International Symposium on Advances in Nanostructured Materials and Applications

The 2011 Acta Materialia Gold Medal symposium

MS&T 2011 meeting in Columbus, Ohio, USA, October 16-20, 2011

The symposium addresses critical issues relating to synthesis and processing, atomic and nanoscale characterization, structure-property correlations and modeling of nanostructured materials, in addition to defects, diffusion, ion implantation, laser-solid interactions and rapid thermal processing and pulsed laser deposition of novel materials with unique and improved properties. In the case of thin films and layered nanostructures, self-assembly processing, control of defects and interfaces, orientation control and epitaxy across the misfit scale, and stability of nanostructures need to be addressed from a materials science perspective. Similarly, for bulk nanostructures, innovative processing routes, control of dislocations and grain boundaries, role of twinning, size dependent mechanical properties, and stability of nanostructures should be addressed. These issues are crucial for the development of test nanostructures and their scale-up in manufacturing.

This international symposium is dedicated to seminal research contributions of Professor Jagdish (Jay) Narayan (winner of 2011 Acta Materialia Gold Medal) in the field of materials science and engineering and to his leadership in materials science worldwide through professional societies and the National Science Foundation. Professor Narayan is the John C. C. Fan Family Distinguished Chair Professor in the Department of Materials Science and Engineering in the College of Engineering at North Carolina State University.

Sponsors: ASM International, TMS, ACerS, Kopin Corporation and Army Research Laboratory.

Abstracts will be solicited for (but not limited to) **the following areas:**

Part I (Electronic materials):
(1) Defects, interfaces, and thin film epitaxy across the misfit scale in dissimilar materials
(2) Synthesis and non-equilibrium processing of functional electronic materials
(3) Self-assembly of nano-structured functional materials
(4) Nano-scale and atomic-scale characterization
(5) Nano-structure-property correlations and modeling

Part II (Structural materials):
(1) Control of nano-structures and processing of bulk nanostructured materials
(2) Stability of nano-structured materials and grain size effects
(3) Role of twinning and properties of nano-materials
(4) Control of ductility and fracture toughness
(5) Mechanical properties and related applications

Partial list of invited speakers in alphabetical order:

List of Confirmed Invited Speakers: as of 12/07/2010

A. **Electronic, photonic and magnetic materials:**

M. Chisholm (ORNL)
C-B Eom (University of Wisconsin, Madsen);
A. Goyal (Oak Ridge National Laboratory)
A. Gupta (University of Albama);
K. Jones (University of Florida);
R. Kalyanraman (UT, Knoxville);
R.S. Katiyar (University of Puerto Rico, Río Piedras Campus)
S. Mahajan (Arizona State University);
A. Madhukar (University of Southern California);
R. Narayan (NCSU);
T. K. Nath, Indian Institute of Technology Kharagpur
N. Padture (Ohio State);
S. Pennycook (ORNL);
J. Schwartz (North Carolina State University)
S. Seal (University of Central Florida);
R. Singh (Clemson Univ);
R N Singh (Univ. of Cincinnati);
A.Tiwari (University of Utah);
L. Vayssieres (National Institute for Materials Science International Center for Materials NanoArchitectonics)
H. Zhou (Oak Ridge National Laboratory)

B. **Structural Materials:**

R. Armstrong (University of Maryland);
I. Beyerlein (LANL),
H. Conrad (NCSU);
L. Kecskes (ARL);
C. Koch (NCSU);
E. J. Lavernia (UC, Davis);
P. Liao (University of Tennessee);
JCM Li (Rochester);
S. Mao (University of Pittsburgh);
S. Mathaudhu (ARO)
M. Meyers (UC San Diego);
A. Misra (LANL);
F. Mohamed (UC Irvine);
S. Prasad (Sandia National Lab)
R. Ritchie (UC Berkeley);
V. Subramanya Sarma (IIT),

R. Siegel (Rensselaer Polytechnic Institute);
J. Weertman (Northwestern University);
Q. Wei (University of North Carolina, Chapel Hill)
D. Wolf (ANL)

Symposium Publications:

Selected peer-reviewed papers will be published in the ***Journal of Acta Materialia***. All the peer reviewed papers will be published in the Symposium Proceedings in the form of a Book to be published by Institution of Civil Engineers (UK). Manuscript preparation guidelines will follow shortly.

Symposium Organizers:

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Information for abstract submission

Please Submit your abstract by March 15, 2011. All the highlighted icons are linked to the webpage. If you are having problem with the following icons, please directly go to the Conference webpage: http://matscitech.org/

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5. Click on the icon of Submit an Abstract on the page
6. Fill out the short questionnaire (please indicate if it is an invited talk or a contributed talk)
7. Paste your abstract title and body into the required fields.
8. Add co-authors as needed
9. Preview and submit abstract.