



MRS Communications

VOLUME 3 • NO 1, 2013

A publication of the

MRS MATERIALS RESEARCH SOCIETY
Advancing materials. Improving the quality of life.

CAMBRIDGE
UNIVERSITY PRESS

MRS COMMUNICATIONS

MRS Communications is a **new** archival journal that publishes high-impact materials research with timeliness and scientific quality in the style of the Materials Research Society. Its editorial policies promote rapid online publication of results and rigorous peer review. Major article types include rapid communications (research letters), ultra-rapid brief communications, "prospectives" papers, correspondence and commentaries.

"Prospectives" are a unique feature of this Journal and offering a succinct and forward-looking review of topics of interest to a broad materials research readership. This modern journal features advanced on-line publication, in full color, acceptance of supplemental materials, and multimedia content. *MRS Communications* leverages the deep technical expertise of leading MRS members among its editorial board and reviewers under the initial governance of a team of Founding Editors, and the advanced author and reader publication services and academic standing offered by Cambridge Journals.

Manuscript submissions that succinctly describe groundbreaking work in the broad field of materials research are encouraged. Examples of leading topical areas of interest to *MRS Communications* readers include:

- Biomaterials and biomimetic materials
- Carbon-based materials
- Complex oxides and their interfaces
- Materials for energy storage, conversion and environmental remediation
- Materials for nanophotonics and plasmonic devices
- Theory and simulation of materials
- Mechanical behavior at the nanoscale
- Nanocrystal growth, structures and properties, including nanowires and nanotubes
- Nanoscale semiconductors for new electronic and photonic applications
- New materials synthesis, templating and assembly methods
- New topics in metals, alloys and transformations
- Novel and *in-situ* characterization methods
- Novel catalysts and sensor materials
- Organic and hybrid functional materials
- Quantum matter
- Surface, interface and length-scale effects on materials properties

Author queries and submissions

MRS Communications operates a fully online author submission and peer review system, which can be found at <http://mc.manuscriptcentral.com/mrscom>

For questions related to *MRS Communications*, please contact mrc@mrs.org

MRS Communications Article Types

Prospectives

Forward-looking short reviews. Authoritative and balanced, but can deal with controversies or new and speculative areas of research for future consideration.

Technical Description:

- Generally invited, although unsolicited short proposals will be reviewed by editorial team
- 4000-5000 words, 8-10 printed pages
- Multiple illustrations and figures encouraged
- Supplemental and multimedia data encouraged
- Max. 100 references

Research Letters

A concise presentation of a study with broad interest, showing novel results.

Technical Description:

- 3000 word maximum, 4-6 printed pages
- Each figure or figure part is counted as 250 words
- Short 100 word abstract
- Max. 25 references
- Supplemental data encouraged

Editorials

Opinion piece, policy statement, or general commentary, typically written by board of the publication or a guest of notable stature.

Technical Description:

- Generally written or invited by editorial team
- 500-1500 words, 1-3 printed pages
- Max. 15 references
- No supplemental data

Commentaries

An item whose subject or focus is another article or articles; this article comments on the other article(s).

Technical Description:

- Generally invited by editorial team, although unsolicited commentaries may be reviewed
- Accessible and non-technical style
- 500-1500 words, 1-3 printed pages
- 1 fig or illustration
- Max. 15 references
- No supplemental data

Correspondence

Letter to the editor/publication, typically commenting upon a published item.

Technical Description:

- Flexible format of general interest to readership—policy debates, announcements or matters arising from published material
- 500-1000 words, 1-2 printed pages
- 1 fig or illustration
- Max. 10 references
- Supplemental data at editor discretion
- If critical of a previously published paper, original author will be given option to publish a reply (no automatic right to reply)

Copyright © 2013, 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 U.S.A.) is available from Copyright Clearance Center <http://www.copyright.com>, email: info@copyright.com.

MRS Communications Subscription Prices (2012)

Institutions

Online only

\$713.00 / £429.00

Print-on-Demand available to online subscribers.

Inquire Customer Services.

MRS Communications (ISSN: 2159-6859) is published four times a year by Cambridge University Press for the Materials Research Society.

Individual member subscriptions are for personal use only.

