

“Mechanical Behavior of Nanostructured Materials”

Foreword

The symposium, “Mechanical Behavior of Nanostructured Materials,” was held during the 2009 TMS Annual Meeting from February 15 to 19 in San Francisco, California. The symposium focused on understanding the mechanical behavior of ultra-fine-grained and nanostructured materials in the form of bulk, thin films, and nanowires. There is a good mixture of advanced experimental as well as theoretical and computational presentations in the symposium. Topics presented include the following: (1) synthesis and microstructural characterization of nanomaterials; (2) nanomechanics; (3) fatigue and fracture of nanomaterials; (4) deformation, plasticity, and creep in nanomaterials; (5) mechanical and thermal stability; (6) advanced characterization techniques including *in-situ* techniques and advances in nanomechanical testing techniques; and (7) theoretical, computational, and analytical modeling of mechanical properties of nanomaterials. Numerous articles in this special issue report the important results and perspectives presented in this symposium.

We thank the invited speakers and all the participants for their excellent contributions to the success of this symposium. The symposium was sponsored by several TMS committees including the Mechanical Behavior of Materials Committee (Jt. ASM-MSCTS) affiliated with the Structural Materials Division; the Nanomechanical Materials Committee affiliated with the Manufacturing and Processing of Materials Division; and the Chemistry and Physics of Materials Committee, affiliated with the Structural Materials and the Electronic, Magnetic and Photonic Materials Divisions. We express our gratitude to the financial sponsors, including Hysitron Inc., Allied High Tech Inc., and FEI. We acknowledge a large number of referees for their timely submission of quality and rigorous reviews. Finally, we thank the Editorial Board of *Metallurgical and Materials Transactions A* and, in particular, Professor David Laughlin, for helping with the review process of these high-quality articles.

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