

MRS Advances

Energy Materials and Technologies

<https://doi.org/10.1557/adv.2018.582> Published online by Cambridge University Press

MRS Advances: Energy Materials and Technologies

Associate Editors:

Marian Kennedy, *Clemson University, USA*
Elizabeth L. Fleischer, *Materials Research Society, USA*

Principal Editors:

Marilyn Minus, *Northeastern University, USA*
Jens Hänisch, *Karlsruhe Institute of Technology, Germany*
Sudhir Kulkarni, *Air Liquide, USA*
Yang Shen, *Tsinghua University, China*
Haleh Ardebili, *University of Houston, USA*
James G. Tobin, *University of Wisconsin-Oshkosh, USA*
Anita Ho-Baillie, *University of New South Wales, Australia*
Xiaoliang Wei, *Pacific Northwest National Laboratory, USA*
Xun Shi, *Shanghai Institute of Ceramics, China*
Peng Wang, *King Abdullah University of Science and Technology, Saudi Arabia*

Simerjeet K. Gill, *Brookhaven National Laboratory, USA*
Thierry Brousse, *Institut des Matériaux Jean Rouxel, France*
Hyun-Wook Lee, *Ulsan National Institute of Science and Technology, South Korea*
Yi-Yang Sun, *Shanghai Institute of Ceramics, Chinese Academy of Sciences, China*
Chaitanya Deo, *Georgia Institute of Technology, USA*
Lin Zhou, *Nanjing University, China*
Elizabeth Podlaha-Murphy, *Clarkson University, USA*

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:

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 © 2018, 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

Effect of Nonionic Conjugated Matrix Polymer and P-dopant on Carbon Nanotube Aggregation and Thermoelectric Properties	3483
Hui Li, Jiyuan Huang, Toshiyuki Sato, Paul Czubarow, and Howard E. Katz	
Thermal and Optical Characterization of Up-converting Thermographic Phosphor Polymer Composite Films	3489
Firouzeh Sabri, Stephen W. Allison, Makunda Aryal, Josh Collins, and Howard Bell	
Nanostructured V₂O₅/Nitrogen-doped Graphene Hybrids for High Rate Lithium Storage.	3495
Yiqun Yang, Kayla Strong, Gaind P. Pandey, and Lamartine Meda	
Facile Synthesis of Uniform Carbon Coated Li₂S/rGO Cathode for High-performance Lithium-Sulfur Batteries	3501
Gaind P. Pandey, Joshua Adkins, and Lamartine Meda	
First-principles Study of the Calcium Insertion in Layered and Non-layered Phases of Vanadia	3507
Daniel Koch and Sergei Manzhos	
Improved Electrochemical Performance of LiCoO₂ Electrodes for High-voltage Operations by Ag Thin Film Coating Via Magnetron Sputtering	3513
Taner Zerrin, Mihri Ozkan, and Cengiz S. Ozkan	
High Performance Tin-coated Vertically Aligned Carbon Nanofiber Array Anode for Lithium-ion Batteries	3519
Gaind P. Pandey, Kobi Jones, Emery Brown, Jun Li, and Lamartine Meda	
Zn²⁺- Controlled Crystallization and Microstructure in K-Li-Mg-B-Si-Al-F Glass	3525
Mrinmoy Garai, Anoop K. Maurya, and Shibayan Roy	