## PROCEEDINGS OF SPIE

# Organic and Hybrid Field-Effect Transistors XVIII

Iain McCulloch Oana D. Jurchescu Editors

12–15 August 2019 San Diego, California, United States

Sponsored by SPIE

Cosponsored by Millipore Sigma (United States) Journal of Materials Chemistry C (United Kingdom)

Published by SPIE

Volume 11097

Proceedings of SPIE 0277-786X, V. 11097

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

Organic and Hybrid Field-Effect Transistors XVIII, edited by Iain McCulloch, Oana D. Jurchescu, Proc. of SPIE Vol. 11097, 1109701 · © 2019 SPIE CCC code: 0277-786X/19/\$21 · doi: 10.1117/12.2551099

Proc. of SPIE Vol. 11097 1109701-1

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 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 Organic and Hybrid Field-Effect Transistors XVIII, edited by Iain McCulloch, Oana D. Jurchescu, Proceedings of SPIE Vol. 11097 (SPIE, Bellingham, WA, 2019) Sevendigit Article CID Number.

ISSN: 0277-786X ISSN: 1996-756X (electronic)

ISBN: 9781510628878 ISBN: 9781510628885 (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 © 2019, 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 \$21.00 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/19/\$21.00.

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:** 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 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	Authors
---	---------

vii Conference Committee

	OFETs
11097 07	Efficient interface engineering for high-performance fully inkjet-printed organic thin-film devices via functionalized polystyrene interlayers [11097-5]
	DEVICE PHYSICS
11097 OD	Balancing aging mechanisms in organic field-effect transistors (Invited Paper) [11097-11]
	POSTER SESSION
11097 OW	Lateral confinement effect on crystallization behavior of a small molecule semiconductor during capillary force lithography for use in OFETs [11097-31]

### **Authors**

Numbers in the index correspond to the last two digits of the seven-digit citation identifier (CID) article numbering system used in Proceedings of SPIE. The first five 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.

An, Tae Kyu, 0W Chung, Seungjun, 07 Fuentes-Hernandez, Canek, 0D Jeong, Inho, 07 Jia, Xiaojia, 0D Kim, G., 0D Kippelen, Bernard, 0D Kwon, Hyeok-jin, 0W Park, Youngrak, 0D Wang, Cheng-Yin, 0D

## **Conference Committee**

#### Symposium Chairs

Zakya H. Kafafi, Lehigh University (United States) Ifor D.W. Samuel, University of St. Andrews (United Kingdom)

#### **Conference** Chairs

Iain McCulloch, King Abdullah University of Science and Technology (Saudi Arabia)Oana D. Jurchescu, Wake Forest University (United States)

#### Session Chairs

- Organic Transistors in Sensing and Bioelectronics: Joint Session with Conferences 11096 and 11097
   Oana D. Jurchescu, Wake Forest University (United States)
- 2 OFETs Natalie Stingelin, Georgia Institute of Technology (United States)
- 3 Chemistry: Microstructure Iain McCulloch, King Abdullah University of Science and Technology (Saudi Arabia)
- 4 Device Physics **Thomas Anthopoulos**, King Abdullah University of Science and Technology (Saudi Arabia)
- 5 Processing Emily G. Bittle, National Institute of Standards and Technology (United States)
- 6 Fundamental Properties Aram Amassian, North Carolina State University (United States)
- 7 Materials and Devices I Andrew Wadsworth, Imperial College London (United Kingdom)
- 8 Materials and Devices II
  Sahika Inal, King Abdullah University of Science and Technology (Saudi Arabia)