



# 2014

MRS Member Benefits  
and Society Activities

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

# WELCOME

## to the Materials Research Society

MRS is a growing, vibrant, member-driven organization focused on broadening the impact of materials science and improving the quality of life. Our members are research professionals from industry, academia and government from around the world, and they choose MRS because it is important to their work and careers.

As a member, you will enjoy the many benefits MRS has to offer—subscription to the online letters and perspectives journal, *MRS Communications*; a print and electronic subscription to *MRS Bulletin*; access to the *MRS Online Proceedings Library*, which now includes over 100,000 proceedings papers; access to *Materials360 Online*, our news resource designed specifically for the materials research community; listing in, and access to, the online MRS Member Directory; discounted rates for MRS meetings and workshops, to name just a few.

New for 2014, MRS members will receive free access to the new *MRS Energy & Sustainability—A Review Journal*, focused on key topics in materials research and development as they relate to energy and sustainability. Also look forward to the continued growth and expansion of MRS OnDemand®. Increased capabilities have allowed live-streaming and electronic capture of more content, benefitting on-site and remote attendees both during, and after, MRS Meetings.

What you might not know about MRS is that we are expanding our professional development portfolio to better meet your career needs and to better serve the materials research community. These efforts include:

- ◆ advocating for increased and sustained funding for the physical sciences
- ◆ fostering outreach and science education for policy leaders and the general public
- ◆ promoting diversity and inclusion in the scientific workforce
- ◆ introducing prestigious new awards
- ◆ and collaborating with international partners on bilateral projects.

By joining MRS, you add your voice to those of over 16,600 others who support these efforts and believe in the MRS mission of advancing interdisciplinary materials research to improve the quality of life.

[www.mrs.org](http://www.mrs.org)

## 2014 Officers



President  
**Tia Benson Tolle**  
The Boeing  
Company



Immediate Past  
President  
**Orlando Auciello**  
University of Texas  
at Dallas



Vice-President/  
President Elect  
**Oliver Kraft**  
Karlsruhe Institute  
of Technology



Secretary  
**Sean J. Hearne**  
Sandia National  
Laboratories



Treasurer  
**Michael R.  
Fitzsimmons**  
Los Alamos National  
Laboratory



Executive Director  
**Todd M. Osman**  
Materials Research  
Society

## 2014 Board of Directors

**Shenda M. Baker**  
Synedgen, Inc.

**Alexandra Boltasseva\***  
Purdue University

**C. Jeffrey Brinker\***  
Sandia National Laboratories  
and University of New Mexico

**David Cahen**  
Weizmann Institute of Science

**Stephen J. Eglash**  
Stanford University

**Chang-Beom Eom**  
University of Wisconsin—Madison

**Susan Ermer**  
Lockheed Martin

**Eric Garfunkel**  
Rutgers University

**Sossina M. Haile**  
California Institute of Technology

**Andrea M. Hodge**  
University of Southern California

**Hideo Hosono\***  
Tokyo Institute of Technology

**Fiona C. Meldrum**  
University of Leeds

**Kornelius Nielsch\***  
University of Hamburg

**Eric A. Stach**  
Brookhaven National Laboratory

**Stephen K. Streiffer**  
Argonne National Laboratory

**Loucas Tsakalacos\***  
General Electric—Global Research Center

\*Newly elected

# EXPAND YOUR KNOWLEDGE

The full suite of MRS publications—*MRS Communications*, *MRS Bulletin*, *Journal of Materials Research*, the *MRS Online Proceedings Library* and *MRS Energy & Sustainability—A Review Journal*—is hosted on Cambridge Journals Online (CJO). For both authors and readers that means expanded benefits...advanced search capabilities, reference linking, mobile browser accessibility and more!

## MRS Communications

*MRS Communications* is a full-color, high-impact journal focused on groundbreaking work across the broad spectrum of materials research.

As an MRS member, you'll receive **FREE access to *MRS Communications*** on Cambridge Journals Online (CJO). Complimentary access is also available in dynamic page-turning format and mobile applications downloadable from iTunes and the Android Market.

*MRS Communications* offers a rapid but rigorous peer-review process and time-to-publication with an aggressive production schedule that will bring your article to online publication within a target of 14 days from acceptance.

Leveraging its access to the far-reaching technical expertise of MRS members and leading materials researchers from around the world, the journal boasts an experienced and highly-respected Advisory Board, board of Principal Editors and reviewers.

Major article types for *MRS Communications* include research letters and Prospectives articles.

[www.mrs.org/mrc](http://www.mrs.org/mrc)

## Journal of MATERIALS RESEARCH

As an MRS member, you may subscribe to *Journal of Materials Research (JMR)*, one of the foremost archival materials research journals in the world, at a very low member rate. All subscription options include full-text articles from the *Journal's* inception in January 1986 to the current issue.

