibition area is located in adjacent to the main conference hall of the International Conference Center, Nanjing University. If you would like to know more information about the exhibiting opportunities, please contact us by email (osmg2017@163.com or 6thosmg2017@gmail.com).

Confirmed exhibitors:

- A: Suzhou Nanzee Sensing Co. Ltd (www.nzsensing.com)
- B: OZ Optics Ltd (www.ozoptics.com)
- C: Anshan Realphotonics Co., Ltd (www.realphotonics.com)
- D: Jiangsu Andol Technology Co., Ltd (www.andol-tech.com)
- E: Shenzhen Northdoo Co, Ltd (www.northdoo.com)
- F: Shenzhen CASSTK Co, Ltd (www.casstk.com)
- G: Wuhan Junnotech Co, Ltd (www.junnotech.com)

15. CONTACT

Contact persons:

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Ms. Yuanyuan Song Tel: +86-171-83371523

E-mail: osmg2017@163.com 6thosmg2017@gmail.com

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Address: 163 Xianlin Ave., Nanjing 210023, China

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