

PROCEEDINGS OF SPIE

Advanced Optical Imaging Technologies VI

Xiao-Cong Yuan
P. Scott Carney
Kebin Shi
Editors

14–15 October 2023
Beijing, China

Sponsored by
SPIE
COS—Chinese Optical Society

Cooperating Organizations

Tsinghua University (China) • Peking University (China) • University of Science and Technology of China (China) • Zhejiang University (China) • Tianjin University (China) • Beijing Institute of Technology (China) • Beijing University of Posts and Telecommunications (China) • Nankai University (China) • Changchun University of Science and Technology (China) • University of Shanghai for Science and Technology (China) • Capital Normal University (China) • Huazhong University of Science and Technology (China) • Beijing Jiaotong University (China) • China Jiliang University (China) • Shanghai Institute of Optics and Fine Mechanics, CAS (China) • Changchun Institute of Optics, Fine Mechanics and Physics, CAS (China) • Institute of Semiconductors, CAS (China) • Institute of Optics and Electronics, CAS (China) • Institute of Physics, CAS (China) • Shanghai Institute of Technical Physics, CAS (China) • China Instrument and Control Society (China) • Optical Society of Japan (Japan) • Optical Society of Korea (Republic of Korea) • Australian and New Zealand Optical Society • Optics and Photonics Society of Singapore (Singapore) • European Optical Society

Supporting Organizations

China Association for Science and Technology (CAST)
Department of Information of National Nature Science Foundation, China (NSFC)

Published by
SPIE

Volume 12766

Proceedings of SPIE 0277-786X, V. 12766

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.

The papers in this volume were part of the technical conference cited on the cover and title page. Papers were selected and subject to review by the editors and conference program committee. Some conference presentations may not be available for publication. Additional papers and presentation recordings may be available online in the SPIE Digital Library at SPIDigitalLibrary.org.

The papers reflect the work and thoughts of the authors and are published herein as submitted. The publisher is not responsible for the validity of the information or for any outcomes resulting from reliance thereon.

Please use the following format to cite material from these proceedings:

Author(s), "Title of Paper," in *Advanced Optical Imaging Technologies VI*, edited by Xiao-Cong Yuan, P. Scott Carney, Kebin Shi, Proc. of SPIE 12766, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

ISSN: 0277-786X
ISSN: 1996-756X (electronic)

ISBN: 9781510667815
ISBN: 9781510667822 (electronic)

Published by

SPIE

P.O. Box 10, Bellingham, Washington 98227-0010 USA

Telephone +1 360 676 3290 (Pacific Time)

SPIE.org

Copyright © 2023 Society of Photo-Optical Instrumentation Engineers (SPIE).

Copying of material in this book for internal or personal use, or for the internal or personal use of specific clients, beyond the fair use provisions granted by the U.S. Copyright Law is authorized by SPIE subject to payment of fees. To obtain permission to use and share articles in this volume, visit Copyright Clearance Center at copyright.com. Other copying for republication, resale, advertising or promotion, or any form of systematic or multiple reproduction of any material in this book is prohibited except with permission in writing from the publisher.

Printed in the United States of America by Curran Associates, Inc., under license from SPIE.

Publication of record for individual papers is online in the SPIE Digital Library.

**SPIE. DIGITAL
LIBRARY**

SPIDigitalLibrary.org

Paper Numbering: A unique citation identifier (CID) number is assigned to each article in the Proceedings of SPIE at the time of publication. Utilization of CIDs allows articles to be fully citable as soon as they are published online, and connects the same identifier to all online and print versions of the publication. SPIE uses a seven-digit CID article numbering system structured as follows:

- The first five digits correspond to the SPIE volume number.
- The last two digits indicate publication order within the volume using a Base 36 numbering system employing both numerals and letters. These two-number sets start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B ... 0Z, followed by 10-1Z, 20-2Z, etc. The CID Number appears on each page of the manuscript.

Contents

v *Symposium Committees*
ix *Conference Committee*

NOVEL IMAGING TECHNOLOGIES I

- 12766 0D **Holographic laser-driven light sources for computational imaging (Invited Paper)** [12766-11]
- 12766 0F **High-speed eye tracking based on a synchronized image acquisition mechanism by dual-ring infrared lighting source** [12766-13]

POSTER SESSION

- 12766 0Q **Reconstructing three-dimensional surfaces of tissues from a single polarimetric image**
[12766-24]
- 12766 0R **Effect of deep neural network structure on the accuracy of NIR fluorescence molecular tomography reconstruction** [12766-26]
- 12766 0U **Non-contact anisotropy detection based on polarized photoacoustic remote sensing microscopy** [12766-29]
- 12766 0W **A fast non-local means algorithm for phase diversity technique to reconstruct high-resolution multi-aperture images** [12766-31]
- 12766 0Y **Key techniques for virtual imaging model construction and correction of rotating imaging satellite** [12766-33]
- 12766 10 **Acousto-optic sensing: tagging efficiency in long coherent laser versus laser diode and LED**
[12766-36]
- 12766 11 **Pre-calculation-based parallel filtered back projection for photoacoustic computed tomography** [12766-37]
- 12766 12 **Development of snapshot multispectral detector control based on FPGA** [12766-38]
- 12766 13 **Structured illumination microscopy based on the parameter estimation of the bisection method**
[12766-39]
- 12766 14 **A multimodal visual guided robot collaborative system based on the classification of multi-class human motion** [12766-40]
- 12766 15 **Design of single photon three-dimensional imaging system** [12766-41]

12766 16 **Color fusion method with a combination of steerable pyramid color transfer and ICA** [12766-42]

12766 17 **In situ molecular mapping of human testicular tissues by mid-infrared photothermal imaging**
[12766-43]

DIGITAL POSTER SESSION

12766 18 **Eradicating backscattering through circular conversion dichroism in optical regime** [12766-35]