TMS 2015

144th Annual Meeting & Exhibition

March 15-19, 2015 • Walt Disney World Orlando, Florida, USA
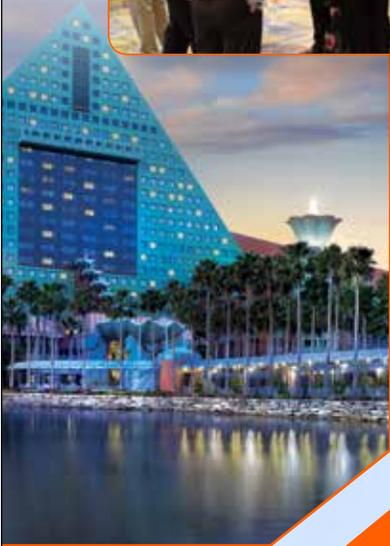
Connecting the global minerals, metals, and materials community.

Plan Now to Attend:

Constitutive Response and Modeling of Structural Materials: Symposium in Honor of G.T. Gray III 60th Birthday

The development of predictive constitutive and damage models relies on an understanding of mechanical response over a range of strain-rates, temperatures, and loading conditions. For many structural materials the problem is further complicated by the differences in processing, chemistry, phase, texture, and microstructure and the influence of these parameters on mechanical behavior. Detailed analysis and simulation of the path-dependent mechanical response and microstructural evolution are required for comprehension of the structure-property relationships in these materials.

This six-session symposium is designed to provide a forum for the discussion of recent investigations concerning structure/property relations within structural materials. The influence of processing, chemistry, and microstructure on the mechanical response will be examined over a range of strain rates (quasi-static to dynamic). Specifically, efforts to develop predictive microstructural, constitutive, and damage models and validate these models through classic and nascent experiment will be of interest. The symposium will focus on the recent development of mechanical test techniques, microstructural characterization, and strength and damage modeling.

Four specific interrelated areas will be the primary focus:

- Constitutive Response/Modeling of Structural Materials (including metals, polymers, composites, and ceramics)
- Characterization of Microstructural, Textural, and Damage Evolution
- Prediction and Simulation of Strength and Damage Evolution
- Model Validation, Experimental Support

Sponsored by:

- TMS Structural Materials Division
- Mechanical Behavior of Materials Committee

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For more information on how to participate, visit:

www.tms.org/TMS2015

Questions? Contact *programming@tms.org*