



2014 **MRS**[®]
FALL MEETING & EXHIBIT

PROGRAM & EXHIBIT GUIDE

November 30–December 5, 2014
Boston, Massachusetts



NEW MRS MEETING APP

See page 40 for more information.

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

www.mrs.org

SYMPOSIUM AAA

Undergraduate Research in Materials Science: Impacts and Benefits

December 1 - 3, 2014

Chairs

Chris Hughes
Sudipta Seal
Steven Yalisove

James Madison University
University of Central Florida
University of Michigan

Symposium Support

Council on Undergraduate Research
NISE Network

Proceedings to be published in
electronic-only format

(see MRS Online Proceedings Library at www.mrs.org/opl)
as Volume 1762E of the Materials Research Society
Symposium Proceedings Series.

* Invited paper

Frank W. Snowden Memorial

This symposium is a memorial to Frank W. Snowden. Frank W. Snowden was born on November 5, 1939 in New Orleans, Louisiana. Frank graduated from Xavier University of New Orleans with a B.S. in Chemistry in 1960 and earned his Ph.D. at the University of New Orleans in 1975. His extensive career included work in both industrial (3M) and governmental labs (USDA), until he found his true home in academia at the University of Minnesota (UMN).

From 1991 until his death on May 22, 2014 Frank dedicated himself to increasing participation in STEM fields, particularly by those traditionally under-represented in science and engineering. While at Minnesota, Frank directed numerous programs including the Academic Programs for Excellence in Engineering and Science, Project Lead the Way, Community of Scholars Program, Multicultural Undergraduate Research Program, Kirby Puckett/Jackie Robinson Foundation Scholarship Committee; and especially, the MRSEC Education and Outreach Program since its inception in 1998. In all these roles, Frank worked tirelessly not only to show students the path to careers in STEM, but to keep them on it. Once a student walked through Frank's door, they were under his watchful eye until the day they graduated, and often, well into their professional career. Frank took immense pleasure in working with and mentoring the exceptional students that passed through his numerous programs – and even greater pride in the successes of those students after they left.

SESSION AAA1: Institutional Support for Undergraduate Research
Session Chair: Steven Yalisove
Monday Morning, December 1, 2014
Sheraton, 3rd Floor, Hampton

8:45 AM *AAA1.01
The Impact of Broadening Participation in Undergraduate Research Sandra Gregerman, University of Michigan, Ann Arbor, Michigan, USA.

9:15 AM AAA1.02
An Unanticipated Outcome of Undergraduate Research Experiences for Community College Students: Creation of a Materials Science and

Engineering Educational Program
Bartlett M. Sheinberg, West Houston Center for Science & Engr, Houston Community College, Houston, Texas, USA.

9:30 AM AAA1.03
Impacts of a Multi-University REU Program
Carol F. Barry^{1,2}, Jacqueline Isaacs^{3,4}, Glen P. Miller⁵ and Carol L. Alpert⁶; ¹Plastics Engineering, University of Massachusetts Lowell, Lowell, Massachusetts, USA; ²Center for High-Rate Nanomanufacturing, University of Massachusetts Lowell, Lowell, Massachusetts, USA; ³Mechanical and Industrial Engineering, Northeastern University, Boston, Massachusetts, USA; ⁴Center for High-Rate Nanomanufacturing, Northeastern University, Boston, Massachusetts, USA; ⁵Chemistry, University of New Hampshire, Durham, New Hampshire, USA; ⁶Boston Museum of Science, Boston, Massachusetts, USA.

9:45 AM AAA1.04
A Recipe for Successful Undergraduate Research
Sunghye Lee, Chemistry, Iona College, New Rochelle, New York, USA.

10:00 AM BREAK

SESSION AAA2: Recognizing Best Practices in Undergraduate Research
Session Chair: William Hughes
Monday Morning, December 1, 2014
Sheraton, 3rd Floor, Hampton

10:30 AM *AAA2.01
Factors Associated with Student Decision-Making for Participation REU Programs D. R. Economy¹, J. L. Sharp², J. P. Martin³ and M. S. Kennedy¹; ¹Department of Materials Science and Engineering, Clemson University, Clemson, South Carolina, USA; ²Department of Mathematical Sciences, Clemson University, Clemson, South Carolina, USA; ³Department of Engineering and Science Education, Clemson University, Clemson, South Carolina, USA.

11:00 AM AAA2.02
"I Didn't Think Kids Like Me Got Opportunities Like This": Best Practices of Mentoring Underrepresented Students in Research
Jenny O. Shanahan¹ and Saritha Nellutla²;
¹Undergraduate Research, Bridgewater State University, Bridgewater, Massachusetts, USA; ²Chemical Sciences, Bridgewater State University, Bridgewater, Massachusetts, USA.

11:15 AM *AAA2.03
Characteristics of Excellence in Undergraduate Research (COEUR): A Guide to Building Productive, Sustainable Undergraduate Research Programs Roger Rowlett, Chemistry, Colgate University, Hamilton, New York, USA.

SESSION AAA3: Examples of Successful REU Programs
Session Chair: William Hughes
Monday Afternoon, December 1, 2014
Sheraton, 3rd Floor, Hampton

1:30 PM AAA3.01
REU in Physics at Howard University
Prabhakar Misra, Tristan Hubsch, Demetrius Venable, Silvina Gatica, Kimani Stancil, Belay Demoz and Gregory Jenkins; Physics & Astronomy, Howard University, Washington, District of Columbia, USA.

1:45 PM AAA3.02
An REU in Glass Science –Lessons and Legacy for Undergraduate Materials Education
William R. Heffner and Himanshu Jain; Int. Mater. Institute for New Functionality in Glass, Lehigh University, Bethlehem, Pennsylvania, USA.