PROCEEDINGS OF SPIE

Micro- and Nanotechnology Sensors, Systems, and Applications X

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Editors

15–19 April 2018
Orlando, Florida, United States

Sponsored and Published by
SPIE

Volume 10639

Proceedings of SPIE 0277-786X, V. 10639

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

Micro- and Nanotechnology Sensors, Systems, and Applications X, edited by Thomas George, Achyut K. Dutta, M. Saif Islam, Proc. of SPIE Vol. 10639, 1063901 · © 2018 SPIE
CCC code: 0277-786X/18/$18 · doi: 10.1117/12.2501352

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Please use the following format to cite material from these proceedings:
Author(s), "Title of Paper," in *Micro- and Nanotechnology Sensors, Systems, and Applications X*, edited by Thomas George, Achyut K. Dutta, M. Saif Islam, Proceedings of SPIE Vol. 10639 (SPIE, Bellingham, WA, 2018) Seven-digit Article CID Number.

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

ISBN: 9781510617896
ISBN: 9781510617902 (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

Printed in the United States of America.

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

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Introduction

The 2018 Micro- and Nanotechnology (MNT) Sensors, Systems, and Applications X conference within the SPIE Defense and Security Symposium, was held in Orlando, Florida, United States, 15–19 April 2018.

This year marks a special occasion, namely the 10th anniversary of this cutting-edge conference. Once again, thanks to the extraordinary efforts of our session chairs, a total of 17 conference sessions were successfully concluded showcasing the exciting breadth and depth of MNT. Exciting sessions captured exciting emerging trends in: Hybrid Integrated Quantum Photonics; Imaging with Subwavelength Pixels; Origami and Kirigami-based Technologies; Micro/Nano-structures for Enhancing Control of Light-matter Interactions for Advanced Microsystems; Flatland Photonics for Wave Shaping, Imaging, and Sensing; Synthesis, Analysis, and Applications of 2D Materials; Novel Harsh Environment Sensors for Energy; Remote Sensing Techniques and Applications; Wearable, Flexible Devices for Personalized Health and Performance; Brain/Human Computer Interface Technology for Health Applications; Advanced Imaging: Gain, Polarization, and Metamaterials Integration; Deep Learning and Neuromorphic Sensing/Computing for Small Autonomous Systems; Autonomous C4ISR Systems of the Future: Autonomous Decision-Making Approaches; QCL and THz; and Frequency Comb Technologies.

Successful joint sessions were conducted with the Unmanned Systems Technology conference (10640), the Open Architecture/Open Business Model Net-Centric Systems and Defense Transformation conference (10651), the Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) Sensing conference (10629), and the Ultrafast Bandgap Photonics Conference (10638).

It is our sincere hope that the papers within this proceedings volume will provide you, our reader, not only with a snapshot of the programmatic vision behind investments made in each MNT topic area, but also its current state of scientific and technological development. Enjoy!

Thomas George
Achyut K. Dutta
M. Saif Islam