

MRS Advances

Nanomaterials

<https://doi.org/10.1557/adv.2019.182> Published online by Cambridge University Press

MRS Advances: Nanomaterials

Associate Editor:

Marilyn L. Minus, *Northeastern University, USA*

Principal Editors:

Ranjit Pati, *Michigan Technological University, USA*

Naoyuki Matsumoto, *National Institute of Advanced Industrial Science and Technology (AIST), Japan*

Kimberly Dick Thelander, *Lund University, Sweden*

Maria Eugenia Perez Barthaburu, *Universidad de la Republica-CURE, Uruguay*

Teng Yin Ting, *Republic Polytechnic, Singapore*

MRS Advances Editorial Board:

Editor-in-Chief: David F. Bahr, *Purdue University, USA*

Asa Barber, *University of Portsmouth, United Kingdom*

Meenakshi Dutt, *Rutgers University, USA*

Elizabeth L. Fleischer, *Materials Research Society, USA*

Marian Kennedy, *Clemson University, USA*

Marilyn L. Minus, *Northeastern University, USA*

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

Ruth Schwaiger, *Karlsruhe Institute of Technology, Germany*

Jeremy Theil, *Mountain View Energy, USA*

Materials Research Society Editorial Office, Warrendale, PA, USA:

Ellen W. Kracht, *Publications Manager*

Susan Dittrich, *Journals Editorial Assistant*

Kirby L. Morris, *Journals Production Assistant*

Eileen M. Kiley, *Director of Communications*

Disclaimer

Authors of each article appearing in this Journal are solely responsible for all contents in their article(s) including accuracy of the facts, statements, and citing resources. Facts and opinions are solely the personal statements of the respective authors and do not necessarily represent the views of the editors, the Materials Research Society, or Cambridge University Press.

MRS Advances (EISSN: 2059-8521) is published by Cambridge University Press, One Liberty Plaza, Floor 20, New York, NY 10006 for the Materials Research Society.

Copyright © 2019, 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 \$7,219.00 / £4,888.00 / €6,647.00. *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 2018 subscription is \$3,019.00 / £1,948.00 / €2,625.00. *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).

cambridge.org/adv

CONTENTS

ARTICLES

- Ultra-robust Superhydrophobic/superoleophilic Stainless Mesh Coated by PTFE/SiO₂ for Oil/water Separation 359**
Chaolang Chen, Ding Weng, Awais Mahmood,
and Jiadao Wang
- Nickel Sulfide Nanoparticles Incorporated Poly(methyl methacrylate)-Zirconia Membranes for Ultra Deep Desulfurization of Dibenzothiophene 369**
Adnan Mujahid, Tuba Choudhary,
Madiha Mehmood, Muhammd Irshad,
Tajamal Hussain, Sadia Zafar Bajwa,
and Mirza Nadeem Ahmad
- Synthesis of Eco-friendly Nano-structured Biosurfactants from Vegetable Oil Sources and Characterization of Their Interfacial Properties for Cosmetic Applications 377**
DaNan Yea, SeonHui Jo, and JongChoo Lim
- Enhancement of the Mechanical Property of poly(ϵ -caprolactone) Composites with Surface-modified Cellulose Nanofibers Fabricated via Electrospinning 385**
Hiroki Ichimura, Naruki Kurokawa,
and Atsushi Hotta
- Corporate Responsibility: A Green Initiative to Reduce Chlorobenzene Based Chemistries in Semiconductor Processing 393**
Monique J. Farrell, Kevin Frey, and John Mason
- One-step Aqueous Synthesis of Zn-based Quantum Dots as Potential Generators of Reactive Oxygen Species 399**
Julio A. Rivera, Sonia J. Bailón-Ruiz,
and Oscar J. Perales-Perez
- Mechanical Properties of Polydopamine (PDA) Thin Films 405**
Haoqi Li, Jiaxin Xi, Yao Zhao, and Fei Ren
- Size-controlled Preparation of Alkylamine-stabilized Copper Fine Particles from Cupric Oxide (CuO) Micro-particles 413**
Tetsu Yonezawa, Jiajia Shi, Hiroki Tsukamoto,
and Mai Thanh Nguyen

Synthesis and Characterization of Se-based Nanoparticles as Potential Generators of Reactive Oxygen Species 419
Nadja Maldonado-Luna, Sonia Bailón-Ruiz,
Myrna Reyes-Blas, and Oscar J. Perales-Perez

Plasmon-enhanced Photocatalysis: Ag/TiO₂ Nanocomposite for the Photochemical Reduction of Bicarbonate to Formic Acid 425
Hanqing Pan and Michael D. Heagy

Biphenyl-bridged Wrinkled Mesoporous Silica Nanoparticles for Radioactive Iodine Capture 435
Alexander T. Brown, Jason Lin,
Milana C. Thomas, Yves J. Chabal,
and Kenneth J. Balkus Jr