

The logo for MRS Communications features a stylized 'C' composed of three concentric, semi-transparent rings in shades of green and blue. The text 'MRS' is in a bold, white, sans-serif font, followed by the 'C' logo, and then the word 'Communications' in a larger, white, sans-serif font.

MRS Communications

VOLUME 5 • NO 4, 2015

A publication of the



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 © 2015, 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 (2015)

Institutions

Online only

\$750.00 / £455.00

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, USA*

Principal Editors

Luca Dal Negro, *Boston University, USA*

Richard A. LeSar, *Iowa State University, USA*

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

Paul C. McIntyre, *Stanford University, USA*

Andrew M. Minor, *University of California, Berkeley and Lawrence Berkeley National Laboratory, USA*

Róisín Owens, *Ecole Nationale Supérieure des Mines de Saint-Étienne, France*

Alberto Salleo, *Stanford University, USA*

Alec Talin, *Sandia National Laboratory, USA*

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

MRS Communications Advisory Board

Jodie Bradby, *The Australian National University, Australia*

Horacio Espinosa, *Northwestern University, USA*

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

Supratik Guha, *IBM Research, USA*

Howard E. Katz, *Johns Hopkins University, USA*

Nicholas A. Kotov, *University of Michigan, USA*

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

Tobin Marks, *Northwestern University, USA*

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

Ramamoorthy Ramesh, *University of California, Berkeley, USA*

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

Thomas P. Russell, *University of Massachusetts, USA*

Darrel G. Schlom, *Cornell University, USA*

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

Katsuyo Thornton, *University of Michigan, USA*

Editorial Office:

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

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

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

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

MRS Communications

Volume 5, Number 4, December 2015

Plasmonics, Photonics, and Metamaterials Research Letter

- 547–553 **Optical properties of high-quality nanohole arrays in gold made using soft-nanoimprint lithography** M.A. Verschuuren, M.J.A. de Dood, D. Stolwijk, G.W. 't Hooft, A. Polman

Plasmonics, Photonics, and Metamaterials Prospective Article

- 555–564 **Biosensing using photonic crystal nanolasers** Toshihiko Baba

Plasmonics, Photonics, and Metamaterials Research Letters

- 565–571 **Nonlinear nanocircuitry based on quantum tunneling effects** Pai-Yen Chen, Khai Q. Le, Andrea Alù
- 573–577 **Self-assembly of plasmonic/excitonic silicon nanocrystals into photonic crystals** Jihua Yang, Nicolaas J. Kramer, Christopher J. Hogan Jr., Uwe R. Kortshagen
- 579–586 **Optoplasmonic networks with morphology-dependent near- and far-field responses** Wonmi Ahn, Xin Zhao, Yan Hong, Björn M. Reinhard
- 587–591 **Surface plasmon propagation on overcrossing metallic waveguides fabricated by a pick-and-place method** Yusuke Nagasaki, Masashi Miyata, Mai Higuchi, Junichi Takahara

Research Letters

- 593–598 **Influence of morphological disorder on in- and out-of-plane charge transport in conjugated polymer films** Anton Li, Ban Xuan Dong, Peter F. Green
- 599–603 **Indacenodithiophene–benzothiadiazole organic field-effect transistors with gravure-printed semiconductor and dielectric on plastic** Stuart G. Higgins, Beinn V.O. Muir, Martin Heeney, Alasdair J. Campbell
- 605–611 **Reduced-temperature solution-processed transparent oxide low-voltage-operable field-effect transistors** Yu Liu, Kyle McElhinny, Olivia Alley, Paul G. Evans, Howard E. Katz
- 613–617 **Toward anti-fouling capacitive deionization by using visible-light reduced TiO₂/graphene nanocomposites** Wei Zhang, Baoping Jia
- 619–622 **Evidence of electric-field-accelerated growth of tin whiskers** Anthony C. Vasko, Corey R. Grice, Andrew D. Kostic, Victor G. Karpov
- 623–629 **Mechanical properties of $APbX_3$ ($A = \text{Cs}$ or CH_3NH_3 ; $X = \text{I}$ or Br) perovskite single crystals** Yevgeny Rakita, Sidney R. Cohen, Nir Klein Kedem, Gary Hodes, David Cahen
- 631–639 **Ultrahigh strength of three-dimensional printed diluted magnesium doping wollastonite porous scaffolds** Jiajun Xie, Huifeng Shao, Dongshuang He, Xianyan Yang, Chunlei Yao, Juan Ye, Yong He, Jianzhong Fu, Zhongru Gou
- 641–645 **A correction method of elastic modulus in compression tests for linear hardening materials** Wei Liu, Yong Huan, Jie Dong, Yujing Dai, Ding Lan

Erratum

- 646–646 **Influence of morphological disorder on in- and out-of-plane charge transport in conjugated polymer films – ERRATUM** Anton Li, Ban Xuan Dong, Peter F. Green