

“I can hardly imagine there being a more exciting time for the Society.”



Jim De Yoreo
2011 MRS President

Changing the way we do business

I am honored and privileged to have the opportunity to serve as the 2011 president of the Materials Research Society. As I survey our recent achievements, I can hardly imagine there being a more exciting time for the Society. These past few years have seen a remarkable expansion of MRS activities and their impact. In the area of technical programming, we are currently planning co-sponsored meetings in three different countries

through partnerships with the Sociedad Mexicana de Materiales, the Japanese Society of Applied Physics, and the European Materials Research Society (E-MRS).

Our efforts in advocacy have produced widely acclaimed publications on energy, joint policy studies with other major scientific societies, and co-sponsorship with E-MRS and MRS-China of the upcoming World Materials Summit in Washington, DC. Also, in the coming year we will join the Minerals, Metals & Materials Society in co-sponsoring a congressional fellow in addition to the fellow we co-sponsor with the Optical Society of America, and we will continue with our successful program of Congressional Visits Days.

As a result of our recent strategic initiative in communications, MRS has now entered into a long-term partnership with Cambridge University Press to enhance MRS publications and electronic content. The coming year will see us launch our first new journal since the *Journal of Materials Research* began 25 years ago, and it will be followed in subsequent years by other technical publications as well as new products for news and education.

By far the most impressive effort to have come to fruition this year is the new NOVA series *MAKING STUFF*. Beginning in January, this WGBH production will air on over 300 television stations around the country, bringing materials research into the living room. For those of us who grew up with this award-winning series, seeing materials research take center stage has special meaning. With this accomplishment, Amy Moll and the rest of the Public Outreach Committee, which she chairs, have brought MRS to its high watermark in outreach and education. More importantly, they have helped us to realize just how big an impact we as volunteers can have on the MRS mission of “advancing materials and improving the quality of life.”

Accomplishments such as the production of *MAKING STUFF* have been the result of dedication and hard work by teams of volunteers working in partnership with staff at MRS headquarters. They have taken years of sustained effort to become a reality. Surprisingly, these long-term projects have been more easily pursued at the level of the Operating Committees than at that of the Board of Directors, due to the board-centric, one-year cycle that has characterized the strategic planning process

in which each new president often sets a new direction. This brings me to the most significant change in the Society's way of doing business to occur in recent years. To alter this self-defeating dynamic, the board has transformed the process through which we create our future. Strategic planning is now a multiyear effort that spans many presidential terms and engages large segments of MRS, as well as outside advisors. Without this longer term approach, the partnership with Cambridge and the changes to our communications portfolio could not have come to pass.

As our work on strategic planning for the communications portfolio reaches completion over the next year, we will begin to use this process to define the future of MRS meetings. Along the way we will introduce yet another transformative change to the way we do business. The operating committees will be active partners with the board and headquarters in charting the future direction of the meetings portfolio, both through direct participation on the task forces that carry out the planning process, as well as through charges to those committees to support that process. In addition, we will work to replace the "stove piped" structure of our operating committee-board relationship with an interconnected network of committees that utilize one another in order to achieve their objectives. Through the sustained collective action of this broader network and a common vision of the Society's future, our accomplishments can exceed even the remarkable successes of this past year.

Jim De Yoreo

Jim De Yoreo
2011 MRS President



ANNOUNCING



2011 World Materials Summit • STUDENT CONGRESS

Keck Center of the National Academies and L'Enfant Plaza Hotel | Washington, D.C. | October 8-12, 2011



A PREMIER EVENT FOR THE BEST AND THE BRIGHTEST

WHAT Inaugural **STUDENT CONGRESS** at the **2011 World Materials Summit** 50 students from around the world will gain unparalleled access to today's global energy experts.

WHO Active graduate students and postdoctoral scholars in fields directly related to energy and environmental science, engineering and/or policy

Applications accepted
October 1, 2010—February 1, 2011

WHERE Keck Center of the National Academies and L'Enfant Plaza Hotel, Washington, D.C.

WHEN October 8-12, 2011

Visit www.mrs.org/2011WMS TODAY for eligibility criteria and application details.

2011 World Materials Summit

Introduction

This Summit is the third in a series of international events sponsored by the Materials Research Society (MRS), the European Materials Research Society (E-MRS) and the Chinese Materials Research Society (C-MRS). As with the prior Summits held in Lisbon, Portugal, and Suzhou, China, this is an invitation-only gathering of world-renown technical experts and policymakers, assembled to assess and document global research and innovation needs, develop policies, and outline the future of advanced energy materials.

Objectives

- Increase the penetration of renewable energy
- Secure and develop the worldwide electrical smart grid
- Address lifecycle and sustainability energy technologies
- Understand the clean water and energy relationship for advanced and advancing countries
- Educate the future global energy technology workforce

Meeting Chairs

Gabriel Crean, Commissariat à l'Energie Atomique, France
David Ginley, National Renewable Energy Laboratory, USA
Yafang Han, Beijing Institute of Aeronautical Materials, China
Alan J. Hurd, Los Alamos National Laboratory, USA



FOCUS ISSUE • SEPTEMBER 2011

Nanowires: Fundamentals and Applications

Submission Deadline—January 28, 2011

CALL FOR PAPERS

Research on nanowires encompasses fundamental issues in crystal growth and the scaling of materials properties to molecular dimensions, and work on possible applications of nano-scale single crystal assemblies in advanced devices. The goal of this *JMR* focus issue is to summarize leading research performed by the broad, multidisciplinary community of nanowire researchers to provide a review of 1) the current state of the field and 2) the opportunities for future high-impact science and technology related to semiconductor nanowires.

Contributed papers are solicited on the following topics:

- ◆ Top-down and bottom-up assembly of nanowire arrays
- ◆ Catalyzed versus non-catalyzed nanowire growth
- ◆ Catalyst materials selection
- ◆ Vapor, solution, and template mediated nanowire growth
- ◆ Thermodynamics and kinetics of nanowire nucleation and growth
- ◆ Crystallographic and topological orientation control
- ◆ Axial and core-shell heterostructures – synthesis and properties
- ◆ Limits to nanowire area and length scaling
- ◆ Size-dependent electronic, optical and mechanical properties
- ◆ Surface passivation and functionalization of nanowires
- ◆ Dopant incorporation and activation
- ◆ Metal/semiconductor nanowire contact formation
- ◆ Applications of nanowires in future devices

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 January 28, 2011.** 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. Please select “Focus Issue: *Nanowires: Fundamentals and Applications*” as the manuscript type. All manuscripts will be reviewed in a normal but expedited fashion. Other manuscripts that are acceptable but cannot be included in the issue will be scheduled for publication in a subsequent issue of *JMR*.

GUEST EDITORS

Paul C. McIntyre, Stanford University, USA

Volker Schmidt, Max Planck Institute, Halle, Germany

PRINCIPAL EDITORS

Tom Picraux, Los Alamos National Laboratory, USA

Nathaniel Qutoriano, McGill University, Canada

Heike Riel, IBM Research, Switzerland

Claes Thelander, Lund University, Sweden

Carl Thompson, Massachusetts Institute of Technology, USA

jmr@mrs.org

Please contact jmr@mrs.org with questions.