Look for these **JMR benefits and services**:

- ◆ 24 issues per year
- ◆ immediate online publication
- ◆ no author page charges/free online color
- ◆ advanced search capability
- ◆ mobile browser accessibility
- ◆ reference linking via CrossRef, Google Scholar and OpenURL
- ◆ html or pdf format options for all new *JMR* content

In addition, four special focus issues will be featured in 2014:

January	<b>The Synthesis of Nanostructured Functional Oxides</b>
February	<b>Graphene and Beyond</b>
September	<b>The Materials Science of Additive Manufacturing</b>
October	<b>Optical Ceramics Science</b>

[www.mrs.org/jmr](http://www.mrs.org/jmr)

## MRS Bulletin

As an MRS member, you can count on your **FREE monthly subscription to *MRS Bulletin*** (in print, electronic and dynamic page-turning formats) for the best news and research overviews available today. The technical articles in the *Bulletin* are among the most highly cited in the field of materials research, consistently ranking in the top 10% of materials science journals.

Theme topics for 2014 will include:

- ◆ Materials for Biological Modulation, Sensing, and Imaging
- ◆ Elastic Strain Engineering
- ◆ Organic Nanoparticles for Nanomedicine
- ◆ Focused Ion Beam (FIB) Microscopy, Tomography and Nanofabrication
- ◆ Lithium Batteries and Beyond
- ◆ CVD Diamond
- ◆ Organic Spintronics
- ◆ New Materials for Post-Si Computing
- ◆ Low Temperature Solid Oxide Fuel Cells
- ◆ Topological Insulators
- ◆ Biological Interactions of Oxide Nanoparticles: The Good and the Bad
- ◆ Water at Interfaces

Don't miss Energy Quarterly (EQ)! Bound within *MRS Bulletin* four times a year, EQ offers interviews and analysis of materials solutions to the world's accelerating need for secure, affordable and environmentally sustainable energy.

[www.mrs.org/bulletin](http://www.mrs.org/bulletin)

## MRS ENERGY SUSTAINABILITY A Review Journal

### COMING SOON

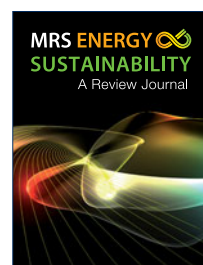
*MRS Energy & Sustainability—A Review Journal* will be **FREE to MRS members** and will publish reviews on key topics in materials research and development as they relate to energy and sustainability.

Topics to be reviewed are new R&D of both established and new areas; interdisciplinary systems integration; and objective application of economic, sociological and governmental models, enabling research and technological developments.

The reviews will be set in an integrated context of scientific, technological and sociological complexities relating to environment and sustainability.

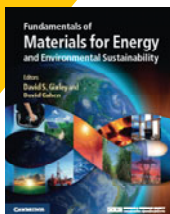
The intended readership is a broad spectrum of scientists, academics, policy makers and industry professionals, all interested in the interdisciplinary nature of the science, technology and policy aspects of energy and sustainability.

[www.mrs.org/energy-sustainability-journal](http://www.mrs.org/energy-sustainability-journal)





# EXPAND YOUR KNOWLEDGE

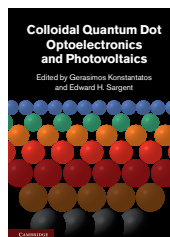


## Fundamentals of Materials for Energy and Environmental Sustainability

EDITORS: David S. Ginley  
David Cahen

Leading experts from around the world provide comprehensive coverage of environment, energy, and sustainability, bringing together diverse subject matter by integrating theory with engaging insights. Each chapter includes helpful features to aid understanding, including a historical overview, suggested further reading and questions for discussion. Every subject is illustrated with full-color images and color-coded sections for easy browsing, **making this textbook a complete educational package.**

[www.mrs.org/energybook](http://www.mrs.org/energybook)

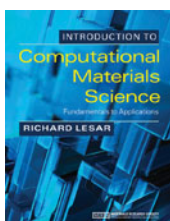


## Colloidal Quantum Dot Optoelectronics and Photovoltaics

EDITORS: Gerasimos Konstantatos  
Edward H. Sargent

Capturing the most up-to-date research in colloidal quantum dot (CQD) devices, this book is written in an accessible style by the world's leading experts. Summaries of the fundamental physics and chemistry provide those new to the field with the key information needed. The textbook systematically reviews **key advances in device engineering that all researchers involved in the field must understand.**

[www.cambridge.org/colloidal](http://www.cambridge.org/colloidal)

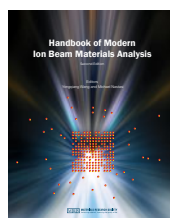


## Introduction to Computational Materials Science: Fundamentals to Applications

AUTHOR: Richard LeSar

Emphasizing essential methods and universal principles, **this textbook provides everything students need to understand the basics of simulating materials behavior.** The chapters examine modeling materials across a broad range of scales, from the atomic to the mesoscale, providing students with a solid foundation for future study and research, and present detailed, accessible explanations of the fundamental equations underpinning materials modeling. The textbook includes extensive appendices, providing students with all the background necessary to fully engage with the fundamentals of computational modeling.

