

THE WORLD COMES HERE
TMS2019
 148th Annual Meeting & Exhibition

**REGISTER
 TODAY!**

March 10–14, 2019
 San Antonio, Texas, USA

JOIN US FOR THIS TMS2019 SYMPOSIUM:

NANOSTRUCTURED MATERIALS

Micro- and Nanomechanical Testing in Harsh Environments

Most materials are exposed to an environment different than that found in laboratory conditions, and it has been recognized that a material's properties change based on the environment to which it is exposed. Therefore, understanding the mechanisms by which a material's properties change in harsh environments (e.g. high and low temperatures, high strain rate deformation, and corrosive agents) and under non-ambient conditions is key to understanding materials behavior in service conditions.

Micro- and nanoscale materials testing has been often utilized for a deeper understanding of the basic phenomena of materials degradation and behavior. An obvious next step is to expand these valuable measurements to the environments that materials are exposed to during service conditions in order to study the synergistic effects between harsh environments and materials property degradation on the nanoscale. The harsh environments materials experience can have a direct impact on the performance of nano-devices and nano-enabled energy systems in many different applications.

Topics include:

- Nanoindentation and micromechanical testing at non-ambient conditions
- Small scale mechanical behavior under harsh environments and/or dynamic loading conditions
- New approaches for reliable testing at elevated and low temperatures
- Accelerated testing techniques
- In-situ electrochemical loading during micromechanical testing

ORGANIZERS

Verena Maier-Kiener, Montanuniversität Leoben, Austria

Sandra Korte-Kerzel, RWTH Aachen University, Germany

Peter Hosemann, University of California Berkeley, USA

Afroz Barnoush, Norwegian University of Science and Technology, Norway

Jeffrey M. Wheeler, ETH Zurich, Switzerland

Dhriti Bhattacharyya, Australian Nuclear Science and Technology Organisation, Australia

Nearly 4,000 presentations are planned
 at more than 80 symposia at TMS2019.

Visit www.tms.org/TMS2019
 today to register and book housing.