

MRS Advances

Nanomaterials and Synthesis

<https://doi.org/10.1557/adv.2016.247> Published online by Cambridge University Press

MRS MATERIALS RESEARCH SOCIETY®

CAMBRIDGE UNIVERSITY PRESS

MRS Advances: Nanomaterials and Synthesis

Associate Editor: Marilyn L. Minus, *Northeastern University*

Associate Editor: Roger J. Narayan, *University of North Carolina/North Carolina State University*

Principal Editor: Yanglong Hou, *Peking University*

Principal Editor: Yugang Sun, *Argonne National Lab*

Principal Editor: Shadi A. Dayeh, *University of California-San Diego*

Principal Editor: Ming Xu, *Huazhong University of Science and Technology*

Principal Editor: Paul Ohodnicki, *National Energy Technology Laboratory*

MRS Advances Editorial Board:

Chair: David F. Bahr, *Purdue University*

Asa H. Barber, *University of Portsmouth*

Frank W. DelRio, *National Institute of Standards*

Elizabeth L. Fleischer, *Materials Research Society*

Marilyn L. Minus, *Northeastern University*

Roger J. Narayan, *University of North Carolina/North Carolina State University*

MRS Editorial Office:

Ellen W. Kracht, *Publications Manager, Materials Research Society, Warrendale, PA*

Susan Dittrich, *Journals Editorial Assistant, Materials Research Society, Warrendale, PA*

Kirby L. Morris, *Journals Production Assistant, Materials Research Society, Warrendale, PA*

Eileen M. Kiley, *Director of Communications, Materials Research Society, Warrendale, PA*

MRS Advances (EISSN: 2059-8521) is published by Cambridge University Press, 32 Avenue of the Americas, New York, NY 10013-2473 for the Materials Research Society.

Copyright © 2016, Materials Research Society. All rights reserved. No part of this publication may be reproduced, in any form or by any means, electronic, photocopying, or otherwise, without permission in writing from Cambridge University Press. Policies, request forms and contacts are available at: <http://www.cambridge.org/rights/permissions/permission.htm>. Permission to copy (for users in the USA) is available from Copyright Clearance Center at: <http://www.copyright.com>, email: info@copyright.com.

Purchasing Options:

Premium Subscription- Premium Subscription includes current subscription and one year's lease access to the full MRS Online Proceedings Library Archive for \$6,875.00 / £4,655.00 / €6,330.00.

Subscription- Subscription with perpetual access to the content subscribed to in a given year, including three years of back-file lease access to content from the MRS Online Proceedings Library Archive. The price for a 2016 subscription is \$2,875.00 / £1,855.00 / €2,500.00.

MRS Members- Access to *MRS Advances* is available to all MRS members without charge.

Contact Details:

For all inquiries about pricing and access to *MRS Advances*, please get in touch via the following email addresses: online@cambridge.org (for the Americas); library.sales@cambridge.org (for UK, Europe, and rest of world).

journals.cambridge.org/adv

CONTENTS

* Synthesis and Characterization of Bimetallic Noble Metal Nanoparticles for Biomedical Applications	681
Prem C. Pandey and Govind Pandey	
* A New Nanoindentation Protocol for Identifying the Elasticity of Undamaged Extracellular Bone Tissue.	693
Irina Furin, Maria-Ioana Pastrama, Hawraa Kariem, Krzysztof W. Luczynski, Olaf Lahayne, and Christian Hellmich	
Antiviral Activity of Silver Nanoparticles Immobilized onto Textile Fabrics Synthesized by Radiochemical Process	705
Satoshi Seino, Yasuo Imoto, Tomoya Kosaka, Tomoki Nishida, Takashi Nakagawa, and Takao A. Yamamoto	
An Investigation into the Nano-/micro-architecture of Electrospun poly (ϵ-caprolactone) and Self-assembling Peptide Fibers	711
Robabeh Gharaei, Giuseppe Tronci, Robert P. Davies, Parikshit Goswami, and Stephen J. Russell	
Patternable Rough Textured Gold Microwire for Neurochemical Sensing	717
Eva Mutunga and Pawan Tyagi	
Calcium Phosphate with High Specific Surface Area Synthesized by a Reverse Micro-emulsion Method.	723
Tomoaki Sugiyama, Shusuke Akiyama, and Toshiyuki Ikoma	
Synthesis of Gold Nanoparticles Specific to pH- and salt- Tolerance for Biomedical Applications	729
Prem C. Pandey and Govind Pandey	
Compared Biocompatibility of ZnTiO₃, ZnO and TiO₂ Sol-gel Films with Human Mesenchymal Stem Cells	737
Rosalia Delgado Carrascón, Dario Gallach Pérez, Josefa P. Carcía Ruiz, and Miguel Manso Silvan	

*Invited Paper

UV/ozone Surface Modification for Long-term Stable Hydrophilic Surface of Polymer Microfluidic Devices	743
Shogo Uehara, Tsukasa Kawabe, Peter Wood, and Osamu Tsuji	
Fabrication of Lindenmayer System-based Designed Engineered Scaffolds Using UV-maskless Photolithography	749
Ozlem Yasar and Binil Starly	
Optical Waveguide Biosensors for Highly Sensitive and High-throughput Applications	755
Ikuro Uematsu, Ichiro Tohno, Shingo Kasai, Masaaki Hirakawa, Kayoko Omiya, and Hidetoshi Matsumoto	