

Photonics in Dermatology and Plastic Surgery 2021

Bernard Choi
Haishan Zeng
Editors

6–11 March 2021
Online Only, United States

Sponsored and Published by
SPIE

Volume 11618

Proceedings of SPIE, 1605-7422, V. 11618

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

Photonics in Dermatology and Plastic Surgery 2021, edited by Bernard Choi,
Haishan Zeng, Proc. of SPIE Vol. 11618, 1161801 · © 2021 SPIE
CCC code: 1605-7422/21/\$21 · doi: 10.1117/12.2596644

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 *Photonics in Dermatology and Plastic Surgery 2021*, edited by Bernard Choi, Haishan Zeng, Proc. of SPIE 11618, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

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

ISBN: 9781510640719
ISBN: 9781510640726 (electronic)

Published by

SPIE

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

Telephone +1 360 676 3290 (Pacific Time)

SPIE.org

Copyright © 2021 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

PHOTOTHERAPEUTICS

11618 06 **HSP47 expression in fibroblasts by NIR laser irradiation in vitro** [11618-2]

OCT

11618 0C **In vivo dual-mode full-field optical coherence tomography for differentiation of different types of melanocytic nevus** [11618-8]

11618 0D **Optical coherence tomography monitoring of vulvar lichen sclerosus therapy** [11618-9]

BURNS/WOUND HEALING

11618 0H **A compact spatial frequency domain burn imager employing a compound-eye camera** [11618-13]

11618 0I **Effects of timolol in skin tissue repair: a longitudinal and multimodal in vivo imaging study with two-photon excitation fluorescence and second harmonic generation microscopy** [11618-14]

THERAPY MONITORING

11618 0K **Effectiveness of scalpel debridement in diabetics using near infrared imaging technology for ulcer prevention** [11618-16]

11618 0M **Correlation of tissue oxygenation and skin toxicity to determine the effectiveness of proton vs proton therapy in breast cancer subjects** [11618-18]

11618 0N **Asymmetry in oxygenation flow patterns between irradiated and contralateral breast tissues in relation to radiation dermatitis** [11618-19]

SKIN CANCER

11618 0W **Quantitative collagen analysis for the detection of basal cell carcinoma with ex vivo multiphoton microscopy** [11618-28]

11618 0Y **Identification of cancerous lesions from healthy skin using an infrared, optical filter based approach** [11618-30]

SKIN CHARACTERIZATION

11618 11 **An iterative method to quantify epidermal melanin concentration using spatial frequency domain imaging and a layered Monte Carlo model [11618-33]**

POSTER SESSION

11618 1A **Monitoring superficial water content for systemic burn resuscitation with spatial frequency domain imaging [11618-42]**