



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

First Announcement
November 3-5, 2017
Nanjing, China

**Theme: Frontiers and Applications of
Infrastructure Monitoring Technologies**

SPONSOR:
Nanjing University

ORGANIZERS:
**Center for Engineering Monitoring with
Opto-Electronic Sensing (CEMOES), Nanjing University**
Nanjing University High-Tech Institute at Suzhou

CO-ORGANIZERS:



ABOUT FORUM

During the 13th Five-Year Plan period of China, the construction of transportation, water conservancy, energy and urbanization related civil infrastructures continues to flourish. The opto-electronic sensor-based monitoring technologies, such as distributed fiber optic sensing (DFOS), Wireless Sensor Network (WSN), micro electro mechanical system (MEMS), photogrammetry & laser scanning, as well as big data, cloud computing and other information technologies have come forth and played an increasingly important role in performing field monitoring and early warning during the construction and operation of various infrastructures.

The past five International Forums on Opto-electronic Sensor-based Monitoring in Geo-engineering were 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. Unlike previous forums, this time we will not only focus on the DFOS technologies, but also extend to other advanced monitoring technologies such as WSN, MEMS and photogrammetry. We aims to provide a platform for promoting cooperation and communication between researchers and practitioners engaged in various types of infrastructure monitoring works. 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 solutions to difficult problems in the geo-engineering monitoring field. An information release and communication platform for innovative technologies and facilities of relevant suppliers will be provided, as well.

MAIN TOPICS

- Recent development of demodulation techniques of opto-electronic sensors
- Key technologies of fiber-optic distributed temperature sensing (DTS)
- Key technologies of fiber-optic distributed strain sensing (DSS)
- Key technologies of fiber-optic distributed acoustic sensing (DAS)
- Key technologies of wireless sensor networks (WSN)
- Key technologies of micro electro mechanical system (MEMS)
- Key technologies of photogrammetry & laser scanning
- Data acquisition & wireless transmission of opto-electronic sensor systems
- Analysis & abnormal recognition of massive field monitoring data
- Temperature compensation in opto-electronic sensor systems
- Visualization in opto-electronic sensor systems
- Opto-electronic sensor-based infrastructure monitoring & warning systems
- Developing special opto-electronic sensors for infrastructure monitoring
- Layout techniques of opto-electronic sensor networks in infrastructures
- Integration techniques of opto-electronic sensor networks in infrastructures
- Monitoring & warning of geohazards due to infrastructure construction
- Schemes for construction monitoring of high-speed rail systems, metro & utility tunnels
- Safety monitoring and early warning of infrastructure operation
- Case study of infrastructure monitoring and early warning

OFFICIAL LANGUAGES

English and Chinese

CALL FOR PAPERS

The authors should submit the full-length papers (in English or Chinese) by email before **July 31, 2017**. All the accepted papers will be collected in unofficially published proceedings. Extended selected papers will be considered for publication in several peer-reviewed journals.

IMPORTANT DATES

Paper submission and early-bird registration: July 31, 2017
Products exhibition registration: Aug 31, 2017
On-site registration: Nov 3 and Nov 4 morning, 2017
Short course: Nov 3, 2017
Forum presentations: Nov 4-5, 2017
Post-forum tour: Nov 6, 2017

ACADEMIC & TECHNICAL COMMITTEE

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SHORT COURSE

A short course on opto-electronic sensing technologies will be held on **Nov 3, 2017**. The language used 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.

FORUM VENUE

The forum will be held in Nanjing, which is recognized as one of the Four Great Ancient Capitals of China and has a prominent place in Chinese history and culture. The **forum venue** is International Conference Center, Nanjing University (Xianlin Campus), 163 Xianlin Ave, Nanjing 210023, China. Please check the forum website for the venue location and detailed traffic information.



