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Front Matter: Volume 9467

, "Front Matter: Volume 9467," Proc. SPIE 9467, Micro- and Nanotechnology Sensors, Systems, and Applications VII, 946701 (24 June 2015); doi: 10.1117/12.2202267

Event: SPIE Defense + Security, 2015, Baltimore, MD, United States

PROCEEDINGS OF SPIE

Micro- and Nanotechnology Sensors, Systems, and Applications VII

**Thomas George
Achyut K. Dutta
M. Saif Islam**
Editors

**20–24 April 2015
Baltimore, Maryland, United States**

Sponsored and Published by
SPIE

Volume 9467

Proceedings of SPIE 0277-786X, V. 9467

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

Micro- and Nanotechnology Sensors, Systems, and Applications VII, edited by Thomas George,
Achyut K. Dutta, M. Saif Islam, Proc. of SPIE Vol. 9467, 946701 · © 2015 SPIE
CCC code: 0277-786X/15/\$18 · doi: 10.1117/12.2202267

Proc. of SPIE Vol. 9467 946701-1

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Please use the following format to cite material from this book:

Author(s), "Title of Paper," in *Micro- and Nanotechnology Sensors, Systems, and Applications VII*, edited by Thomas George, Achyut K. Dutta, M. Saif Islam, Proceedings of SPIE Vol. 9467 (SPIE, Bellingham, WA, 2015) Article CID Number.

ISSN: 0277-786X

ISBN: 9781628415834

Published by

SPIE

P.O. Box 10, Bellingham, Washington 98227-0010 USA

Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445

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Introduction

The 2015 Micro- and Nanotechnology (MNT) Sensors, Systems, and Applications VII conference was, once again, fortunate to have an exciting program that spanned all 5 days (Monday through Friday) of the SPIE Defense and Security Symposium, held in Baltimore, Maryland, 20–24 April 2015.

True to its established tradition, a total of 21 Conference Sessions were successfully concluded within this conference on a broad spectrum of exciting topics ranging from: future trends in flexible, stretchable and transient electronics; bio-modulation achieved via low-intensity ultrasound and laser energy delivery; next generation graphene, transition metal chalcogenide and black phosphorous 2D materials and devices; surface-enhanced spectroscopies for ultrasensitive sensing; MNT-sensors and materials for oil and gas applications; harsh environment sensors for energy applications; micro-autonomous systems technology; novel beam control optics; ultra-fast bandgap photonics; terahertz and mid-IR photonics; quantum cascade lasers (QCLs) and their application to standoff chemical detection. Of particular interest was a new session on the emerging field of MNT Origami: fusing art and science to create novel devices and structures.

Successful joint sessions were conducted with the Sensors for Extreme Harsh Environments conference (9491), the Unmanned Systems Technology conference (9468), the Open Architecture/Open Business Model Net-Centric Systems and Defense Transformation conference (9479), the Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) Sensing conference (9455), and the Advanced Environmental, Chemical, and Biological Sensing Technologies conference (9486).

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!

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