2013 MRS
FALL MEETING & EXHIBIT

PREM PROGRAM

MRS Diversity Subcommittee

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

diversity

MRS MATERIALS RESEARCH SOCIETY FOUNDATION

MRS Diversity Mission

The scientific and engineering communities must strive to become more inclusive, engaging all demographic groups in advancing science and technology. MRS recognizes that Diversity drives Innovation, Excellence, and New Discoveries. Although progress has been made, women and under-represented groups still remain a largely untapped resource in research and innovation.

MRS Diversity: Creating a Pathway to Excellence

MRS is committed to helping PREM students succeed in their careers:

- Circle of Mentoring
- Professional development (in person and virtual)
- Networking – MRS is interdisciplinary, providing access to scientists with a broad range of backgrounds and across all sectors
- Awards/Recognition

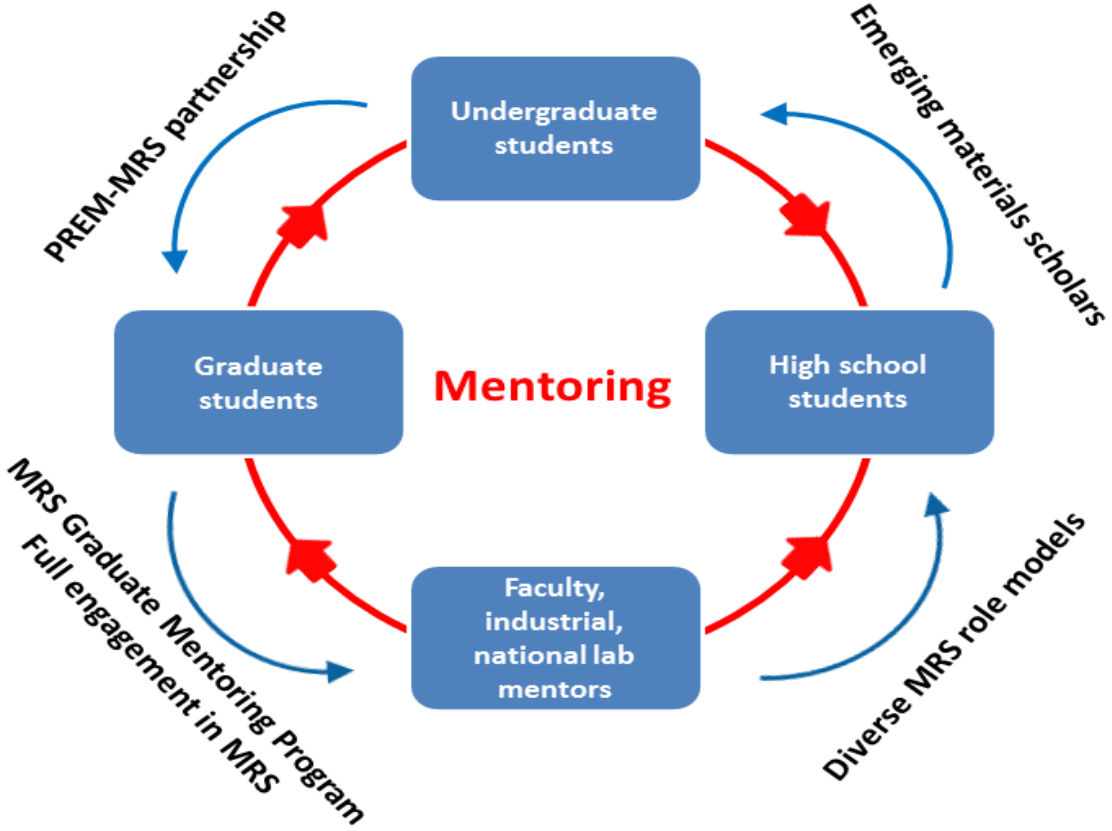
Program Charter

- To foster a diverse community of graduate students who are engaged in materials research and will have the knowledge and skills to become leaders and innovators
- To develop diverse talent through effective mentoring, professional development, research opportunities, role models, and network building with positive involvement in organizations and professional societies promoting materials research such as MRS
- To expand the circle of mentoring of the MRS Graduate Student Mentoring program

