

PROGRESS IN BIOMEDICAL OPTICS AND IMAGING

Vol. 24 No. 4

Diagnostic and Therapeutic Applications of Light in Cardiology 2023

**Laura Marcu
Gijs van Soest**
Editors

**28–29 January 2023
San Francisco, California, United States**

Sponsored and Published by
SPIE

Volume 12355

Proceedings of SPIE, 1605-7422, V. 12355

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

Diagnostic and Therapeutic Applications of Light in Cardiology 2023, edited by
Laura Marcu, Gijs van Soest, Proc. of SPIE Vol. 12355, 1235501
© 2023 SPIE · 1605-7422 · doi: 10.1117/12.2678266

Proc. of SPIE Vol. 12355 1235501-1

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 *Diagnostic and Therapeutic Applications of Light in Cardiology 2023*, edited by Laura Marcu, Gijs van Soest, Proc. of SPIE 12355, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

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

ISBN: 9781510658158
ISBN: 9781510658165 (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 *Conference Committee*

TERAPY AND INTERVENTION MONITORING

- 12355 02 **Changes in tissue fluorescence during infrared laser sealing of blood vessels** [12355-5]
- 12355 03 **Polarization-Sensitive Optical Coherence Tomography (PSOCT) for identifying and analyzing gaps in lesion lines during ex vivo simulated radiofrequency ablation procedure** [12355-8]

DEVICES FOR DIAGNOSIS AND SENSING

- 12355 04 **A transparent quartz laparoscopic jaw design for infrared laser sealing of vascular tissues using a reciprocating, side-firing fiber** [12355-10]
- 12355 05 **Wearable optical sensor arrays for cardiovascular health monitoring and biomarker mapping** [12355-11]
- 12355 06 **Non-contact cardiac activity monitoring using optical speckle-tolerant pulsed laser vibrometer** [12355-12]
- 12355 07 **Laser Doppler vibrometry sensors implemented in a silicon photonic integrated circuit for measuring cardiovascular signals on bare skin** [12355-13]

CARDIOGENESIS AND REMODELING

- 12355 08 **Multimodal microscopy imaging of cardiac collagen network: Are we looking at the same structures?** [12355-16]

POSTER SESSION

- 12355 09 **Deep learning approach to transformer-based arrhythmia classification using scalogram of single-lead ECG** [12355-103]

Conference Committee

Symposium Chairs

Sergio Fantini, Tufts University (United States)
Paola Taroni, Politecnico di Milano (Italy)

Symposium Co-chairs

Jennifer K. Barton, The University of Arizona (United States)
Wolfgang Drexler, Medizinische Universität Wien (Austria)

Program Track Chairs

Brian Jet-Fei Wong, Beckman Laser Institute and Medical Clinic
(United States) and University of California, Irvine (United States)
Eva M. Sevick, The University of Texas Health Science Center at
Houston (United States)

Conference Chairs

Laura Marcu, University of California, Davis (United States)
Gijs van Soest, Erasmus MC (Netherlands)

Conference Program Committee

Christos Bourantas, St. Bartholomew's Hospital (United Kingdom)
Kenton W. Gregory, Oregon Medical Laser Center (United States)
Christine P. Hendon, Columbia University (United States)
Stanislav Y. Emelianov, Georgia Institute of Technology
(United States)
Guillermo J. Tearney, Massachusetts General Hospital (United States)

