

PROCEEDINGS OF SPIE

Advanced Optical Imaging Technologies V

Xiao-Cong Yuan

P. Scott Carney

Kebin Shi

Editors

5–11 December 2022

ONLINE, 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) (China)

Department of Information of National Nature Science Foundation, China (NSFC) (China)

Published by

SPIE

Volume 12316

Proceedings of SPIE 0277-786X, V. 12316

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 V*, edited by Xiao-Cong Yuan, P. Scott Carney, Kebin Shi, Proc. of SPIE 12316, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

ISSN: 0277-786X

ISSN: 1996-756X (electronic)

ISBN: 9781510656987

ISBN: 9781510656994 (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 Committee*
ix *Conference Committee*

NOVEL IMAGING MODALITIES BASED ON FIELD ENGINEERING

12316 02 **Photonic-hook enhanced microsphere-assisted label-free super-resolution imaging** [12316-4]

12316 03 **Biaxial AOTF transfer functions for spatial image filtering** [12316-20]

SUPER-RESOLUTION IMAGING

12316 04 **Resolution enhanced imaging for endoscopy using diffractive optics** [12316-14]

TISSUE IMAGING

12316 05 **Multispectral endoscopic imaging studies on the tissue components of gastrointestinal mucosa (Invited Paper)** [12316-18]

12316 06 **In-process OCT monitoring to control holographic laser processing** [12316-21]

POSTER SESSION

12316 07 **Super-resolution reconstruction of medical image via depth residual network** [12316-28]

12316 08 **OCT-measured retinal vasculature and intrinsic optical responses to transcorneal electrical stimulation** [12316-33]

12316 09 **Integrated multimodal and fluorescence imaging microscope based on LED illumination** [12316-34]

12316 0A **Perceptual resolution improvements in far-field Fourier ptychography imaging** [12316-35]

12316 0B **Portable imaging system based on dual-line fiber optic sensor array** [12316-40]

12316 0C **Imaging of excitons and free charges in semiconductors by phase modulated light beams** [12316-44]

- 12316 0D **Efficient Fourier ptychographic microscopy with hybrid coherent and incoherent illumination** [12316-46]
- 12316 0E **Zero-order suppression in slightly off-axis holography based on Fourier ptychographic reconstruction** [12316-47]
- 12316 0F **Efficiency-optimized Fourier ptychographic microscopy based on spectrum overlap percentage analysis** [12316-49]
- 12316 0G **Fast illumination parameter estimation of structured illumination microscopy** [12316-50]
- 12316 0K **Using time-correlated single-photon counting technique on SPAD sensors to enhance acquisition time and dynamic range** [12316-52]