

# TMS 2015

144<sup>th</sup> Annual Meeting & Exhibition

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

TMS  
PROFESSIONAL  
DEVELOPMENT  
EVENT

## Make the Most of Your Travel to Orlando: Participate in a TMS Professional Development Course

### NANO- AND MICRO-MECHANICAL MEASUREMENTS IN HARSH ENVIRONMENTS WORKSHOP

Sunday, March 15, 2015 • Morning

Sponsored by the TMS Structural Materials Division (SMD)

#### INSTRUCTORS

**Afroz Barnoush**, Norwegian University of Science and Technology; **Khalid Hattar**, Sandia National Laboratories; **David Bahr**, Purdue University; **Karolina Rzepiejewska-Malyska**, Hysitron, Inc.

#### WORKSHOP LEAD ORGANIZER

**Douglas Stauffer**, Hysitron; **Karolina Rzepiejewska-Malyska**, Hysitron

#### WORKSHOP OVERVIEW

Testing under laboratory conditions, in air, at standard temperature and pressure has become routine with current instrumentation. However, many materials have intended uses at conditions far from ideal laboratory conditions.

This tutorial focuses on the practical, hands-on requirements for testing in “extreme” environments. International experts in nano- and micro-mechanical testing at high temperature, cryogenic temperatures, in-situ irradiation, and corrosive liquid environments will discuss their experimental approaches for best practices and obtaining reliable data that can be used for engineering purposes.

The presentation will be followed by a live demonstration of mechanical testing at high temperature, whose goal is to obtain material properties as a function of time, stress, and temperature. Samples will include polymer composites and high-temperature intermetallic coatings. Frequency-based techniques that minimize thermal drift will be incorporated. Participants are encouraged to interact with organizers to arrange samples for high-temperature testing during the TMS workshop.

#### WHO SHOULD ATTEND

This workshop is geared for researchers and students who are currently working on, or plan to work on, harsh environment nano- and micromechanical testing. There will be a focus on the “how to” for harsh environment testing, including optimizing testing parameters, avoidance of pitfalls, and managing experimentation for meaningful results in harsh environments.

#### REGISTRATION INFORMATION

Register through the TMS 2015 Annual Meeting & Exhibition registration form.

#### REGISTRATION FEES

##### Before February 9, 2015

Member \$125

Nonmember \$175

Student \$75

##### After February 9, 2015

Member \$175

Nonmember \$225

Student \$125

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