Nanomaterials Integration for Electronics, Energy and Sensing
CONTENTS

Preface ................................................................. ix
Materials Research Society Symposium Proceedings ............... xi

ELECTRONICS AND OPTOELECTRONICS

* Carbon-Based Materials as Key-Enabler for “More Than Moore” . . . . . . . 3
  Franz Kreupl
Near white light emission from ZnO nanostructures ............... 15
  Sanjaya Brahma, P. Jaiswal, K.K. Nanda,
  L.M. Kukreja, and S.A. Shivashankar

The Development of Anodic Aluminum Oxide Based
Micro-Channel Plate for Large-Area Photo-Detector ............... 21
  Seon Woo Lee, Qing Peng, Anil U. Mane,
  Jeffrey W. Elam, Karen Byrum, Henry Frisch,
  and Hau Wang

Nanorods of Dy Modified BiFeO₃ for Multifunctional Device
Applications .......................................................... 27
  M. Mandal, S.P. Duttagupta, and V.R. Palkar

Anisotropic Conducting Film (ACF) of Ag Nanoparticles
as Transfer Polymer and Electrical Interface for Silicon
Micro- and Nano- Pillars .............................................. 33
  Matthew Ombaba, Logeeswaran V.J.,
  and M. Saif Islam

Synthesis and Dispersion of Ultra-Small Binary and Ternary
Metal Oxide Nanoparticles for Dielectric Thin Films ............. 39
  Tarik A. Cheema, Dan Taroata, Guenter Schmid,
  and Georg Garnweitner

Three-Dimensional Patterning of Micro/Nanoparticle Assembly
with a Single Droplet of Suspension ................................ 45
  Sun Choi, Albert P. Pisano, and Tarek I. Zohdi

*Invited Paper
ENERGY

Use of Doped-YAG Nanoparticles as Down-Converters for Photovoltaics ........................................... 57
Olivier Raccurt, Mervyn de Borniol,
Gilles Le Blevennec, Eric Gerritsen,
Philippe Thony, and Zoe Tebby

Electrospun Polythiophene Nanofibers and Their Applications for Organic Solar Cells ....................................... 63
Surawut Chuangchote, Michiyasu Fujita,
Takashi Sagawa, and Susumu Yoshikawa

Fabrication of Photovoltaic Devices Using Novel Organic Polymer/Nanostructure Blends ..................................... 69
David Black, Iulia Salaoru, and Shashi Paul

Electrical and Photoelectrical Measurements on ZnO-Nanowires coated with PEDOT:PSS for Dye-Sensitized Solar Cells ................................................ 75
Julia Waltermann, Kay-Michael Günther,
Stefan Kontermann, Siegfried R. Waldvogel,
and Wolfgang Schade

Plasma Treatment of Titanium Dioxide Nanoparticle Layer for Improving Performance of Dye-Sensitized Solar Cell ............... 81
Miho Kitamura, Yuya Shimada, Ryoto Kawabata,
Toshimichi Kasamatsu, Yoshiaki Tokunaga,
and Koji Aizawa

Titanium Dioxide Nanotubes Decorated with Nanoparticles for Dye Sensitized Solar Cells ........................................... 87
Xuan Pan, Yong Zhao, Changhong Chen,
and Zhaoyang Fan

Fracture Transfer of Vertical Semiconductor Pillar Arrays to Low Cost Arbitrary Substrates for Flexible Energy Device Applications .................................................. 93
Logeeswaran V.J., Matthew Ombaba,
and M. Saif Islam

Comprehensive Light Trapping Study of Next Generation Thin Film Solar Cells ...................................................... 99
Zhou Zhou, Jian Zhou, Xiaowei Sun, Tim Cheng,
Shengqi Wang, and Yasha Yi
Nanostructured Broad Band Infrared Absorber
Timothy D. Corrigan, Dong Hun Park, Dennis Drew, and Ray Phaneuf
105

Pt/TiO₂/Ti Metal-Insulator-Metal Tunnel Diodes
for Rectification in an Energy Harvesting System
Matthew Chin, Barbara Nichols, Richard Osgood III, Stephen Kilpatrick, Madan Dubey, and Nibir Dhar
111

Ceramic Thin Films for High Integration Density Capacitor Applications
Dan Taroata, Tarik A. Cheema, Wolf-Joachim Fischer, Georg Garnweitner, and Guenter Schmid
117

Synthesis of CNT-Metal Oxide Nano-Composite Electrode Materials for Supercapacitor
by Low-Pressure MOCVD
Pallavi Arod and S.A. Shivashankar
123

Nano-Flower MnO₂ Coated Graphene Composite Electrodes for Energy Storage Devices
Qian Cheng, Jie Tang, Jun Ma, Han Zhang, Norio Shinya, and Lu-Chang Qin
129

Catalytic Activity of Nanostructured Plate-Type Cu-Based on ZnO Nanorods Promoted by Additive Metals for Oxidative Steam Reforming of Methanol
Chien-Cheng Li, Ran-Jin Lin, Hong-Ping Lin, Li-Chyong Chen, and Kuei-Hsien Chen
135

SENSING

Evaluation of Graphene and Graphene Derivatives for RF-Impedance Based Sensing
Yun Xing, Hong Huang, and Yan Zhuang
143

A Chemical Gas Sensor from Large-Scale Thermal CVD Derived Graphene
Xiaojuan Song, Brent Wagner, and Zhitao Kang
151
PREFACE

Symposium Y, “Nanomaterials Integration for Electronics, Energy, and Sensing,” was held Nov. 29–Dec. 3 at the 2010 MRS Fall Meeting in Boston, Massachusetts. The symposium provided a forum for scientists and engineers to showcase their latest research results focused on the challenges of integration in combining diverse nanomaterials together across length scales and into nanosystems to achieve novel properties and performance. The final program of this symposium consisted of over 240 papers (15 invited) presented over 14 sessions (10 oral and 4 poster). The symposium also included two joint sessions with: 1) Symposium B, “Carbon-Based Electronic Devices—Processing, Performance, and Reliability”; 2) Symposium Z, “Hierarchical Materials and Composites—Combining Length Scales from Nano to Macro.”

The overarching theme of the symposium resonated with the idea that advances in nanotechnology will ultimately be enabled by the invention, development and refinement of methods for the integration of nanomaterials into useful architectures and systems. This premise is reflected throughout this volume in the three parts broadly titled I: Electronics and Optoelectronics, II: Energy, and III: Sensing. The 28 peer-reviewed papers presented in this volume are ordered topically rather than in the order in which they were presented in the symposium.

We gratefully acknowledge all of the invited speakers and session chairs for helping to make this symposium a great success. Financial support from the Center for Integrated Nanotechnologies, at Los Alamos and Sandia National Laboratories, from IBM T.J. Watson Research Center, and from Materials Research Society is also gratefully acknowledged.

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