PROCEEDINGS OF SPIE

SPIDigitalLibrary.org/conference-proceedings-of-spie

Front Matter: Volume 9181

, "Front Matter: Volume 9181," Proc. SPIE 9181, Light Manipulating Organic Materials and Devices, 918101 (10 November 2014); doi: 10.1117/12.2176705

SPIE.

Event: SPIE Organic Photonics + Electronics, 2014, San Diego, California, United States

PROCEEDINGS OF SPIE

Light Manipulating Organic Materials and Devices

Jean-Michel Nunzi

Editor

20–21 August 2014

San Diego, California, United States

Sponsored and Published by
SPIE

Volume 9181

Proceedings of SPIE 0277-786X, V. 9181

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

Light Manipulating Organic Materials and Devices, edited by Jean-Michel Nunzi, Proc. of SPIE Vol. 9181, 918101
© 2014 SPIE · CCC code: 0277-786X/14/\$18 · doi: 10.1117/12.2176705

Proc. of SPIE Vol. 9181 918101-1

The papers included 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. The papers published in these proceedings 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 this book:

Author(s), "Title of Paper," in *Light Manipulating Organic Materials and Devices*, edited by Jean-Michel Nunzi, Proceedings of SPIE Vol. 9181 (SPIE, Bellingham, WA, 2014) Article CID Number.

ISSN: 0277-786X
ISBN: 9781628412086

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 © 2014, 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 \$18.00 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 0277-786X/14/\$18.00.

Printed in the United States of America.

Publication of record for individual papers is online in the SPIE Digital Library.

SPIDigitalLibrary.org

Paper Numbering: Proceedings of SPIE follow an e-First publication model, with papers published first online and then in print and on CD-ROM. Papers are published as they are submitted and meet publication criteria. A unique, consistent, permanent citation identifier (CID) number is assigned to each article at the time of the first 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, print, and electronic versions of the publication. SPIE uses a six-digit CID article numbering system in which:

- The first four 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. The complete citation is used on the first page, and an abbreviated version on subsequent pages. Numbers in the index correspond to the last two digits of the six-digit CID Number.

Contents

- v *Authors*
- vii *Conference Committee*
- ix *Direct electronic probing of biological complexes formation (Organic Photonics + Electronics Plenary Paper) [9183-402]*

SESSION 1 NONLINEAR ABSORPTION EFFECTS

- 9181 04 **Engineering the ground- and excited-state absorption spectra of broadband reverse saturable absorbers [9181-3]**
- 9181 05 **Synthesis of dual NIR two-photon absorptive [60]fullerenyl multiadducts for nonlinear light-transmittance reduction application [9181-4]**

SESSION 2 DYNAMICS OF LIGHT-MATTER INTERACTIONS

- 9181 0A **Quantifying singlet fission in novel organic materials using nonlinear optics [9181-9]**

SESSION 3 ORGANIC PHOTOREFRACTIVE MATERIALS

- 9181 0C **Enhanced photoconductivity by melt quenching method for amorphous organic photorefractive materials [9181-11]**
- 9181 0D **Large optical second harmonic generation in a low-bandgap polymer [9181-12]**
- 9181 0E **Dynamic amplification of light signals in photorefractive ferroelectric liquid crystals [9181-13]**

SESSION 4 LIGHT-TRIGGERED AND LIGHT-ACTUATED MATERIALS

- 9181 0G **Arbitrary 2D GRIN lens fabrication in diffusive photopolymers [9181-15]**
- 9181 0H **Tunable non-pixelated spatial polarization shaping including an integrated optical addressing unit [9181-16]**
- 9181 0J **Nonlinear solid-state filter based on photochromism induced by 2-photon absorption in a dye-doped sol-gel [9181-18]**

SESSION 5	MAGNETO-CHIRAL INTERACTIONS
9181 0L	Molecular magneto-optics (Keynote Presentation) [9181-20]
9181 0N	Chiral supramolecular assemblies from achiral and chiral molecules investigated by second harmonic generation at the air-water interface (Invited Paper) [9181-22]
SESSION 6	ENHANCED OPTICAL INTERACTIONS
9181 0P	Optical properties of Alq₃ films and Alq₃/plasmonic heterostructures (Invited Paper) [9181-24]
9181 0Q	Plasmonic mode interactions with organic semiconductor gain media in nano-confined geometries (Invited Paper) [9181-25]
SESSION 7	ENGINEERING OF THE LINEAR AND NONLINEAR OPTICAL PROPERTIES OF ORGANICS
9181 0U	Design and fabrication strategies for high transparency polymer nanocomposites with dynamic tunable optical response (Invited Paper) [9181-29]
	POSTER SESSION
9181 10	A toy model for the nonlinear optical response of molecules with modulated conjugation [9181-36]
9181 11	Design and simulation of metal-insulator-metal nanoresonators for color filter applications [9181-37]
9181 12	Light transmission with self-assembly DNA monolayers through D-shaped optical fiber [9181-39]
9181 13	Miniaturized low-power electro-optic modulator based on silicon integrated nanophotonics and organic polymers [9181-40]
9181 16	Improving optical limiting of cw lasers with fullerene functionalized gold nanoparticles [9181-43]
9181 17	Strong photoluminescence characteristics of sulforhodamine B attached on photonic crystal [9181-45]

Authors

Numbers in the index correspond to the last two digits of the six-digit citation identifier (CID) article numbering system used in Proceedings of SPIE. The first four digits reflect the volume number. Base 36 numbering is employed for the last two digits and indicates the order of articles within the volume. Numbers start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B...0Z, followed by 10-1Z, 20-2Z, etc.

