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**Xuping Zhang
David Erickson
Xudong Fan
Zhongping Chen**
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Introduction

Optical sensors and their applications have attracted considerable attention in recent years. The traditional optical sensors, especially fiber optic sensors, are widely used for measuring various physical and chemical parameters in many fields. Recent developments in nano- and micro-fibers, photonics crystal fibers, specially doped optical fibers, and fiber gratings, etc., not only provide great potential, but also solutions for a variety of sensing applications that are difficult to handle with conventional sensors. Furthermore, there are also many new sensing applications based on semiconductor devices (integrated optics platform and surface plasmon resonance effect, etc.). Besides point sensing, distributed optical sensors system and other sensors network also play a very role in this prospective field.

This branch of OIT 2015: Optical Sensor and Applications collected over 50 papers from different countries and areas of the world. Over 300 authors came from Hong Kong China, Japan, Korea, Singapore, the United States, and China. More than 40 papers were accepted and presented at the conference in Beijing, from many research fields including: micro-structured optical fiber sensors, physical and mechanical sensors, interferometric and polarimetric optical sensors, distributed and quasi-distributed optical sensors, and other advanced optical sensors. At the conference, the cutting-edge technologies and applications of optical sensors were discussed, and quite a few invited papers gave exciting achievements in many related research fields. It was a great pleasure to have the most recent progress in optical sensors and applications involved in this meeting.

Finally, on behalf of conference chairs of this branch of OIT 2015: Optical Sensor and Applications, we would like to heartily thank our committee members and supporters for all they have done for the meeting. Thanks also go to all authors for their contributions, as well as all of the participants and friends for their interest. We are also grateful to the staff of SPIE for their support in publishing the Proceedings volume.

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