

**MATERIALS RESEARCH SOCIETY**  
**SYMPOSIUM PROCEEDINGS VOLUME 1748**

# **Semiconductor Nanocrystals, Plasmonic Metal Nanoparticles, and Metal-Hybrid Structures**

November 30-December 5, 2014  
Boston, Massachusetts, USA

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571  
[www.proceedings.com](http://www.proceedings.com)

**ISBN: 978-1-7138-0818-3**

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

©Materials Research Society 2015

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](http://www.cambridge.org)

Materials Research Society  
506 Keystone Drive, Warrendale, PA 15086  
[www.mrs.org](http://www.mrs.org)

CODEN: MRSPDH

ISBN: 978-1-7138-0818-3

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: 845-758-2633  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

## TABLE OF CONTENTS

<b>WAFER BONDING OF SI FOR HYBRID PHOTONIC DEVICES</b> .....	1
<i>E. Bourhis, K. Pantzas, G. Patriarche, A. Talneau, I. Sagnes, D. Troadec</i>	
<b>PBS/CDS CORE/SHELL NANOCRYSTALS FOR SOLUTION- PROCESSED COLLOIDAL QUANTUM DOT SOLAR CELLS</b> .....	7
<i>D. Neo, C. Cheng, H. Assender, A. Watt</i>	
<b>AREA-SELECTIVE ELECTROLESS DEPOSITION OF GOLD NANOSTRUCTURES ON SIC USING FOCUSED-ION-BEAM PREPROCESSING</b> .....	14
<i>H. Itasaka, M. Nishi, M. Shimizu, K. Hirao</i>	
<b>DIRECT LASER FABRICATION OF NANOSTRUCTURES ON SI(001)</b> .....	20
<i>A. Haghizadeh, H. Yang</i>	
<b>GREEN SYNTHESIS OF CdSe/ZNS CORESHELL QUANTUM DOT NANOPHOSPHORS AND ITS POLY METHYL METHACRYLATE COMPOSITE THIN FILM IN THE VISIBLE SPECTRAL RANGE</b> .....	26
<i>S. Mohan, T. Soman, S. Oluwafemi, S. George, P. Miska, D. Rouxel, N. Kalarikkal, S. Thomas</i>	
<b>AN ALGORITHM FOR TAILORING OF NANOPARTICLES BY DOUBLE ANGLE RESOLVED NANOSPHERE LITHOGRAPHY</b> .....	32
<i>C. Brodehl, S. Greulich-Weber, J. Lindner</i>	
<b>COMPLEMENTARY MICROSCOPY PLATFORM FOR INVESTIGATIONS OF HYBRID NANOSTRUCTURES COMPRISING QUANTUM DOTS AND PLASMONIC PARTICLES</b> .....	38
<i>K. Dopf, P. Schwab, C. Moosmann, A. Habermehl, U. L Lemmer, H. Eisler</i>	
<b>OXIDATION INDUCED GIANT MODULATION IN THE LUMINESCENCE OF COLLOIDAL AMORPHOUS POROUS SILICON NANOPARTICLES</b> .....	44
<i>J. Demellawi, D. Anjum, S. Chaieb</i>	
<b>COLLOIDAL COPPER SULFIDE NANOCRYSTALS: ELECTROCHEMICAL, ELECTRICAL AND MORPHOLOGICAL PROPERTIES</b> .....	51
<i>A. Baray-Calderon, R. Galindo, J. Maldonado, O. Martinez-Alvarez, L. Acosta- Torres, J. Santos-Cruz, J. Fuente-Hernandez, M. Arenas-Arrocena</i>	
<b>FAST RESPONSE BEAM COUPLING IN DYE DOPED LIQUID CRYSTAL CELLS SANDWICHED WITH ZnSe COATED SUBSTRATES</b> .....	57
<i>T. Xue, H. Zhao, C. Meng, J. Fu, J. Zhang</i>	
<b>STOICHIOMETRY OF GaAs NANODOTS ON GaAs(001)</b> .....	63
<i>A. Haghizadeh, H. Yang</i>	

<b>OPTICAL AND CYTOTOXICITY PROPERTIES OF WATER SOLUBLE TYPE II CDTE/CDSE NANOPARTICLES SYNTHESISED VIA A GREEN METHOD .....</b>	<b>69</b>
<i>V. Ncapayi, S. Oluwafemi, S. Songca, T. Kodama</i>	
<b>FACILE SYNTHESIS OF SEMICONDUCTOR-METAL HYBRID NANOPARTICLES WITH AN ANISOTROPIC STRUCTURE.....</b>	<b>76</b>
<i>A. Ohnuma, K. Iwasaki</i>	
<b>Author Index</b>	