

Preface	ix
Materials Research Society Symposium Proceedings.....	x
<i>SYNTHESIS</i>	
Fabrication of Nano-Sized Tin Oxide Powder by Spray Pyrolysis Process.....	3
Jaekeun Yu, Jwayeon Kim, and Jeoungsu Han	
Synthesis and Characterization of Nanocarbon-Supported Titanium Dioxide	9
Marcus A. Worsley, Joshua D. Kuntz, Octavio Cervantes, T.Y. Han, Peter Pauzauskie, Joe H. Satcher, and Theodore F. Baumann	
A Single-Step Route Towards Large-Scale Deposition of Nanocomposite Thin Films Using Preformed Gold Nanoparticles	15
Weiliang Wang, Kevin Cassar, Steve Sheard, Peter Dobson, Simon Hurst, Peter Bishop, and Ivan Parkin	
Ordered Nanoparticle Arrays Synthesized from Self-Assembled Diblock Copolymer Templates	21
Qiang Fu, Anita Ghia, Chi-shuo Chen, and Jennifer Lu	
Strain Relaxation of Self-Nanostructured Solution Derived La_{0.7}Sr_{0.3}MnO₃ Films.....	27
Patricia Abellan, Sandiumenge Felip, Cesar Moreno, Marie-Jose Casanove, Teresa Puig, and Xavier Obradors	
Quantitative Investigation of the Factors Affecting the Hydrothermal Growth of Zinc Oxide Nanowires	33
Aron R. Rachamim, Sharvari H. Dalal, Sieglinde M. Pfaendler, Michael E. Swanwick, Andrew Flewitt, and William I. Milne	

* Dopants in Nanoscale ZnO	39
Matt McCluskey, Win Maw H. Oo, and Samuel Teklemichael	
The Challenge for Large-Scale Vapor-Phase Growths of Not-Catalyzed ZnO Nanostructures: Purity vs. Yield.....	45
Davide Calestani, Ming Zheng Zha, Roberto Mosca, Laura Lazzarini, Giancarlo Salviati, Andrea Zappettini, and Lucio Zanotti	
A Facile Method for Patterning Substrates with Zinc Oxide Nanowires	51
Jeong-Hyun Cho, Elizabeth W. Cha, and David Gracias	
Characterization of ZnO Nanostructures Grown by Pulsed Laser Deposition	57
Christian Weigand, Matthew R. Bergren, Cecile Ladam, Per Erik Vullum, John C. Walmsley, Ragnar Fagerberg, Tom E. Furtak, Reuben Collins, Jostein Grepstad, and Helge Weman	
Synthesis and Characterization of Flowerlike ZnO Nanoneedle Arrays on Si (100)	63
Boqian Yang and Xianping Feng	
Investigation of Characteristics of Multi-Function ZnO Thin Film Deposited with Various Argon and Oxygen Ratios	69
Che-Wei Hsu, Tsung-Chieh Cheng, Chun-Hui Yang, Yi-Ling Shen, Jong-Shin Wu, Sheng-Yao Wu, and Wen-Hsien Huang	
Surfactant-Mediated Synthesis of Functional Metal Oxide Nanostructures via Microwave Irradiation- Assisted Chemical Synthesis	75
Sanjaya Brahma and S.A. Shivashankar	

*Invited Paper

PROPERTIES

Structural, Optical and Luminescent Properties of ZnO:Eu³⁺ Nanocrystals Prepared by Sol-Gel Method	83
Segundo R. Jauregui-Rosas, Oscar Perales-Perez, Wei-Ji Jia, O. Vasquez, and Luis Angelats-Silva	
Effect of Morphology of ZnO Nanowire Arrays on Interfacial Shear Strength in Carbon Fiber Composites	89
Ulises Galan, Gregory Ehler, Yirong Lin, and Henry A. Sodano	
Evolution of Textural, Structural and Morphological Properties of Ag/TiO₂ Nanocomposites Tailored by Temperature.....	95
Marcelo Viana, Nelly D. Mohallem, Douglas R. Miquita, and Karla Balzuweit	
Rectifying Polarity Switch of Pt/TiO_{2-x}/Pt	101
Ni Zhong, Hisashi Shima, and Hiro Akinaga	
Semiconductor-Metal Phase Transition in Doped Ion Beam Synthesized VO₂ Nanoclusters	107
Helmut Karl, J. Dreher, and B. Stritzker	
Investigation of MgAlON Films on Electron Emission Properties	113
Mikihiko Nishitani, Masahiro Sakai, Masaharu Terauchi, Yukihiro Morita, and Yasushi Yamauchi	

APPLICATIONS

Integration of VO₂ Thin Films on Si(100) for Thermal Switching Devices Applications	123
Alok Gupta, Ravi Aggarwal, and Jagdish Narayan	
Work Function Effects of Nano Structured ZnO Thin Film on the Acetone Gas Sensitivity.....	129
Seung Hyun Jee, Nitul Kakati, Soo Ho Kim, Dong-Joo Kim, and Young Soo Yoon	

Cambridge University Press

978-1-107-40824-1 - Functional Metal-Oxide Nanostructures: Materials Research Society

Symposium Proceedings: Volume 1174

Editors: Junqiao Wu, Wei-Qiang Han, Anderson Janotti and Ho-Cheol Kim

Table of Contents

[More information](#)

Application of Simple Cycloalkylsilanetriols as Surface Modifier for Inorganic Particles.....	135
Bok Ryul Yoo, Dong Euy Jung, and Joon Soo Han	
Development of a Sensor for Polypropylene Degradation Products.....	141
Shawn M. Dirk, Patricia S. Sawyer, Robert Bernstein, James M. Hochrein, Cody M. Washburn, Stephen W. Howell, and Darin C. Graf	
Optimizing the Screen-Grid Field Effect Transistor for High Drive Current and Low Miller Capacitance.....	149
Yasaman Shadrokh, Kristel Fobelets, and Enrique Velazquez-Perez	
Author Index.....	157
Subject Index.....	159