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Lihong V. Wang
Valery V. Tuchin
Editors

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Introduction

The Seventh International Conference on Photonics and Imaging in Biology and Medicine (PIBM 2008), combined with the Photonics and Optoelectronics Meetings (POEM 2008), was held 24–27 November 2008 at Wuhan Science & Technology Convention & Exhibition Center, Wuhan, P.R. China. This proceedings volume contains selected papers from the oral and poster presentations delivered at the conference.

PIBM is the largest international biomedical photonics conference series in Asia. It was initiated in 1999 at HUST and was held bi-yearly until 2006. After being held three times in Wuhan (1999, 2001, and 2003), it was hosted once in Tianjin (2005), and then went back to Wuhan, and has been held there yearly since 2006. PIBM is designed to bring together scientists, engineers, and clinical researchers from a variety of disciplines engaged in applying optical science, photonics, and imaging technologies to problems in biology and medicine. The scope of this conference ranges from basic research to instrumentation engineering, to biological and clinical studies. PIBM is recognized as one of the largest and most comprehensive international conferences in China, and represents the highest level of international research in this field. In the past nine years, five volumes of conference proceedings with a total of 513 papers were published by SPIE; in 2007, one volume with 75 papers was published by World Scientific Publishing Company. Each year, more and more young researchers present and exchange their innovative ideas in this friendly and professional event, making PIBM an unforgettable annual meeting in Wuhan.

This year, PIBM attracted distinguished scholars in the biomedical photonics and imaging field from countries around the world, such as the United States, United Kingdom, Russia, Canada, Israel, Singapore, Japan, Italy, Republic of Korea, and China. The invited speakers included:

Britton Chance, Univ. of Pennsylvania (USA)
Yu Chen, Univ. of Maryland (USA)
Zhongping Chen, Univ. of California, Irvine (USA)
Jing Cheng, Tsinghua Univ. (China)
Zhen Cheng, Stanford Univ. (USA)
Frank Y. S. Chuang, Univ. of California, Davis (USA)
Aaron Ciechanover (2004 Nobel Laureate), Technion-Israel Institute of Technology (Israel)
Chen-Yuan Dong, National Taiwan Univ. (Taiwan, China)
Congwu Du, Brookhaven National Lab. (USA)
Steven R. Goodman, SUNY Upstate Medical Univ. (USA)
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Haishan Zeng, BC Cancer Research Ctr. (Canada)
Dongping Zhong, The Ohio State Univ. (USA)
Ming-Qiang Zhu, Hunan Univ. (China)

The major topics covered at the conference and presented in this volume include:

- Tissue optics and diffuse optical Imaging,
- Optical molecular imaging,
- Multiphoton microscopy in biomedical sciences,
- Photonic therapeutics, diagnostics, and instrumentation, and
- Multimodal and hybrid biomedical imaging.

The conference received 165 submitted abstracts. This volume includes a selection of 2 invited papers, and 92 contributed papers. The conference elected four best student paper awards, which were given to the student participants whose posters were recognized as excellent and who attended a competition among the oral presenters. The evaluation was carried out by a council of seven members: Avraham Mayevsky (chair), Zheng Huang (chair), Zhongping Chen, Frank Chuang, Shoko Nioka, Valery Tuchin, and Haishan Zeng. Three Optical Hot Topic Workshops were conducted on molecular imaging and brain imaging, including a "face to face" with the Editors in Chief of three world-class peer-reviewed journals.

The conference secretariat and local organizing committee deserve great appreciation for creating a smoothly run and productive conference with comprehensive and instructive lectures, and informative posters representing

innovative work. The faculties and students from Britton Chance Center for Biomedical Photonics were dedicated in the reception and service work throughout the conference. It is a pleasure to thank all of them for their efficient and hard work. We are grateful for the financial support from 111 Project (B07038) and 863 Project (2006AA02Z343, 2006AA020801), as well as the organization and coordination from Wuhan National Laboratory for Optoelectronics and Huazhong University of Science and Technology.

Finally, we would like to thank all of the authors for their contributions to PIBM 2008 and all of the members of the committees for their cooperation and time spent reviewing submissions. We especially thank the advisory committee members Howard Chen, Jing Cheng, Paul Ching-Wu Chu, Aaron Ciechanover, Steven R. Goodman, Ruey-Jen Sung, Bruce Tromberg, and Jianquan Yao for their on-site participation and their strong contributions to the conference.

Qingming Luo
Lihong V. Wang
Valery V. Tuchin