©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: 978-1-5108-0483-8

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
# TABLE OF CONTENTS

**On Enabling Nanocrystalline Diamond for Device Use: Novel Ion Beam Methodology and the Realization of Shallow N-Type Diamond** ............................................. 1  
A.H. Khan, A.V. Sumant

**Patterned Micro/ Nanowires by Electroplate and Lift Lithography on Reusable Ultrananocrystalline Diamond Template** ............................................................. 8  
Jeffrey Machovec, Lori A. Lepak, Anirudha V. Sumant, Ralu Divan, C. Suzanne Miller, Daniel Rosenmann, Michael P. Zach

**Compensation of the Internal Stress Gradient in Ultrananocrystalline Diamond for the Fabrication of Microactuators and Tribometers on a Chip** .......... 14  
Federico Buja, Ralu Divan, Anirudha V. Sumant, David Czaplewski, W. Merlijn van Spengen

**Carbon Nanomaterials for Energy Efficient Green Electronics** ........................................ 20  
Anupama B. Kaul

**Author Index**