[www.cambridge.org/lesar](http://www.cambridge.org/lesar)



## Handbook of Modern Ion Beam Materials Analysis, 2<sup>nd</sup> Edition

EDITORS: Yongqiang Wang  
Michael Nastasi

**The most comprehensive database on ion beam analysis ever published**—revised and updated from the popular handbook published in 1995—the *Handbook of Modern Ion Beam Materials Analysis, 2<sup>nd</sup> Edition* is a compilation of updated techniques and data for use in the ion beam analysis of materials. The information presented is unavailable collectively from any other source and places a strong emphasis on practical examples of the analysis techniques as they are applied to common problems.

[www.mrs.org/ibh2](http://www.mrs.org/ibh2)

## MRS **online** PROCEEDINGS LIBRARY



The *MRS Online Proceedings Library (OPL)*, **FREE to all MRS members**, offers unlimited full-text availability to over 100,000 papers from the well-recognized MRS Symposium Proceedings Series—proceedings published from Volume 1 to the present, with more added daily. The collection also includes many proceedings papers that were never published in print format and are available only online.

This massive database is an ideal reference for graduate students, corporate scientists and engineers, and overseas researchers needing access to current information without the lag time of printing and mail delivery.

For our more archivally-minded members, print volumes of the MRS proceedings are available at 15-20% off list price.

[www.mrs.org/opl](http://www.mrs.org/opl)



# MRS OnDemand®

MRS OnDemand is the always-on, online community for the Materials Research Society. It delivers a large sampling of the rich materials science content from the MRS Spring and Fall Meetings and other relevant resources through an interactive experience, complete with video, audio and presentation materials. It's Your MRS, Your Way!

With MRS OnDemand you can:

- ◆ Access sessions you missed from MRS Meetings
- ◆ Review presentation content from sessions you attended
- ◆ Gain insights from interviews with experts
- ◆ Comment and connect with your peers across the materials sciences
- ◆ Follow materials science research topics in your specific area of interest



MRS OnDemand also hosts MRS TV—an exciting new television channel dedicated to news and views from MRS Meetings. Each episode features a mix of well-established, popular topics and leading-edge research, reports from the exhibit hall, talks with experts in the field and interviews with Meeting attendees.

[www.mrs.org/on-demand](http://www.mrs.org/on-demand)



## MRS PUBLISHING

**Do you have an idea for a new book or journal on a materials-related topic?**

Is there a materials topic that is under-represented, or shows exceptional potential for growth within the MRS publications portfolio? If so, then submit a proposal to the Materials Research Society, where we don't just serve the materials community ... **we ARE the materials community.**

[www.mrs.org/mrs-publishing](http://www.mrs.org/mrs-publishing)

## materials 360 online

*Materials360 Online* is your **premier source for materials science news and information**, brought to you by the Materials Research Society and Cambridge University Press. Created to collect all the most important materials science news in one place, this website saves time and needless searching. Through rigorous reporting, detailed fact checking, and clear writing, our volunteers, freelancers, staff writers, and editors bring original news articles with the unique perspective of an organization devoted to the advancement of materials science. In addition, we link you to other stories from professional news sources.

- ◆ Breaking Research News
- ◆ MRS News
- ◆ Hot Topics
- ◆ Featured Journal Articles
- ◆ Videos and Podcasts
- ◆ Education and Outreach Links
- ◆ Twitter Feeds
- ◆ And More!

[www.materials360online.com](http://www.materials360online.com)

## MyMRS

This feature of the MRS website allows you to personalize the information you receive from us—identify your particular areas of interest, register for online newsletters and e-mail alerts (see below), change your password or e-mail address, and more.

## E-mail Newsletters & Alerts

MRS members are invited to sign up for FREE member e-mail alerts aimed at providing new materials information quickly. Below is a sampling of the e-mails offered.

**Materials360®** delivers bimonthly “snapshots” of what’s new in the materials research community—the latest research worldwide, professional opportunities, important links and more.

**MRS Table-of-Contents Alerts** deliver advance table-of-contents listings for *MRS Bulletin*, *JMR* and *MRS Communications*.

**Meeting Scene** delivers daily summaries of technical presentations and events by on-the-spot reporters at MRS Spring and Fall Meetings and other special non-MRS conferences.

**MRS Public Affairs Alert** provides occasional calls-to-action and/or summaries of current public-policy issues affecting the materials science and engineering communities.

**INTERSECTIONS—Materials Research & Science Policy** offers a quarterly source of information about the intersection of materials research and government including updates on what’s happening in Washington, DC and within the government affairs activities of MRS.

[www.mrs.org/mymrs](http://www.mrs.org/mymrs)

# CONNECT

WITH GREAT MINDS



## MRS on Social Media

The materials landscape is constantly changing. With new research, awards, publications and conferences announced daily, it's never been more vital to stay up-to-date. MRS makes it easy. Connect with fellow materials scientists from around the globe, talk with exhibitors that interest you and share thoughts with MRS staff through our powerful social media channels. Plus, you'll receive exclusive MRS content before anyone else.

Visit [www.mrs.org/social-media](http://www.mrs.org/social-media) today to view all of our social media channels: Facebook, LinkedIn and Twitter.