第六届

地质(岩土)工程光电传感监测 国际论坛(6th OSMG-2017)

第一号通知

2017年11月3-5日
中国 南京

主 题 基础设施监测技术前沿与应用

主办单位 南京大学

承办单位 南京大学光电传感工程监测中心
南京大学(苏州)高新技术研究院

协办单位



关于会议

“十三五”期间,我国交通、水利、能源、城市化等基础设施建设继续蓬勃发展。各类新型光电传感监测技术,如光纤传感技术、无线传感器网络(WSN)技术、微机电系统(MEMS)技术、摄影测量和激光扫描技术等,以及大数据、云计算等信息技术不断涌现,并越来越多地应用于各类基础设施建设、运营的监测预警中,发挥着日益重要的作用。

本次论坛是继2005、2007、2010、2012和2014年的五届地质(岩土)工程光电传感监测国际论坛后,由南京大学组织召开第六届论坛。应广大学术界同行和工程技术人员的要求,本次论坛将围绕“基础设施监测技术前沿与应用”这一主题,展开相关议题的讨论和交流,相关监测技术不仅关注在分布式光纤传感技术方面,而且延伸到了各类先进的监测技术,如WSN技术、MEMS技术、摄影测量技术等,大大扩大了以往历届会议的议题,旨在为从事各类基础工程监测的专家、学者和技术人员提供一个合作交流平台。会议期间将邀请国内外知名专家学者就本领域中的最新研究成果、热点、难点课题作专题报告,并开设短期培训班,为产品供应商提供新技术、新产品的信息发布平台,为国内外企业和科研单位提供技术支持和合作机会,以提高光电传感监测技术在地质、岩土工程、土木结构等基础工程中的应用水平。

主要议题

- ◎ 新型光电传感解调技术
- ◎ 分布式光纤温度传感(DTS)关键技术
- ◎ 分布式光纤应变传感(DSS)关键技术
- ◎ 分布式光纤振动传感(DAS)关键技术
- ◎ 无线传感器网络(WSN)关键技术
- ◎ 微机电系统(MEMS)关键技术
- ◎ 摄影测量和激光扫描关键技术
- ◎ 光电传感监测数据采集与无线传输
- ◎ 光电传感海量监测数据分析与异常识别
- ◎ 光电传感监测中的温度补偿
- ◎ 光电传感监测中的可视化
- ◎ 基于光电传感技术的基础设施监测与预警系统
- ◎ 基础设施特种光电传感元件的研发
- ◎ 基础设施光电传感网络的布设工艺
- ◎ 基础设施光电传感网络的集成技术
- ◎ 基础设施建设中的地质灾害监测与预警
- ◎ 轨道交通和综合管廊建设的监测方案
- ◎ 基础设施运营期安全监测与预警
- ◎ 基础设施监测与预警实例分析

会议语言

英文和中文

论文征集

作者应于2017年7月31日前提交论文全文(英文或中文)。本次会议的论文集为非正式出版,部分优秀原创论文将推荐到相关的SCI、EI期刊发表。

重要日期

论文提交及提前注册截止	2017年7月31日
产品参展注册截止	2017年8月31日
会议现场注册	2017年11月3日全天和4日上午
短期培训班	2017年11月3日全天
大会报告	2017年11月4日和5日全天
现场考察	2017年11月6日

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技术培训班

本次会议将于2017年11月3日举办光纤传感技术短期培训班,围绕ROTDR、BOTDR、BOTDA和FBG等分布式光纤传感技术,针对这些技术在实际应用中普遍遇到的各种技术问题进行培训,如光纤传感技术的选用、工程监测解决方案、传感器安装工艺、数据处理与分析及工程案例等。除了专家讲解环节,培训班学员还可以参与相关仪器设备操作演示。培训合格人员统一颁发培训证书。

会议地址

本次会议的举办地江苏省南京市是中国四大古都之一,国家中心城市,有“六朝古都”、“十朝都会”之称。会场位于南京市仙林大学城南京大学仙林校区国际会议中心,详细路线及地图请见会议网站。