

TMS 2018
147th Annual Meeting & Exhibition



MARCH 11 – 15, 2018
PHOENIX, ARIZONA

SUBMIT AN ABSTRACT TO:

MECHANICS AND STRUCTURAL RELIABILITY

THERMO-MECHANICAL RESPONSE OF MATERIALS WITH SPECIAL EMPHASIS ON IN-SITU TECHNIQUES

The focus of this symposium is to discuss current research and key developments in techniques and experimental methods to measure thermo-mechanical properties of materials in-situ and ex-situ in application-oriented environments. These environments may include high temperature, cryogenic temperature, electrical and magnetic field, gas, radiation, chemical, pressure extremes, and humidity. In situ mechanical testing using SEM, TEM, AFM, Raman, synchrotron, X-ray, IR, and FTIR observation techniques during testing are becoming increasingly popular for studying mechanical behavior of materials. Many such techniques have been developed to probe material response to stimuli across nano- to macro-length scales.

The intent of this symposium is to provide a forum for researchers from national laboratories, academia, and industry to discuss research progress in the area of in operando and/or in-situ mechanical testing for nanomechanical studies and to accelerate the development and acceptance of innovative materials and testing techniques.

Topics include:

- Development of instruments and experimental methodology for in-situ techniques and/or testing at non-ambient conditions
- Mechanics of deformation of high-temperature materials, high-strength materials, thin films, 1D, 2D, and other low-dimension nanostructures, and interfaces
- Imaging and analytical techniques to correlate microstructure, defects, crystal orientation, and strain field with mechanical properties
- Microstructural observations using in situ techniques across length scales

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ABSTRACT DEADLINE IS JULY 1, 2017. SUBMIT ONLINE AT www.programmaster.org/TMS2018.

QUESTIONS? CONTACT programming@tms.org