[www.mrs.org/social-media](http://www.mrs.org/social-media)

## MRS Meetings and Workshops

The Materials Research Society has always been the "great meetings Society." In 2014, more than 13,000 members from around the world will attend MRS Meetings and Workshops, expanding their professional network of contacts through the exchange of new ideas and information. As an MRS member, you'll enjoy reduced registration fees for these events.



### 2014 MRS Spring Meeting & Exhibit

Moscone West | San Francisco Marriott Marquis |  
The Westin San Francisco Market Street  
**April 21-25 | San Francisco, California**

Symposium Clusters:

- ◆ Energy
- ◆ Soft and Biomaterials
- ◆ Electronics and Photonics
- ◆ Nanomaterials
- ◆ General—Theory and Characterization

[www.mrs.org/spring2014](http://www.mrs.org/spring2014)



### XXIII International Materials Research Congress

JW Marriott Cancun Resort & Spa |  
CasaMagna Marriott Cancun Resort  
**August 17-21 | Cancun, Mexico**

Symposium Topics Include:

- ◆ Advanced Catalytic Materials
- ◆ Materials Relevance in Fluctuation-Induced Interactions
- ◆ Organic Materials for Electronics and Photonics
- ◆ Lanthanide-Doped Materials

[www.mrs.org/imrc-2014](http://www.mrs.org/imrc-2014)



### 2014 MRS Fall Meeting & Exhibit

Hynes Convention Center | Sheraton Boston Hotel  
**November 30 - December 5 | Boston, Massachusetts**

Symposium Topics Include:

- ◆ Organic Bioelectronics
- ◆ Oxide Semiconductors
- ◆ Materials for Advanced Nuclear Technologies
- ◆ Directed Self-Assembly for Nanopatterning
- ◆ Advanced Structural and Functional Intermetallic-Based Alloys

[www.mrs.org/fall2014](http://www.mrs.org/fall2014)



## CONFERENCE SERVICES

Because the Experience Matters

For more than 30 years, MRS has been known as a leader in scientific meeting management, and now, a new enhanced Conference Services program is available which embraces a core component of the MRS Vision—to provide a framework in which the materials disciplines can convene, collaborate, integrate and advocate.

The MRS Conferences Services team applies the same experience, passion and skills that go into planning the MRS Fall and Spring Meetings, to each of the following events:



### 5th International Symposium on Growth of III-Nitrides

The Westin Hotel – Peachtree Plaza  
May 18-22 | Atlanta, Georgia



### 2014 New Diamond and Nano Carbons Conference

Hyatt Regency Chicago  
May 25-29 | Chicago, Illinois



### 2014 American Conference on Neutron Scattering

Crowne Plaza Knoxville  
June 1-5 | Knoxville, Tennessee



### 56th Electronic Materials Conference

University of California, Santa Barbara  
June 25-27 | Santa Barbara, California



### 8th International Workshop on Zinc Oxide and Related Materials

Sheraton on the Falls Hotel  
September 7-11 | Niagara Falls, Ontario, Canada

### 4th International Symposium on Graphene Devices

To Be Announced  
September 2014 | Seattle, Washington

[www.mrs.org/other-meetings](http://www.mrs.org/other-meetings)



## Member Directory

The MRS Online Member Directory is a **professional networking service** available exclusively to our members. Updated regularly, it is a quick and easy way for you to search for colleagues by name, institution or geographical location.

Now you can add pictures, a short bio and links to your social media profiles, making your connections to MRS members a personalized experience. Log on today to make sure your account is up to date!

[www.mrs.org/member-directory](http://www.mrs.org/member-directory)

## Career Central

Opportunities for you to **expand your career or your company** include the MRS Spring and Fall Meeting career centers, the most efficient forums available for pursuing employment or filling materials research positions. In addition, *MRS Bulletin* advertises a wide range of materials-related professional openings in industry, academia, government and research worldwide. Listings are also posted on the MRS website each month for convenient online access.

[www.mrs.org/career-connections](http://www.mrs.org/career-connections)

## University Chapters

University Chapters are a vital part of MRS, **facilitating discussion between students and faculty and promoting student interest in materials science**. As a student member, University Chapters give you the platform to network among 79 active Chapters from around the world, compare notes on recent activities and brainstorm with other students on new projects and issues of common concern. MRS has expanded its University Chapters program internationally, allowing student members to connect with different regions globally, maximizing positive impact for materials research worldwide.

[www.mrs.org/university-chapters](http://www.mrs.org/university-chapters)



# GAIN RECOGNITION

## MRS Awards

The MRS Awards Program acknowledges outstanding contributions to the progress of materials research, honoring those whose work has already impacted the field, as well as those whose work shows great promise for future leadership. [www.mrs.org/awards](http://www.mrs.org/awards)

The **MRS Fellow** honors members who are notable for their sustained and distinguished contributions to the advancement of materials research worldwide. This designation is highly selective. The maximum number of Fellows that may be appointed in each year is limited to 0.2% of the current total MRS membership. Nominations are due October 1 of each year.

