

NEW JOURNAL

MRS Communications

EDITOR IN CHIEF

Peter F. Green
University of Michigan, USA

FOUNDING PRINCIPAL EDITORS

Luca Dal Negro
Boston University, USA

Horacio Espinosa
Northwestern University, USA

Supratik Guha
IBM Research, USA

Dan Hancu
GE Global Research, USA

Kristi Kiick
University of Delaware, USA

Nicola Marzari
Oxford University, United Kingdom

Alberto Salleo
Stanford University, USA

Alec Talin
NIST, USA

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



The Materials Research Society (MRS) and Cambridge University Press proudly announce, a new full-color, high-impact journal focused on groundbreaking work across the broad spectrum of materials research.

MRS Communications offers a rapid but rigorous peer-review process and time to publication—an aggressive production schedule will bring your article to online publication and a global audience within a target 14-day process from acceptance.

Major article types for *MRS Communications* include:

Rapid Communications
Ultra-Rapid Communications
Prospectives Articles
Editorials
Commentaries
Correspondence

For more information on *MRS Communications*, please visit www.mrs.org/mrc or e-mail mrc@mrs.org.



CAMBRIDGE
UNIVERSITY PRESS

CALL FOR PAPERS

Manuscripts are solicited in the following topical areas, although submissions that succinctly describe groundbreaking work across the broad field of materials research are encouraged.

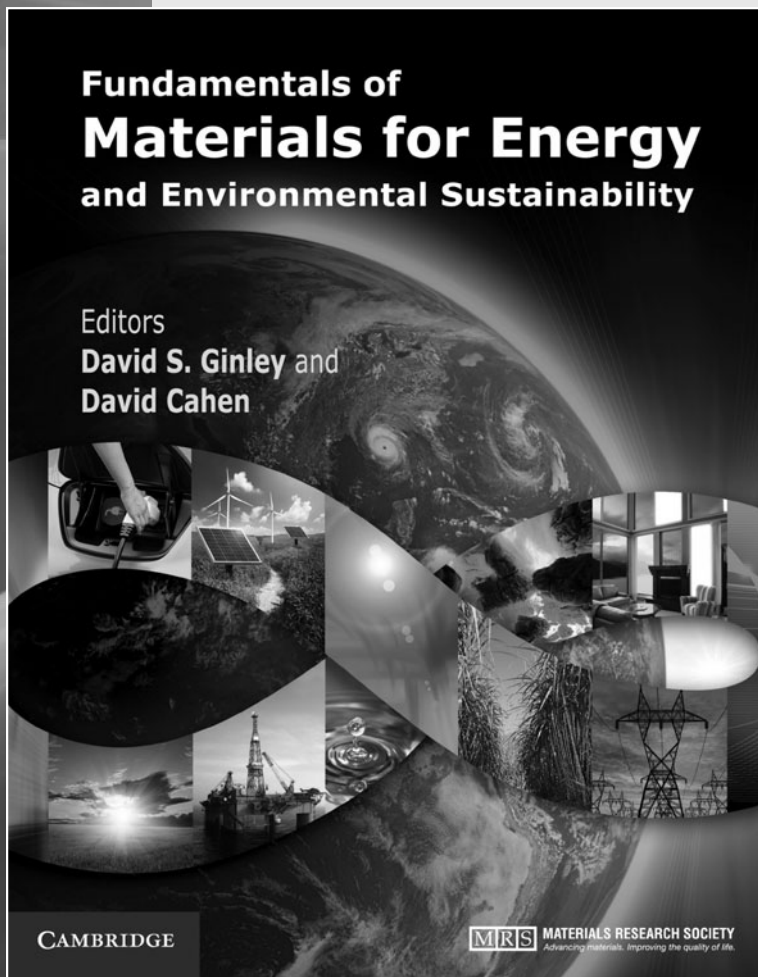
- Biomaterials and biomimetic materials
- Carbon-based materials
- Complex oxides and their interfaces
- Materials for energy storage, conversion and environmental remediation
- Materials for nanophotonics and plasmonic devices
- Materials theory and computation
- Mechanical behavior at the nanoscale
- 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

For manuscript submission instructions, please visit www.mrs.org/mrc-instructions.

