

PROCEEDINGS OF SPIE

# ***Molecular and Nano Machines II***

**Zouheir Sekkat**  
**Takashige Omatsu**  
*Editors*

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

*Sponsored and Published by*  
SPIE

**Volume 11098**

Proceedings of SPIE 0277-786X, V. 11098

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](http://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 *Molecular and Nano Machines II*, edited by Zouheir Sekkat, Takashige Omatu, Proceedings of SPIE Vol. 11098 (SPIE, Bellingham, WA, 2019) Seven-digit Article CID Number.

ISSN: 0277-786X

ISSN: 1996-756X (electronic)

ISBN: 9781510628892

ISBN: 9781510628908 (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](http://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](http://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.

**SPIE. DIGITAL  
LIBRARY**

[SPIDigitalLibrary.org](http://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 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	<i>Authors</i>
vii	<i>Conference Committee</i>

---

## FUNCTIONAL MICRO/NANO MACHINES

---

11098 06	<b>Fluorescence modulation and non-destructive fluorescence readout based on the cooperative orientation of a fluorescent dye in an azobenzene liquid crystalline polymer film</b> [11098-4]
----------	--

---

## TWO-PHOTON FABRICATION OF MICRO STRUCTURES AND SYSTEMS

---

11098 0G	<b>Direct laser writing of submicrometric voxels in two-photon photopolymerization</b> [11098-15]
----------	---

---

## OPTICAL MANIPULATION AND STRUCTURING OF MATERIALS

---

11098 0M	<b>Tailored multiphoton polymerization for functional microstructures</b> [11098-21]
11098 0N	<b>On-chip photoswitchable microresonator using azo monolayers</b> [11098-26]

---

## POSTER SESSION

---

11098 0Q	<b>Photochemical tweezing and surface relief gratings in azo-polymers</b> [11098-24]
11098 0R	<b>Multi-color fluorescence photoswitching in fluorescent diarylethene nanoparticles</b> [11098-25]