The **Von Hippel Award** is the Materials Research Society's highest honor and recognizes those qualities most prized by materials scientists and engineers—brilliance and originality of intellect, combined with vision that transcends the boundaries of conventional scientific disciplines. Nominations are due April 1 of each year.

The **David Turnbull Lectureship** recognizes the career of a scientist who has made outstanding contributions to understanding materials phenomena and properties through research, writing, and lecturing, as exemplified by the life work of David Turnbull. Nominations are due April 1 of each year.

The **MRS Medal** recognizes an exceptional recent achievement in materials research which is expected to have a major impact on the progress of any materials-related field. Nominations are due April 1 of each year.

The **Innovation in Materials Characterization Award** honors an outstanding advance in materials characterization that notably increases our knowledge of the structure, composition, *in situ* behavior under outside stimulus, electronic, mechanical, or chemical behavior, or other characterization feature, of materials. Nominations are due October 1 of each year.

The **Mid-Career Researcher Award** recognizes exceptional achievement in materials research made by mid-career professionals. This annual award is intended to honor an individual who is between the ages of 40 and 52 at the time of nomination and has demonstrated notable leadership in the materials field. Nominations are due October 1 of each year.

The **Materials Theory Award** recognizes exceptional advances made by materials theory to the fundamental understanding of the structure and behavior of materials. This award is intended to honor both those who have pioneered the development of a new theoretical approach and those who have used existing approaches to provide significant new insight into materials behavior. Nominations are due April 1 of each year.

The **MRS Outstanding Young Investigator Award** recognizes outstanding, interdisciplinary scientific work in materials research by a young scientist or engineer. The award recipient must also show exceptional promise as a developing leader in the materials area. Nominations are due October 1 of each year.

**MRS Graduate Student Awards** honor and encourage graduate students whose academic achievements and current materials research display a high order of excellence and distinction. Finalists compete for Gold and Silver Awards at the MRS Spring and Fall Meetings. Applications are due approximately five months preceding each MRS Meeting.

The **Arthur Nowick Graduate Student Award**, which honors the late Arthur Nowick and his lifelong commitment to teaching and mentoring students in materials science, recognizes a Graduate Student Award finalist who shows particular promise as a future teacher and mentor. This award is presented at each Fall Meeting.

## Coming Soon...

A new award for  
**excellence in post-  
doctoral research.**  
Watch for details  
mid-year!

## MRS Congressional Science and Engineering Fellowships

Decisions made by Congress, regulatory agencies and local government have profound effects on the way in which science is conducted. By keeping decision-makers well informed on the current affairs of the scientific community, MRS Congressional Science and Engineering Fellows ensure the right choices are being made. **Now's your time to make a difference!**

The Materials Research Society offers materials scientists two exciting opportunities to participate in, and contribute to, the federal policymaking process, while learning firsthand about the intersection of science and policy.

During your year as a Fellow you will:

- ◆ be placed in a specific congressional office to serve as an advisor on science-related issues
- ◆ contribute widely to the effective use of materials science knowledge in government
- ◆ broaden awareness about the value of scientist- and engineer-government interaction among society members and within government
- ◆ network with more than 250 other participants of science and technology fellowship programs
- ◆ have significant freedom to follow specific topics and issues that interest you.

Information and application deadlines may be found online.

[www.mrs.org/congressional-fellows](http://www.mrs.org/congressional-fellows)

## Publishing Opportunities

Publishing venues for MRS members include *MRS Communications*, *MRS Bulletin*, *Journal of Materials Research*, *MRS Energy & Sustainability—A Review Journal* and the *MRS Online Proceedings Library (OPL)*. To propose a theme topic for *MRS Bulletin*, or for information on guest-editor opportunities, contact the *Bulletin* editor at [rao@mrs.org](mailto:rao@mrs.org). Authors wishing to submit to *JMR* should visit [www.mrs.org/jmr](http://www.mrs.org/jmr) for complete author instructions.

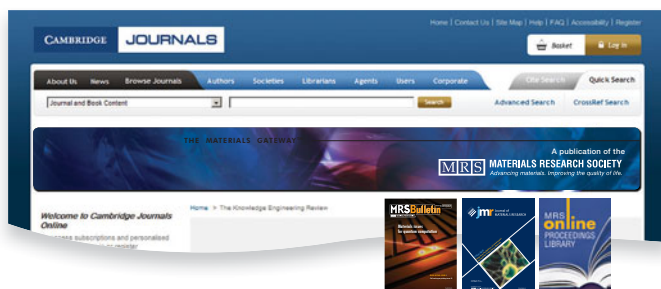
For information about submitting to *MRS Communications*, visit [www.mrs.org/mrc](http://www.mrs.org/mrc). To submit a proposal to the new *MRS Energy & Sustainability—A Review Journal*, visit [www.mrs.org/energy-sustainability-journal](http://www.mrs.org/energy-sustainability-journal). To propose new books or other publications, contact the Principal Development Editor at [fleisher@mrs.org](mailto:fleisher@mrs.org).

In addition, the *OPL* offers opportunities to publish papers presented at MRS Meetings and other scientific and technical meetings.