Program Goals

- To bring PREM students to the MRS Fall and Spring Meetings with a special session of presentations of their undergraduate research
- To present Awards in recognition of the most outstanding undergraduate research among the PREM groups
- To connect PREM students to graduate students participating in the MRS Graduate Student Mentoring Program via a mentoring relationship (extension of the existing program)
- To nurture a peer network of diverse, undergraduate materials researchers
- To use two-way streaming to engage a large audience of students on campuses
- To engage PREM students in the wide range of activities and events that are hallmarks of MRS meetings

Mentoring Model



Circle of Success

MRS Graduate Student Mentoring Program

Mission

To support the advancement of graduate students in the STEM fields and increase capacity of highly qualified diverse MRS members supporting the MRS Diversity statement
http://www.mrs.org/diversity/

Goals

- Increase graduate students' success by providing them with opportunities for improved access to *information, professional development, and networking opportunities*
- Provide opportunities for students to see what Materials Science offers as a career and broaden their perspective about career choices
- Provide venues for *dialogue about demands of work and family, the diverse issues of teaching, research, publishing, and proposal writing*

Program Design Elements

- Initial *Pilot Program* introduced in Fall 2012
- One year commitment is suggested
- Matching of mentee/mentor is based on similar interests and career goals, collocation in the same region when possible
- Training component for mentees/mentors http://mentoring-works.com/webinars.html
- Sharing of mentoring best practices and lessons learned at MRS meetings to improve the program
- Status review/evaluation at 3 month, 6 months, and 1 year
- Potential annual renewal of mentor/mentee match

Anticipated Outcomes

- Increase the diversity of MRS membership
- Retain and graduate diverse students in the STEM fields
- Increase the number of diverse students attending and presenting at the MRS
- Increase diversity in faculty positions
- Improve the quality of the research in STEM fields from diverse graduate students
- Create strong support network for diverse MRS members in STEM fields
- Provide awards and incentives for excellence to diverse MRS members

MRS Special Programs

- **Technical Poster Design Seminar**

  The most effective tools and techniques for creating technical posters with quality and clarity

- **Professional Development Workshop**

  S13- "Achieving Success through Implementation of Effective Work-Life Satisfaction and Mentoring Strategies"

- **Mastering Science Presentations Instructional Seminar**

  Learn the fundamentals of sharing science, how to choose the very best tools, and some of the tips and tricks to take your scientific presentations to the next level

- **Fred Kavli Distinguished Lectureship in Nanoscience**

  The Kavli Foundation supports scientific research, honors scientific achievement, and promotes public understanding of scientists and their work. Its particular focuses are astrophysics, nanoscience, and neuroscience

2013 MRS Fall Meeting & Exhibit

Biomaterials and Soft Matter

A. Modeling and Theory-Driven Design of Soft Materials
B. Point-and-Click Synthesis–Implementations of Click Chemistry in Polymers
C. Advances in Mechanics of Biological and Bioinspired Materials
D. Engineering and Application of Bioinspired Structured Materials
E. Fundamentals of Gels and Self-Assembled Polymer Systems
F. Synthetic Tools for Understanding Biological Phenomena
G. Integration of Biomaterials with Organic Electronics
H. Advanced Composites and Structures for Tissue Engineering
I. Multiscale Materials in the Study and Treatment of Cancer
J. Materials for Neural Interfaces
K. Micro- and Nanoscale Processing of Materials for Biomedical Devices

