

PROCEEDINGS OF SPIE

Organic Photovoltaics XVII

Zakya H. Kafafi
Paul A. Lane
Ifor D. W. Samuel
Editors

29 August–1 September 2016
San Diego, California, United States

Sponsored and Published by
SPIE

Volume 9942

Proceedings of SPIE 0277-786X, V. 9942

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 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 this book:

Author(s), "Title of Paper," in *Organic Photovoltaics XVII*, edited by Zakya H. Kafafi, Paul A. Lane, Ifor D. W. Samuel, Proceedings of SPIE Vol. 9942 (SPIE, Bellingham, WA, 2016) Six digit article CID Number.

ISSN: 0277-786X

ISSN: 1996-786X (electronic)

ISBN: 9781510602755

ISBN: 9781510602762 (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 © 2016, 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/16/\$18.00.

Printed in the United States of America

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

SPIE. DIGITAL LIBRARY

SPIDigitalLibrary.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 six-digit CID article numbering system structured as follows:

- 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.

Contents

- v *Authors*
- vii *Conference Committee*
- ix *Introduction*

KEYNOTE SESSION ON ORGANIC PHOTOVOLTAICS

- 9942 03 **High-performance integrated perovskite and organic solar cells with efficient near-infrared harvesting (Keynote Paper) [9942-1]**

CHARGE TRANSFER AND TRANSPORT I: JOINT SESSION WITH CONFERENCES 9923 AND 9942

- 9942 0D **Comparing morphology in dip-coated and spin-coated polyfluorene:fullerene films [9942-11]**

DEVELOPMENT OF NEW MATERIALS FOR ORGANIC PHOTOVOLTAICS

- 9942 0O **Crosslinkable low bandgap polymers for organic solar cells [9942-23]**

ORGANIC PHOTOVOLTAIC DEVICE ARCHITECTURES

- 9942 0R **Inkjet printing of semitransparent electrodes for photovoltaic applications [9942-26]**

PHOTOPHYSICS AND PHOTONICS FOR ORGANIC PHOTOVOLTAICS

- 9942 0X **Structural modifications to enhance the exciton diffusion in bilayer porphyrin fullerene thin films (Invited Paper) [9942-31]**
- 9942 10 **Monolayer organic field effect phototransistors: photophysical characterization and modeling [9942-34]**
- 9942 11 **Light trapping for flexible organic photovoltaics [9942-35]**

POSTER SESSION

- 9942 18 **Study of the interaction of PSS-PEDOT, PCBM and Spiro-OMeTAD with MAPbI₃ crystal facets using molecular dynamics simulation** [9942-46]
- 9942 1B **Twenty natural organic pigments for application in dye sensitized solar cells** [9942-50]
- 9942 1E **Bridge effects on light harvesting of a DBfA type polymer system** [9942-53]