**The full suite of MRS publishing options are now hosted on the powerful Cambridge Journals Online (CJO) platform.** For authors and readers that means expanded benefits that include:

- ◆ advanced search capability
- ◆ mobile browser accessibility
- ◆ notification of First View articles as they publish,
- ◆ available via RSS or email
- ◆ citation export to desktop, or forward to a colleague, in formats such as EndNote, Reference Manager, ASCII Plain Text, Bibloscape, BioTex, HTMS, Papyrus, and others
- ◆ reference linking via CrossRef, Google Scholar and OpenURL
- ◆ html or pdf format options for all new content
- ◆ quick links to Most Read and Most Cited Articles
- ◆ and so much more!

[www.mrs.org/publications](http://www.mrs.org/publications)



# BECOME

A VITAL PART



## MATERIALS RESEARCH SOCIETY FOUNDATION

The Materials Research Society Foundation was created to enhance and expand support for projects that are important, timely and meaningful to the materials community.

Unique in several ways, the Foundation:

- ◆ advances the MRS mission to “promote communication for the advancement of interdisciplinary materials research to improve the quality of life”
- ◆ focuses on member engagement and funding to enrich, expand and ensure MRS core programs in education, outreach and peer recognition
- ◆ leverages corporate partner, institutional and individual support to invest in projects of importance to the materials community, as defined by the materials community
- ◆ benefits a wide range of innovative grassroots, member-driven initiatives—from student chapter proposals, to local or regional education/outreach projects, to those with the potential to impact the materials enterprise worldwide.

To learn how you can help make a difference or to apply for project funding, we invite you to explore the Foundation website.

[www.mrs.org/foundation](http://www.mrs.org/foundation)



MRS plays a leading role in the Nanoscale Informal Science Education Network (NISE Network)—a program created to engage the public in advances in nanoscale research, to capture the imagination of young people who may subsequently choose careers in nanoscale science and engineering, and to foster new partnerships among research institutions and informal science centers. The NISE Network has selected March 29-April 6 for NanoDays 2014, a national week of community-based educational outreach events to raise public awareness of nanoscale science and engineering and its potential impact on the future. Visit [www.nisenet.org](http://www.nisenet.org) to learn more about the NISE Network and NanoDays 2014.

[www.mrs.org/NISE](http://www.mrs.org/NISE)

## Society Member Volunteers

The tremendous growth and success of our Society is the result of member input and the energetic efforts of many MRS member volunteers. **The MRS committees and task forces offer members an invaluable opportunity to participate in, and influence profoundly, the operation of the Society.** If you have an interest in working on any aspect of MRS activity, contact [volunteer@mrs.org](mailto:volunteer@mrs.org).

[www.mrs.org/get-involved](http://www.mrs.org/get-involved)



MRS recognizes that scientific and engineering communities must strive to become more inclusive, engaging all demographic groups, and that diversity drives innovation, excellence and new discoveries. The **MRS Diversity Statement**, which was adopted in June 2009, is available online.

[www.mrs.org/diversity](http://www.mrs.org/diversity)

## Public Advocacy

MRS strives to contribute to the development of science and technology policy by responding to, and initiating, opportunities to interact nationally and internationally with government officials as well as public and private organizations. Led by the Government Affairs Committee (GAC), these efforts have been far-reaching, consistent and unbiased, building trust and respect with Washington, DC, both on Capitol Hill and within government agencies. **Ultimately, however, the key constituency is you—the MRS member—and GAC is working hard to make your voice heard!**

For 2014, MRS will continue to build on its accomplishments—strengthening relationships and building new ones through Congressional visits, establishing itself as a scientific resource for policymakers, extending its relationships with leadership in federal agencies, and collaborating in the U.S. and abroad with sister societies and other advocacy organizations when a larger voice for science is required.

To keep abreast of MRS advocacy efforts, register for *INTERSECTIONS—Materials Research & Science Policy*, a quarterly electronic newsletter dedicated to strengthening the link between GAC and the MRS members. Log on to [www.mrs.org/mymrs](http://www.mrs.org/mymrs) to sign up.

[www.mrs.org/advocacy](http://www.mrs.org/advocacy)



# Strange MATTER

Strange Matter is a traveling interactive exhibition where users enter the **fascinating, practical, occasionally bizarre and often beautiful world of materials science** through over a dozen hands-on experiences. Targeting 5th-8th grade students and families, two sizes of the exhibition will tour major science centers in North America in 2014.

MRS members will have opportunities to contribute and/or volunteer their services in each of the museum's local communities. For more information, contact Richard Souza at [souza@mrs.org](mailto:souza@mrs.org). An interactive website ([www.strangematterexhibit.com](http://www.strangematterexhibit.com)) and a teacher curriculum/activity guide also accompany the exhibition.

