

MATERIALS RESEARCH SOCIETY
SYMPOSIUM PROCEEDINGS VOLUME 1302

Nanowires – Growth and Device Assembly for Novel Applications

November 29 – December 3, 2010
Boston, Massachusetts, USA

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571
www.proceedings.com

ISBN: 978-1-62748-198-4

Some format issues inherent in the e-media version may also appear in this print version.

©Materials Research Society 2011

This reprint is produced with the permission of the Materials Research Society and Cambridge University Press.

This publication is in copyright, subject to statutory exception and to the provisions of relevant collective licensing agreements. No reproduction of any part may take place without the written permission of Cambridge University Press.

Cambridge University Press
Cambridge, New York, Melbourne, Madrid, Cape Town,
Singapore, São Paulo, Delhi, Tokyo, Mexico City

Cambridge University Press
32 Avenue of the Americas, New York, NY 10013-2473, USA
www.cambridge.org

Materials Research Society
506 Keystone Drive, Warrendale, PA 15086
www.mrs.org

CODEN: MRSPDH

ISBN: 978-1-62748-198-4

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-part Internet Web sites referred to in this publication and does not guarantee that any content on such Web sites is, or will remain, accurate or appropriate.

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

Label-Free, Electrical Biomarker Detection Based on Nanowire Biosensors Utilizing Antibody Mimics as Capture Probes	1
<i>Hsiao-Kang Chang, Fumiaki Ishikawa, Chongwu Zhou</i>	
Microphase-separated Block Copolymer Film Anchored on ITO Substrate with Newly Designed Self-Assembled Monolayer	7
<i>Takenori Goda, Shingo Hadano, Tomokazu Iyoda</i>	
Morphological Evolution of Large-scale Vertically Aligned ZnO Nanowires and Their Photoluminescence Properties by Hydrogen Plasma Treatment	13
<i>Miao Zhong, Yanbo Li, Alexander Paulsen, Takero Tokizono, Ichiro Yamada, Jean-Jacques Delaunay</i>	
A Resistless Process for the Production of Patterned, Vertically Aligned ZnO Nanowires	19
<i>Mikhail Ladanov, Kranthi Kumar Elineni, Manoj Ram, Nathan D. Gallant, Ashok Kumar, Garrett Matthews</i>	
(CdSe) ZnS Core Shell Quantum Dots Decorated Zinc Oxide Nanowires for Solar Energy Harvesting Applications	25
<i>Abhishek Prasad, Archana Pandey, Karl Walczak, Craig Friedrich, Yoke Khin Yap</i>	
Transition from Microscale-Faceted Structures to Ultra-Dense GaN Nanowires	31
<i>Kasif Teker, Joseph A. Oxenham</i>	
A Study of Point Defects and Cause of Nonstoichiometry in InSb Nanowires	37
<i>U. Philipose, Gopal Sapkota, Pradeep Gali, Prathyusha Nukala</i>	
Nanowire Tunnel FETs - Device Structure, Transistor Dimension and Material Choice	43
<i>J. Knoch</i>	
Fabrication of Low Cost 1D CdSe Nanowires using Near-field Electrospinning	51
<i>Leroy Magwood, Binil Starly</i>	
Radial p-n Junction Solar Cells by Core-Shell Silicon Nanowire Arrays	57
<i>Tai-Yuan Huang, Ta-Jen Yen</i>	
Author Index	