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# *Photons Plus Ultrasound: Imaging and Sensing 2017*

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*Editors*

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# Introduction

This volume of SPIE Proceedings summarizes research and development conducted by our community in the past year. The field of biomedical optoacoustic (photoacoustic) imaging continues to experience healthy growth. The conference remains the largest at Photonics West.

The conference started at 8:00 am Sunday, 29 January 2017 with a special session on brain imaging, chaired by Dr. Edmund M. Talley, National Institute of Health (United States). Despite the early hour, there was standing room only. The session started with three invited talks:

- Photoacoustic tomography: deep imaging beyond the optical diffusion limit. Lihong V. Wang, Washington Univ. in St. Louis (United States)
- Towards genetically encoded Indicators for photoacoustic detection of neuronal activity. Robert E. Campbell, Univ. of Alberta (Canada)
- Engineering of bacterial phytochromes for in vivo imaging. Vladislav Verkhusha, Daria M. Shcherbakova, Andrii A. Kaberniuk, Mikhail Baloban, Albert Einstein College of Medicine (United States)

Beginning last year, the Best Paper of the conference have been selected through a two-tiered process. In the first tier, the conference organizing committee composed of leading researchers from our community selected the following finalists:

**Paper 10064-7**: Photoacoustic analysis of thyroid cancer in vivo: a pilot study. Jeesu Kim, Pohang Univ. of Science and Technology (Korea, Republic of); MinHee Kim, Kwanhoon Jo, Jeonghoon Ha, The Catholic Univ. of Korea (Korea, Republic of); Yongmin Kim, Pohang Univ. of Science and Technology (Korea, Republic of); DongJun Lim, The Catholic Univ. of Korea (Korea, Republic of); Chulhong Kim, Pohang Univ. of Science and Technology (Korea, Republic of)

**Paper 10064-21**: Photoacoustic computed tomography of small-animal wholebody dynamics. Lei Li, Liren Zhu, Cheng Ma, Junjie Yao, Washington Univ. in St. Louis (United States); Jun Xia, Univ. at Buffalo (United States); Lidai Wang, City Univ. of Hong Kong (China); Konstantin I. Maslov, Ruiying Zhang, Yang Li, Wanyi Chen, Junhui Shi, Lihong V. Wang, Washington Univ. in St. Louis (United States)

**Paper 10064-100**: Possibility of transrectal photoacoustic imaging-guided biopsy for detection of prostate cancer. Miya Ishihara, Masayuki Shinchi, Akio Horiguchi, Hiroshi Shinmoto, Hitoshi Tsuda, National Defense Medical College (Japan); Kaku Irisawa, Takatsugu Wada, Medical Systems Research & Development Ctr., FUJIFILM Corp. (Japan); Tomohiko Asano, National Defense Medical College (Japan)

In the second tier, a committee of independent experts formed by Seno Medical Instruments, the sponsor of the award, will select the Best Paper from the

list of finalists by reviewing the corresponding SPIE Proceedings. The $3,000 award will be announced by SPIE in next year's conference.

We would like to congratulate the finalists and thank all the contributors of this conference and the Organizing Committee for their hard work.

**Alexander A. Oraevsky**
**Lihong V. Wang**