*The exhibition and its tour are made possible by the National Science Foundation, Dow, Ford Motor Company Fund, Intel Innovation in Education, Rio Tinto Alcan and 3M.*

[www.mrs.org/strangematter](http://www.mrs.org/strangematter)



## Strange Matter. Green Earth.

Experience the Power of Materials for a Sustainable World—The Stuff That Matters

Strange Matter Green Earth is a new pioneering educational venture by MRS to create an international traveling science exhibition that will enable millions of people across the globe to **discover ways in which advances in materials can lead to a more sustainable future**. A team of science educators, science center professionals and materials researchers from three continents—North America, South America and Europe—is working to create an exhibition that will inform, engage, and inspire exhibition attendees about how materials profoundly influence the quality of our lives and the planet. Interactive exhibit experiences and dynamic community programs will emphasize materials, from the mundane to the mysterious, and highlight ways in which materials scientists worldwide are playing a major role in a sustainable world.

Building on the incredible success of the MRS Strange Matter traveling exhibition, Strange Matter Green Earth aims to empower the world's citizens to make sustainable choices in their own lives and communities.

[www.mrs.org/strange-matter-green-earth](http://www.mrs.org/strange-matter-green-earth)

## Impacts of Materials on Society

MRS is partnering with faculty from engineering, liberal arts and sciences and education departments at the University of Florida to develop an introductory-level course suitable for undergraduate and community college students. **This project changes the conversation about the separation of the humanities and science fields through the creation of a collaborative, interdisciplinary, project-based undergraduate course examining the impact of materials on society.** In particular, this project brings materials science and engineering studies into dialogue with the humanities.

[www.mrs.org/public-outreach-committee/#imos](http://www.mrs.org/public-outreach-committee/#imos)



The Science Enthusiasts web pages invite MRS membership, outreach volunteers and the general public to interact with the stimulating world of materials science by becoming Materials Science Enthusiasts—**Do Something, Learn Something, Watch Something and Get Involved**. The website contains an ever growing collection of resources for the curious learner at any age, as well as for those actively involved in public outreach.

[www.mrs.org/science-enthusiasts](http://www.mrs.org/science-enthusiasts)

## Women in Materials Science and Engineering

MRS members are encouraged to join the Women in Materials Science & Engineering (WMS&E) interest group—**an online forum for dialog among women working in, or pursuing education towards, a profession in materials science or engineering**. The goal is to share ideas and strategies that may be useful in professional life and to generate ideas for promoting awareness of women's issues to the broad professional community. Subscribe at [www.mrs.org/mymrs](http://www.mrs.org/mymrs). Additionally, WMS&E is also the subject of special breakfasts and professional development workshops at both the MRS Spring and Fall Meetings.

[www.mrs.org/mymrs](http://www.mrs.org/mymrs)

# 2014 MRS Membership Application

## MRS Membership Rates

- I am a new member  Please renew my membership

Rates are for 12 months and include complimentary subscriptions to *MRS Bulletin*, *MRS Communications*, *MRS Online Proceedings Library*, and coming in 2014, *MRS Energy & Sustainability—A Review Journal*.

<b>Begin Membership:</b>	<input type="checkbox"/> <b>January 1, 2014</b>	<input type="checkbox"/> <b>July 1, 2014</b>	
Regular Membership	\$115.00	\$	_____
* Student Membership	\$ 30.00	\$	_____
Retired/Unemployed	\$ 30.00	\$	_____

\* **NEW—FREE electronic membership available for qualified students attending universities in developing countries. Visit [www.mrs.org/dev-countries-member](http://www.mrs.org/dev-countries-member) to learn if you are eligible and how to apply.**

### Add a subscription to Journal of Materials Research (JMR). Subscription will begin on membership date.

*All subscription options to JMR include online access to full-text articles from January 1986 to the current issue!*

Member Subscription – online only	\$100.00	\$	_____
Member Subscription – print and online North America	\$260.00	\$	_____
Rest of World	\$318.00	\$	_____

**Subtotal** \_\_\_\_\_ \$ \_\_\_\_\_

## Materials Research Society Foundation (optional)

Donations to the **Materials Research Society Foundation** support the MRS mission, encouraging scientific study and innovation—and allow MRS to enhance and extend its awards, honors, education and outreach programs, as well as fund new member-driven grassroots projects.

### I am pleased to support the Materials Research Society Foundation.

- \$10    \$25    \$50    Other \_\_\_\_\_  
 I would like my donation to be anonymous

### Contribution Options:

- Education and Outreach Programs  
 University Chapter Special Projects  
 Graduate Student Awards

*Unless specifically designated above, your contribution will be used for MRS Education and Outreach Programs.*

The Materials Research Society Foundation operates as a program of The Materials Research Society. The official registration and financial information of the Materials Research Society Foundation may be obtained from the Pennsylvania Department of State by calling toll free, within Pennsylvania, 1.800.732.0999. Registration does not imply endorsement.

