PROGRESS IN BIOMEDICAL OPTICS AND IMAGING Vol. 24 No. 8

Optical Methods for Tumor Treatment and Detection: Mechanisms and Techniques in Photodynamic Therapy XXXI

David H. Kessel Tayyaba Hasan Edward V. Maytin Editors

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

Sponsored and Published by SPIE

Volume 12359

Proceedings of SPIE, 1605-7422, V. 12359 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 Optical Methods for Tumor Treatment and Detection: Mechanisms and Techniques in Photodynamic Therapy XXXI, edited by David H. Kessel, Tayyaba Hasan, Edward V. Maytin, Proc. of SPIE 12359, Seven-digit Article CID Number (DD/MM/YYYY); (DOI URL).

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

ISBN: 9781510658233 ISBN: 9781510658240 (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.



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

PHOTODYNAMIC THERAPY I

12359 02 Development of photodynamic and RNA medicine combination therapies for pancreatic ductal adenocarcinoma [12359-2]

PHOTODYNAMIC THERAPY II

12359 03 A Monte Carlo simulation for moving light source in intracavity PDT [12359-7]

PHOTODYNAMIC THERAPY III

- 12359 04 Optimization of light delivery for non-muscle invasive bladder cancer PDT [12359-8]
- 12359 05 Novel ophthalmic PDT laser platform to target oncology and various other retinal indications [12359-9]
- 12359 06 Evaluation of fractionated PHOTOFRIN-mediated photodynamic therapy using different light fluences with Reactive Oxygen Species Explicit Dosimetry (ROSED) [12359-10]
- 12359 07 Evaluation of the cumulative Cherenkov converted dose on TSET patients with multiple Cherenkov cameras [12359-11]
- 12359 08 Multispectral Singlet Oxygen Luminescent Dosimetry (MSOLD) for PHOTOFRIN-mediated photodynamic therapy [12359-12]

PHOTODYNAMIC THERAPY IV

12359 09 PDT light fluence phantom modeling of the human pleural cavity: a proof-of-concept preclinical study [12359-15]

POSTER SESSION

12359 0A Preliminary measurements of optical properties in human abscess cavities prior to methylene blue photodynamic therapy [12359-21]

- 12359 OB A study of multi-beam PDT treatment in cervical cancer caused by various HPV genotype infections [12359-22]
- 12359 OC A real-time IR navigation system for pleural photodynamic therapy with a 3D surface acquisition system [12359-26]