

TMS2015

144th Annual Meeting & Exhibition

March 15-19, 2015 • Walt Disney World
Orlando, Florida, USA

Connecting the global minerals, metals, and materials community.



Plan Now to Attend:

Dynamic Probing of Microstructure Evolution in Nanostructured Materials

Microstructure evolution occurs in nanostructured materials by a wide range of mechanisms. Those strongly impact their mechanical behavior under external loading. Significant advances in dynamic in-situ electron microscopy (including both SEM and TEM) have recently emerged. They represent a new opportunity to investigate the response of nanostructured materials under various external stimuli that can be mechanical, thermal, electrical, irradiative and/or corrosive. The information provided by dynamic in-situ electron microscopy, in combination with materials modeling and simulations, will be the scientific underpinning to design nanostructured materials with tailored mechanical response for future engineering applications.

This symposium aims to bring together researchers in the field of experimental and computational materials mechanics with a focus on understanding the mechanical behavior of materials at micro/nano scales. The subject areas of the symposium include, but are not limited to:

- Experiments – In-situ mechanical test at micro/nano scales; In-situ microscopy under radiation and corrosive environments; new In-situ techniques/novel instrumental designs
- Modeling and Simulations – atomistic modeling and simulations, phase field modeling, dislocation dynamics simulations, crystal plasticity modeling and simulations
- Deformation Mechanisms – dislocation plasticity, twinning, phase transformation, fatigue and fracture

Sponsored by:

- TMS Materials Processing & Manufacturing Division
- Nanomechanical Materials Behavior Committee

Organized by:

Nan Li, Los Alamos National Laboratory (USA)
Caizhi Zhou, Missouri University of Science and Technology (USA)
Dan Gianola, University of Pennsylvania (USA)
Marc Legros, CEMES-CNRS (France)

For more information on how to participate, visit:

www.tms.org/TMS2015

Questions? Contact programming@tms.org