AVAILABLE DECEMBER 2011

Fundamentals of Materials for Energy and Environmental Sustainability

Editors: **David S. Ginley** and **David Cahen**



Fundamentals of Materials for Energy and Environmental Sustainability

Editors
David S. Ginley and
David Cahen

CAMBRIDGE

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

Whether you are a student taking an energy course or a newcomer to the field, this book will help you understand critical relationships between the environment, energy and sustainability. Leading experts provide comprehensive coverage of each topic, bringing together diverse subject matter by integrating theory with engaging insights. Each chapter includes helpful features to aid understanding, including a historical overview to provide context, suggested further reading and questions for discussion. Every subject is beautifully illustrated and brought to life with full-color images and color-coded sections for easy browsing, making this a complete educational package.

Sections Include:

- Energy and the Environment—The Landscape
- Nonrenewable Energy Sources
- Renewable Energy Sources
- Transportation
- Energy Efficiency
- Energy Storage, High-Penetration Renewables and Grid Stabilization

Published in partnership by the Materials Research Society and Cambridge University Press

Hardback
ISBN: 9781107000230

www.mrs.org/energybook

\$99.00 List Price
\$79.00 MRS Member Price

MATERIALS RESEARCH SOCIETY

2011 Board of Directors

Officers

J.J. De Yoreo, *President*
D.S. Ginley, *Immediate Past President*
B.M. Clemens, *Vice President and President-Elect*
S.J. Hearne, *Secretary*
M.R. Fitzsimmons, *Treasurer*

Directors

W. Adams
A.C. Arias
T. Benson Tolle
F. Besenbacher
E. Bodenschatz
D.B. Dimos
J.M. Gibson
O. Kraft
H. Matsumura
C.A. Orme
M.F. Rubner
T. Someya
S.E. Trolrier-McKinstry
P. Wiltzius

2011 Publications Committee

P.C. McIntyre, *Chair*
P.B. Messersmith, *Editors Subcommittee*
R.M. Wallace, *New Publication Products Subcommittee*
J.C. Bravman, *Publications Quality Subcommittee*

2011 MRS Committee Chairs

M.S. Whittingham, *Academic Affairs*
J.R. Weertman, *Awards*
A.J. Hurd, *Government Affairs*
J.W.P. Hsu, *International Relations*

S. Jasty, *Membership*
P.C. McIntyre, *Publications*
G. Zenner Petersen, *Public Outreach*
M. Aziz, *Technical Program*

MRS Headquarters

T.M. Osman, *Executive Director*
J.A. Dillen, *Director of Finance and Administration*
P.A. Hastings, *Director of Meeting Activities*
E.K. Novak, *Director of Communications*

Journal of Materials Research Founding Sponsors

Allied-Signal Inc.
Xerox Corporation

About the Materials Research Society

The Materials Research Society (MRS) is a not-for-profit scientific association founded in 1973 to promote interdisciplinary goal-oriented basic research on materials of technological importance. Membership in the Society includes almost 16,000 scientists from industrial, government, and university research laboratories in the United States and abroad.

The Society's interdisciplinary approach to the exchange of technical information is qualitatively different from that provided by single-discipline professional societies because it promotes technical exchange across the various fields of science affecting materials development. MRS sponsors three major international annual meetings encompassing many topical symposia, as well as numerous single-topic scientific meetings each year. It recognizes professional and technical excellence, conducts tutorials, and fosters technical exchange in various local geographical regions through Section activities and Student Chapters on university campuses.

MRS publishes symposia proceedings, the *MRS Bulletin*, and other volumes on current scientific developments. The *Journal of Materials Research*, the archival journal spanning fundamental developments in materials science, is published twenty-four times a year by Cambridge University Press for the MRS. *MRS Communications* is a full-color letters and perspectives journal focused on groundbreaking work across the spectrum of materials research.

MRS regular and student members may subscribe to *Journal of Materials Research*. See inside front cover for subscription rates for *Journal of Materials Research*.

MRS is an Affiliated Society of the American Institute of Physics and participates in the international arena of materials research through associations with professional organizations such as the International Union of Materials Research Societies.

For further information on the Society's activities, contact MRS Headquarters, 506 Keystone Drive, Warrendale, PA 15086-7573; telephone (724) 779-3003; fax (724) 779-8313.



Periodical Rate Postage Paid at New York, NY
and Additional Mailing Offices

Postmaster—Send change of address notice to:

ISSN: 0884-2914

Cambridge University Press
100 Brook Hill Drive
West Nyack, NY 10994-2113, USA