CALL FOR PAPERS

MRS Symposium Q (Fall 2003): MECHANICAL PROPERTIES OF NANOSTRUCTURED MATERIALS AND NANOCOMPOSITES (Boston, USA, December 1-5, 2003)

http://www.mrs.org/meetings/fall2003/cfp/symp_q.html

Nanostructured materials and nanocomposites exhibiting unique functional and structural properties, have the potential to have a revolutionary impact on technological progress in the 21st century. Of exciting interest, from both fundamental and applied viewpoints, is the outstanding deformation behavior of nanostructured materials and nanocomposites. In the past decade, tremendous investments in time, energy and resources have been made to learn, control and design materials at the nano-scale level for highly desired mechanical properties in metals, alloys, polymers, ceramics and their composite systems, using advanced technologies of their synthesis, processing and characterization. The main aim of this Symposium is to provide a critical, up-to-date review and discussion on science and technology of nanomaterials and nanocomposites, with focuses placed on a fundamental understanding of the relationships between their fabrication, structure, strength and ductility. We aim to create a forum for researchers involved in nanoscience and nanoengineering of bulk and composite materials, thick coatings and thin films for structural applications, to share views and develop new ideas and concepts. Particular emphasis is placed on developing close interactions among scientists and engineers and fostering future transdisciplinary and multi-institutional cooperation in this new and rapidly growing area.

Specific topics of interest include, but are not limited to:

- Fabrication and processing of nanostructured materials and nanocomposites
- Theory and modeling of nanostructures
- Nanostructured and nanocomposite materials characterization
- Stress analysis of nanostructured coatings
- Plastic deformation of nanostructured materials
- Fracture of nanostructured materials
- Fatigue properties of nanostructured materials and nanocomposites
- Deformation-induced phase transformations in nanostructures
- Structure and mechanical properties of nanocomposites: polymer with dispersed ceramic or metal nanoparticles, ceramic/ceramic or metal/ceramic systems
- Structural materials from immiscible polymer blends
- Innovative structural applications of nanomaterials and nanocomposites
- Design of nanomaterials and nanocomposites for structural applications

The symposium will consist of both invited and contributed talks and poster sessions.

Invited speakers: **L. Ajdeljstajn** (University of California, Davis)**, C. Bampton** (Boeing), **R. Dowding** (Army Research Laboratory), **P. Green** (University of Texas, Austin), **P.Hazzledine** (UES Inc.), **J.Th. M. De Hosson** (University of Groningen, The Netherlands), **C.C.Koch** (North Caroline University), **A.K.Mukherjee** (University of California, Davis), **S. Nutt** (USC), **S.Seal** (University of Central Florida), **S.Suresh** (Massachusetts Institute of Technology**), T. Tsakalakos** (Rutgers University); **B. Yakobson** (Rice University, Houston)

Symposium Organizers

R. Krishnamoorti
University of Houston
4800 Calhoun, Houston, TX 77204-4004
Tel: (713) 743 4312 Fax (713) 743 4323
ramanan@uh.edu

E. Lavernia
College of Engineering, University of California, Davis
Davis, CA 95616
Tel/ Fax: 530-752-0554/8058,
lavernia@ucdavis.edu

I.A. Ovid'ko
Institute of Problems of Mechanical Engineering (Russian Academy of Sciences)
Bolshoj 61, Vas.Ostrov, St.Petersburg 199178, Russia
Tel +7-812-321-47-64, Fax +7-812-321-47-71,
ovidko@def.ipme.ru

C.S.Pande
Naval Research Laboratory
Washington, DC
Tel: 202 767 2744, Fax: 202 767 2623,
pande@anvil.nrl.navy.mil

G. Skandan
Nanopowder Enterprises Inc
120 Centennial Avenue, Piscataway, NJ088543908
Tel 732-885-10-88, Fax 732-885-59-10,
skandan@aol.com