PROGRESS IN BIOMEDICAL OPTICS AND IMAGING
Vol. 21 No. 39

Quantitative Phase Imaging VI

Yang Liu
Gabriel Popescu
YongKeun Park
Editors

1–4 February 2020
San Francisco, California, United States

Sponsored by
SPIE

Cosponsored by
Tomocube, Inc. (Korea, Republic of)
Phi Optics, Inc. (United States)

Published by
SPIE

Volume 11249

Proceedings of SPIE, 1605-7422, V. 11249

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 SPIEDigitalLibrary.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 *Quantitative Phase Imaging VI*, edited by Yang Liu, Gabriel Popescu, YongKeun Park, Proceedings of SPIE Vol. 11249 (SPIE, Bellingham, WA, 2020) Seven-digit Article CID Number.

ISSN: 1605-7422
ISSN: 2410-9045 (electronic)

ISBN: 9781510632615
ISBN: 9781510632622 (electronic)

Published by
SPIE
P.O. Box 10, Bellingham, Washington 98227-0010 USA
Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445
SPIE.org
Copyright © 2020, Society of Photo-Optical Instrumentation Engineers.

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 copying fees. The Transactional Reporting Service base fee for this volume is $21.00 per article (or portion thereof), which should be paid directly to the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923. Payment may also be made electronically through CCC Online 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. The CCC fee code is 1605-7422/20/$21.00.

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
SPIEDigitalLibrary.org

Paper Numbering: *Proceedings of SPIE* follow an e-First publication model. A unique citation identifier (CID) number is assigned to each article 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 *Authors*
vii *Conference Committee*

QPI METHODOLOGIES III

11249 0B On the use of machine learning for solving computational imaging problems (Invited Paper) [11249-8]

QPI METHODOLOGIES VI

11249 0L Structured illumination-based phase retrieval via Generative Adversarial Network [11249-25]

QPI ALGORITHMS I

11249 15 PSTD simulation analysis of light transmission through cornea-like transparent scattering medium [11249-40]

POSTER SESSION

11249 1E Compact dual-wavelength off-axis digital holography for quantitative phase imaging [11249-50]

11249 1F Computational microscopy for quantitative phase imaging and refractive index tomography using annular illumination [11249-51]

11249 1G Real-time phase reconstruction of dual-wavelength off-axis digital holography based on Java and GPU [11249-52]

11249 1H RGB speckle pattern interferometry for surface metrology [11249-53]

11249 1I Simultaneous profiling of optically smooth and rough surfaces using dual-wavelength interferometry [11249-54]

11249 1L Holotomographic investigation of an influence of PFA cell fixation process on refractive index of cellular organelles in epithelial cells [11249-57]

11249 1O Quantifying the performance of holographic tomography systems using the 3D-printed biological cell phantom [11249-60]

11249 1P Characterization and compensation of wavelength dependent aberrations in hyperspectral quantitative phase imaging with digital holographic microscopy [11249-61]

11249 1Q Hologram compression in quantitative phase imaging [11249-62]

11249 1S Fast imaging of cardiomyocyte dynamics alterations after drug treatment utilizing quantitative phase digital holographic microscopy [11249-64]

11249 1T Quantitative phase imaging with epi-mode illumination for fiber-optic endoscopy [11249-65]

11249 1W Development of high sensitivity quantitative phase microscopy for label-free imaging of nanoscale dynamics [11249-68]

11249 21 Dynamic phase retrieval for fringe image processing in moiré tomography [11249-73]