Electronics and Photonics

L. Photonic and Plasmonic Materials for Enhanced Optoelectronic Performance
M. Large-Area Processing and Patterning for Active Optical and Electronic Devices
N. Functional Aspects of Luminescent and Photoactive Organic and Soft Materials
O. Solution Processing of Inorganic and Hybrid Materials for Electronics and Photonics
P. Emergent Electron Transport Properties at Complex Oxide Interfaces
Q. Organic Microlasers–From Fundamentals to Device Application
R. Oxide Semiconductors
S. Diamond Electronics and Biotechnology–Fundamentals to Applications VII
T. Compound Semiconductor Materials and Devices
U. Magnetic Nanostructures and Spin-Electron-Lattice Phenomena in Functional Materials
V. Enabling Metamaterials–From Science to Innovation

2013 MRS Fall Meeting & Exhibit

Energy and Sustainability

W. Next-Generation Inorganic Thin-Film Photovoltaics
Y. Physics of Organic and Hybrid Organic-Inorganic Solar Cells
Z. Sustainable Solar Energy Conversion Using Earth-Abundant Materials
AA. Catalytic Nanomaterials for Energy and Environment
BB. Thermoelectric Materials–From Basic Science to Applications
CC. Advanced Materials for Rechargeable Batteries
DD. Materials and Technologies for Grid-Scale Energy Storage
EE. Advanced Materials for Nuclear Energy Technologies
FF. Characterization of Energy Materials In-Situ and Operando
GG. Surface/Interface Characterization and Renewable Energy

General Materials and Methods

Y. Functional Surfaces/Interfaces for Controlling Wetting and Adhesion
Z. Bulk Metallic Glasses
AA. Materials Fundamentals of Fatigue and Fracture
BB. Dislocation Plasticity
CC. Advances in Scanning Probe Microscopy
DD. Neutron Scattering Studies of Advanced Materials
EE. Strategies and Techniques to Accelerate Inorganic Materials Innovation
FF. Solid-State Chemistry of Inorganic Materials
X Frontiers of Materials Research

2013 MRS Meeting and Exhibit

Materials and Society

Y. Materials Issues in Art and Archaeology X
Z. Advances in Materials Science and Engineering Education and Outreach

Nanomaterials

Y. Large-Area Graphene and Other 2D-Layered Materials–Synthesis, Properties and Applications
Z. Nanowires and Nanotubes–Novel Materials, Advanced Heterostructures, Doping and Devices
AA. Transport Properties in Nanocomposites
BB. Phonon-Interaction-Based Materials Design–Theory, Experiments and Applications
CC. Designed Cellular Materials–Synthesis, Modeling, Analysis and Applications
DD. Self-Organization and Nanoscale Pattern Formation
EE. Microelectromechanical Systems–Materials and Devices
FF. Elastic Strain Engineering for Unprecedented Materials Properties
GG. Nanostructured Materials in Extreme Environments

MRS F13 PREM Program

Tentative Agenda for PREM event at MRS Fall Meeting in Boston:

Saturday, November 30 – PREM evening arrivals in Boston

Sunday, December 1

9:00 am	Welcome breakfast, program overview and Keynote address – prominent URM Scientist
11:00 am	Poster Design Workshop
12:00 pm	Lunch
1:00 pm	Professional Development Workshop (Examples: Achieving Success through Implementation of Effective Work-Life Satisfaction and Mentoring Strategies, Communicating Science)
4:00 pm	Time to work on posters
7:00 pm	Kavli Lecture

MRS F13 PREM Program

Monday, December 2

8:30 am	Visit to local university (TBD)
11:00 am	Virtual Session #1 - Career paths panel
12:30 pm	Mentoring Lunch (with Graduate Student Mentors)
1:30 pm	Virtual Session #2 (PREM and Graduate Students)
3:00 pm	Poster critique and prizes
4:30 pm	Networking reception with exhibit/recruitment tables
6:30 pm	Plenary session

Tuesday, December 3

Attend technical sessions, Visits to Public Outreach,
Exhibit Hall, Career Center
Departures