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**Hai Guo  
Qun Ding**  
*Editors*

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## Introduction

Following the great progress made in image processing and optical engineering, the 2012 International Workshop on Image Processing and Optical Engineering (IPOE 2012) aimed at providing a forum for presentation and discussion of state-of-the-art development in image/video coding and transmission; image scanning, display, and printing; image/video storage, retrieval, and authentication; image processing applications; signal processing; pattern recognition; intelligent computing; optical design and fabrication; lasers and x-ray optics; astronomy, optical physics, and chemistry; integrated optoelectronics; fiber optics and medical optics; and electro-optical systems.

This conference, a workshop of 2012 International Conference on Information, Computing, and Telecommunications (ICICT2012), is co-sponsored by Harbin University of Science and Technology and the International Science and Engineering Research Center, and it is technically co-sponsored by Harbin Engineering University, Northeast Forestry University, Harbin Normal University, HeiLongJing University, Northeast Petroleum University, Harbin University, and Dalian Nationalities University. The purpose of IPOE 2012 is to bring together researchers and practitioners from academia, industry, and government to exchange their research ideas and results in the areas of the conference. In addition, the participants of the conference will have a chance to hear from renowned keynote speakers Professor Qing-Quan Li from Wuhan University China, and Professor Mahmoud Abdel-Aty from Sohag University, Egypt.

We would like to thank all the participants and the authors for their contributions. We would also like to gratefully acknowledge the SPIE staff, who enthusiastically supports the conference. In particular, we appreciate the full heart support of all the reviewers and staff members of the conference. We hope that IPOE 2012 will be successful and enjoyable to all participants and look forward to seeing all of you next year at the IPOE 2013.

**Publishing Chair  
Hai Guo**

