

Symposium Speaker	
Full Name	Qingwen Liu
Affiliation	Shanghai Jiaotong University
Presentation Title	Listening with Fiber: High Performance Distributed Acoustic Sensor
Biography	
<p>Qingwen Liu received the B.S. and the M.S. degrees in Opto-electronics from Tianjin University, China, in 2005 and 2007, respectively, and the Ph.D. degree in Electronic Engineering from The University of Tokyo, Japan, in 2012. In 2013 he joined the Department of Electrical Engineering, Shanghai Jiao Tong University, where he is currently an Associate Professor. His research interests include fiber grating sensors, distributed optical fiber sensors, and sensors in free space.</p>	
200 words abstract	
<p>Optical fiber-based distributed acoustic sensor (DAS) can collect the full-scale (amplitude, phase and frequency) information of vibrations at any position along the sensing fiber. It is a new and powerful tool for applications such as boundary security, pipeline monitoring, downhole monitoring, etc. Based on a novel reflectometry technology named time-gated digital optical frequency domain reflectometry, we have developed a high performance DAS system, which could realize meter-level spatial resolution, sub-μm-order strain resolution, broadband response bandwidth, and high reliability through the whole sensing fiber. The principle of the proposed DAS system is introduced, with the technologies to break the restrictions of spatial resolution, response bandwidth and reliability. The challenges of a DAS system adopted in practical applications are also discussed.</p>	