MRS Communications

Editor-in-Chief: Peter F. Green, *University of Michigan*

Founding Principal Editors

Luca Dal Negro, *Boston University*

Horacio Espinosa, *Northwestern University*

Supratik Guha, *IBM Research*

Dan Hancu, *GE Global Research*

Kristi Kiick, *University of Delaware*

Nicola Marzari, *École Polytechnique Fédérale de Lausanne, Switzerland*

Paul C. McIntyre, *Stanford University*

Alberto Salleo, *Stanford University*

Alec Talin, *Sandia National Laboratory*

Nagarajan (Nagy) Valanoor, *The University of New South Wales, Australia*

MRS Communications Advisory Board

Kristi Anseth, *University of Colorado*

A. Lindsay Greer, *Cambridge University, United Kingdom*

Howard E. Katz, *Johns Hopkins University*

Nicholas A. Kotov, *University of Michigan*

George Malliaras, *École Nationale Supérieure des Mines, France*

Tobin Marks, *Northwestern University*

Michael Nastasi, *University of Nebraska, Lincoln*

Linda F. Nazar, *University of Waterloo, Canada*

Ramamoorthy Ramesh, *University of California, Berkeley*

Henning Riechert, *Paul Drude Institut für Festkörperelektronik, Germany*

Thomas P. Russell, *University of Massachusetts*

Darrel G. Schlom, *Cornell University*

James S. Speck, *University of California, Santa Barbara*

Editorial Office:

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

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

Linda A. Baker, *Editorial Assistant, Materials Research Society, Warrendale, PA*

Lorraine K. Wolf, *Publishing Assistant, Materials Research Society, Warrendale, PA*

MRS Communications

Volume 3, Number 1, March 2013

Prospective Articles

- | | | |
|-------|---|---|
| 1–12 | Recent developments in ductile bulk metallic glass composites | M. Ferry, K.J. Laws, C. White, D.M. Miskovic, K.F. Shamlaye, W. Xu, O. Biletska |
| 13–29 | Hairy nanoparticle assemblies as one-component functional polymer nanocomposites: opportunities and challenges | Nikhil J. Fernandes, Hilmar Koerner, Emmanuel P. Giannelis, Richard A. Vaia |

Research Letters

- | | | |
|-------|---|---|
| 31–36 | Phonon drag effect in nanocomposite FeSb₂ | Mani Pokharel, Huaizhou Zhao, Kevin Lukas, Zhifeng Ren, Cyril Opeil, Bogdan Mihaila |
|-------|---|---|

Ultra-Rapid Communications

- | | | |
|-------|--|----------------|
| 37–39 | Computational design of new organics dyes with improved solar absorbance for dye-sensitized solar cells | Sergei Manzhos |
|-------|--|----------------|

Research Letters

- | | | |
|-------|--|--|
| 41–45 | Emergence of central mode in the paraelectric phase of ferroelectric perovskites | Jeevaka Weerasinghe, L. Bellaiche, T. Ostapchuk, P. Kužel, C. Kadlec, S. Lisenkov, I. Ponomareva, J. Hlinka |
| 47–50 | Band gap narrowing of cadmium oxide powder by rare earth praseodymium doping | H.-Y. He, J. Lu |
| 51–55 | Hydrothermal growth of ZnO nanorods on electrospun polyamide nanofibers | Thushara J. Athauda, Umaiz Butt, Ruya R. Ozer |
| 57–60 | Single precursor synthesis of copper sulfide nanocrystals using aerosol spray pyrolysis | Patrick Davis, Lorenzo Mangolini |
| 61–65 | An ancient method-inspired route for fast fabrication of 'PbS bird feathers' | Xiaowei Liu, Yongwen Tan, Fangyu Zhang, Peilu Ouyang, Jiajun Gu, Di Zhang |
| 67–71 | Examining the interlayer interactions formed between reduced graphene oxide and ionic liquids | Natis Shafiq, Muge Acik, Daniel R. Dreyer, Juan Juarez, Christopher W. Bielawski, Yves J. Chabal |
| 73–77 | Adhesion behavior of polymer networks with tailored mechanical properties using spherical and flat contacts | Nishant Lakhera, Annalena Graucob, Andreas S. Schneider, Elmar Kroner, Maurizio Micciché, Eduard Arzt, Carl P. Frick |

Erratum

- | | | |
|----|--|--|
| 79 | The Effect of Magnesium Substitution on the Hardness of Synthetic and Biogenic Calcite – CORRIGENDUM/ERRATUM | Miki E. Kunitake, Shefford P. Baker, Lara A. Estroff |
| 81 | Computational design of new organics dyes with improved solar absorbance for dye-sensitized solar cells – ERRATUM | Sergei Manzhos |