MATERIALS RESEARCH SOCIETY
SYMPOSIUM PROCEEDINGS VOLUME 1782

Nanogenerators and Piezotronics

April 6-10, 2015
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: 978-1-5108-2637-3

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

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

CODEN: MRSPDH

ISBN: 978-1-5108-2637-3

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
Web: www.proceedings.com

CONTENTS

* **Flexible Carbon-Based Nanogenerators 1**
Ning-Qin Deng, He Tian, Qing-Tang Xue, Zhe Wang, Hai-Ming Zhao, Shuo Ma, Wen-Tian Mi, Mohammad Ali Mohammad, Yi Yang, and Tian-Ling Ren

* **MEMS Energy Harvesting from Low-frequency and Low-g Vibrations 9**
Ruize Xu and Sang-Gook Kim

* **Graphene-based Nanogenerator: Experiments, Theories and Applications 15**
Weiping Li, Yupeng Zhang, and Chunxu Pan

Mechanism of Ca-Ba Diffusion in Lead-free (Ba,Ca)TiO_3 Piezoelectrics 23
Chang Shu, Daniel Reed, and Tim Button

A Keyboard-Based r-Shaped Triboelectric Generator for Active Noise-Free Recording 29
Mengdi Han, Bo Meng, Xiaoliang Cheng, Fuyun Zhu, Mayue Shi, and Haixia Zhang

Molecular Dynamics Simulations of the Two-way Shape-memory Effect in NiTi Nanowires 35
Prashanth Srinivasan, Lucia Nicola, Barend Thijsse, and Angelo Simone

*Invited Paper