## Payment Information

▶▶▶ **ENTER PAYMENT TOTAL HERE:** \$ \_\_\_\_\_

- Check/money order enclosed—payable to **Materials Research Society**  
 Bill my credit card:  
 MasterCard    VISA    American Express

Card No. \_\_\_\_\_ Exp. Date \_\_\_\_\_

Signature \_\_\_\_\_

**Mail or Fax**      Materials Research Society  
 506 Keystone Drive  
 Warrendale, PA 15086 USA  
 Tel 724.779.3003  
 Fax 724.779.4732

**Join/Renew Online**      [www.mrs.org/join](http://www.mrs.org/join)

## Billing & Shipping Address

Name: First \_\_\_\_\_ Middle \_\_\_\_\_ Last \_\_\_\_\_

Membership ID# (if renewing) \_\_\_\_\_

Institution \_\_\_\_\_ Dept./Mail Stop \_\_\_\_\_

P.O. Box \_\_\_\_\_ Street \_\_\_\_\_

Postal Code \_\_\_\_\_ City \_\_\_\_\_

State/Province \_\_\_\_\_ Zip \_\_\_\_\_ Country \_\_\_\_\_

Tel: Country Area/City Local Number \_\_\_\_\_ Fax: Country Area/City Local Number \_\_\_\_\_

E-mail address \_\_\_\_\_

Note: The address above will also be used in future MRS Member Directories unless you request an alternate address for the Directory.

## Student Applicants

I am currently enrolled as a full-time student, or I am working full-time on a thesis or dissertation.

Signature \_\_\_\_\_ Date \_\_\_\_\_

## Member Demographics (optional)

### Current Employment Status

- Employed  
 Student  
 Retired  
 Unemployed

### Highest Level of Education

- Doctorate degree/equivalent  
 Master's degree/equivalent  
 Bachelor degree/equivalent  
 High school graduate/equivalent  
 Other \_\_\_\_\_

### Title/Job Function

- Student  
 Post Doc  
 Scientist/Engineer  
 Professor  
 Department Chair  
 Executive/Management  
 Sales/Marketing  
 Press  
 Retired  
 Other \_\_\_\_\_

### Gender

- Male    Female

### Year of Highest University Degree Earned

\_\_\_\_\_

### Race/Ethnic Origin

- Asian  
 Black or African Descent  
 Hispanic  
 Native American or Alaskan  
 Native Hawaiian or Pacific Islander  
 White (Caucasian)  
 Other \_\_\_\_\_

### International Members Only

Do you belong to a group (ethnic, gender, or other) that is considered underrepresented in the fields of Materials Science and Engineering (including Physics, Chemistry, Engineering) in your country?

- Yes    No

If yes, please specify your underrepresented group \_\_\_\_\_

### Institution Type

Indicate primary (1) and/or secondary (2).

- Academic  
 Industry  
 Government/Military  
 Non-Profit/Professional Association  
 Other \_\_\_\_\_

- I am interested in volunteer opportunities with MRS

Allow 6-8 weeks for delivery of any subscription back issues.  
 Dues allocated to *MRS Bulletin* Subscription: \$29 Regular, \$17 Student

**JOIN OR RENEW TODAY!**



Submission Deadline—March 15, 2014

## Optical Ceramics Science

Transparent ceramics offer unique fabrication advantages enabling bulk optical components to be formed with near-net shape, strain-free and homogenous doping. In the past decades, remarkable progress has been made to produce ceramics with high optical quality, controlled microstructures, engineered index and doping profiles for applications in lighting, high-power lasers, solar-energy harvesting, medical imaging and homeland security. Despite those achievements, several important challenges remain to improve on the quality and the functionalities of those materials. *JMR* is planning a Focus Issue on *Optical Ceramics Science* to be published in October 2014. We are soliciting original contributed papers on recent advances made in the area of optical ceramic science.

### Contributed papers are solicited in the following areas:

- ◆ Optical ceramic materials for high-strength windows, scintillators, lasers, lighting, passive optics elements in the UV, visible and IR spectral regions
- ◆ New functionalities in transparent ceramic materials
- ◆ Defect studies in optical ceramics: grain-boundaries, stoichiometry issues, sintering additives, atomistic modeling
- ◆ Novel developments in powder synthesis, powder shaping and sintering methods for high performance optical ceramics
- ◆ Engineered optical ceramics: methods for microstructure, dopant and refractive index control
- ◆ Light-matter interaction in optical ceramics: theory, modeling and experimental studies

### GUEST EDITORS

**Romain Gaume**, CREOL, University of Central Florida, USA

**Yiquan Wu**, Alfred University, USA

**Thomas Hartnett**, Raytheon Company, USA

### MANUSCRIPT SUBMISSION

To be considered for this issue, new and previously unpublished results significant to the development of this field should be presented. The manuscripts must be submitted via the *JMR* electronic submission system by March 15, 2014. Manuscripts submitted after this deadline will not be considered for the issue due to time constraints on the review process. **Submission instructions may be found at [www.mrs.org/jmr-instructions](http://www.mrs.org/jmr-instructions)**. Please select "Focus Issue: *Optical Ceramic Science*" as the manuscript type. All manuscripts will be reviewed in a normal but expedited fashion. Papers submitted by the deadline and subsequently accepted will be published in the Focus Issue. Other manuscripts that are acceptable but cannot be included in the issue will be scheduled for publication in a subsequent issue of *JMR*.

CALL FOR PAPERS

**[jmr@mrs.org](mailto:jmr@mrs.org)**  
Please contact [jmr@mrs.org](mailto:jmr@mrs.org) with questions.