

MATERIALS RESEARCH SOCIETY
SYMPOSIUM PROCEEDINGS VOLUME 1558

Nanotechnology and Sustainability

April 1-5, 2013
San Francisco, California, USA

Printed from e-media with permission by:

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

ISBN: 978-1-63266-140-1

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

©Materials Research Society 2013

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: 978-1-63266-140-1

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

Development of Chalcogenide Thin Film Materials for Photoelectrochemical Hydrogen Production	1
<i>N. Gaillard, D. Prasher, J. Kaneshiro, S. Mallory, M. Chong</i>	
The Viability of Nanotechnology-based InGaN Solar Photovoltaic Devices for Sustainable Energy Generation	7
<i>J. Pearce, C. Zhang, J. Rozario, J. Gwamuri</i>	
Electrochromics and Thermochromics for Energy Efficient Fenestration: New Applications Based on Transparent Conducting Nanoparticles	13
<i>C. Granqvist, I. Pehlivan, Y. Ji, S. Li, E. Pehlivan, R. Marsal, G. Niklasson</i>	
On the Surface Effects of Nanofluids in Cooling-System Materials	25
<i>G. Molina, V. Soloiu, M. Rahman</i>	
Nanostructured ZnO–X Alloys with Tailored Optoelectronic Properties for Solar-energy Technologies	31
<i>M. Dou, C. Persson</i>	
Synthesis of Iron-containing Nanomaterials by “Greener” Methods and Their Use for Disinfection of Water	38
<i>B. Kharisov, B. Perez, E. Ortiz, O. Kharissova, M. Corona, V. Perez, R. Dias</i>	
Thermoelectric Properties of Undoped and Si-doped Bulk GaN	45
<i>B. Wang, B. Kucukgok, Q. He, A. Melton, J. Leach, K. Udway, K. Evans, N. Lu, I. Ferguson</i>	
Glass-Oxide Nanocomposites as Effective Thermal Insulation Materials	51
<i>Q. Hao, M. Li, G. Coleman, Q. Li, P. Lucas</i>	
Author Index	