Ajward, M., 0P	Koeckelberghs, Guy, 0D, 0L
Anderson, Ken, 0G	Kong, Byung-Joo, 12
Banerjee, Saswatee, 11	Kumar, Bharat, 0A
Bar, Galit, 0J	Li, Jie, 10
Bekere, Laura, 0J	Lokshin, Vladimir, 0J
Benichou, E., 0N	Luo, Jingdong, 13
Bensalah-Ledoux, A., 0N	Macchia, Eleonora, ix
Berkelbach, Timothy, 0A	Maggini, Michele, 16
Bockstaller, Michael R., 0U	Magliulo, Maria, ix
Bozio, Renato, 16	Manoli, Kyriaki, ix
Brevet, Pierre-François, 0N	Matyjaszewski, Krzysztof, 0U
Bruyère, A., 0N	McLeod, Robert R., 0G
Busby, Erik, 0A	Miller, John, 0A
Campos, Luis, 0A	Mott, Andrew G., 04
Canteenwala, Taizoon, 05	Naka, Yumiko, 0E
Chen, Quanhong, 10	Nuckolls, Colin, 0A
Chen, Ray T., 13	O'Carroll, Deirdre M., 0Q
Chiang, Long, 05	Oh, Kyunghwan, 12
Cooper, Thomas, 05	Osten, Wolfgang, 0H
Dang, Alei, 0U	Palazo, Gerardo, ix
De Filippo, Christian Corrado, 16	Park, Sung Ha, 12
Ferry, Michael J., 04	Paulson, Bjorn, 12
Frare, Maria Chiara, 16	Pei, Chengkui, 04
Fujihara, T., 0C	Perez-Moreno, Javier, 10
Gangopadhyay, Palash, 0L	Persoons, André P., 0L
Gao, Q., 0P	Pritchett, Timothy M., 04
Giordano, Francesco, ix	Reichman, David, 0A
Goodman, Sarah, 0Q	Rutloh, Michael, 0H
Grinvald, Shmuel, 0J	Sakai, W., 0C
Guy, L., 0N	Sasaki, Takeo, 0E
Guy, S., 0N	Sassa, T., 0C
Gvishi, Raz, 0J	Schaal, Frederik, 0H
Hablani, Surbhi, 10	Schmitzer, H., 0P
Hagan, David, 0J	Sfeir, Matthew Y., 0A
Hosseini, Amir, 13	Shensky, William M., III, 04
Hu, Honghua, 0J	Sigalov, Mark, 0J
Hui, Chin Ming, 0U	Signorini, Raffaella, 16
Hwang, Jihyun, 12	Son, Jun Young, 12
Ishibashi, K., 0C	Strum, Galit, 0J
Jagadish, C., 0P	Stumpe, Joachim, 0H
Jen, Alex K.-Y., 13	Sun, Wenfang, 04
Jeon, Seaho, 05	Tal, Amir, 0J
Ji, Wei, 05	Tan, Loon-Seng, 05
Jung, Woohyun, 12	Torsi, Luisa, ix
Kang, Kwang-Sun, 17	Tsujimura, S., 0C
Kaveh, M., 0P	Tsutsumi, Naoto, 0C
Khodorkovsky, Vladimir, 0J	Urness, A. C., 0G
Kim, Byoung-Ju, 17	Vanbel, Maarten K., 0D
Kinashi, K., 0C	Vandendriessche, Stefaan, 0D

Van Stryland, Eric W., 0J
Verbiest, Thierry, 0D
Wagner, H. P., 0P
Wang, Min, 05
Wang, X., 0P
Weber, Verena, 16
Weidenfeld, Susanne, 0H
Wickremasinghe, N., 0P
Willot, Pieter, 0D
Wilson, William L., 0G
Wu, Qin, 0A
Xia, Jianlong, 0A
Yaffe, Omer, 0A
Zhang, Xingyu, 13
Zhao, Peng, 0J
Zhu, Xiaoyang, 0A

Conference Committee

Symposium Chair

Zakya H. Kafafi, National Science Foundation, ret (United States)

Conference Chair

Jean-Michel Nunzi, Queen's University (Canada)

Conference Co-Chairs

Jon A. Schuller, University of California, Santa Barbara (United States)

Rachel Jakubiak, Air Force Research Laboratory (United States)

Manfred Eich, Technische Universität Hamburg-Harburg (Germany)

Conference Program Committee

Dean R. Evans, Air Force Research Laboratory (United States)

Theodore G. Goodson III, University of Michigan (United States)

Mark G. Kuzyk, Washington State University (United States)

Charles Y. C. Lee, Air Force Office of Scientific Research
(United States)

Kwang-Sup Lee, Hannam University (Korea, Republic of)

Aristides Marciano, Delaware State University (United States)

André P. Persoons, Katholieke Universiteit Leuven (Belgium)

Jayan Thomas, CREOL, The College of Optics and Photonics,
University of Central Florida (United States)

Naoto Tsutsumi, Kyoto Institute of Technology (Japan)

Session Chairs

- 1 Nonlinear Absorption Effects
Soo Young Park, Seoul National University (Korea, Republic of)
- 2 Dynamics of Light-Matter Interactions
David S. Hagan, McMaster University (Canada)
- 3 Organic Photorefractive Materials
André P. Persoons, Katholieke Universiteit Leuven (Belgium)
- 4 Light-Triggered and Light-Actuated Materials
Jon A. Schuller, University of California, Santa Barbara (United States)

- 5 Magneto-Chiral Interactions
Zouheir Sekkat, Moroccan Foundation for Advanced Science,
Innovation and Research (Morocco)
- 6 Enhanced Optical Interactions
Alex K. Y. Jen, University of Washington (United States)
- 7 Engineering of the Linear and Nonlinear Optical Properties of
Organics
Pierre-François Brevet, Université Claude Bernard Lyon 1 (France)