## MATERIALS RESEARCH SOCIETY SYMPOSIUM PROCEEDINGS VOLUME 1478

# Nanostructured Carbon Materials for MEMS/NEMS and Nanoelectronics

August 12-17, 2012 Cancun, Mexico

Printed from e-media with permission by:

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

ISBN: 978-1-5108-0483-8

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

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

Methodology and the Realization of Shallow N-Type Diamond	1
Patterned Micro/ Nanowires by Electroplate and Lift Lithography on Reusable Ultrananocrystalline Diamond Template	8
Compensation of the Internal Stress Gradient in Ultrananocrystalline Diamond for the Fabrication of Microactuators and Tribometers on a Chip  Federico Buja, Ralu Divan, Anirudha V. Sumant, David Czaplewski, W. Merlijn van Spengen	14
Carbon Nanomaterials for Energy Efficient Green Electronics	20
Author Index	