

# TMS2015

144<sup>th</sup> 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:

### High-Temperature Systems for Energy Conversion and Storage

Functional ceramic materials play an essential role in a number of energy storage and conversion systems, including: solid oxide fuel cells (SOFC), high-temperature batteries, membrane separation materials, processes and systems (H<sub>2</sub>, O<sub>2</sub>, CO<sub>2</sub>), general characterizations of ceramic materials (electrical, thermal, microstructural and chemical), high-temperature electrolysis cells, thermal barrier coatings, combustion and control sensors, and nanomaterial for high-temperature applications.

These symposium topics include, but are not limited to, experiments and modeling of the above-mentioned systems including:

- Multiscale modelling and experiments (including in-situ) at various length scale
- Thermal-chemical-mechanical stresses/expansion
- Study of thermo-mechanical degradation mechanisms
- Effect of microstructure evolution on the properties and efficiency
- Role of grain boundary density, grain size, orientation, and grain growth
- Advances in characterization and modeling techniques
- Reliability and durability of component and sub-systems

The intent is to provide a forum for researchers from national laboratories, universities, and industry to discuss current understanding of materials science issues in high-temperature processes, and accelerate the development and acceptance of innovative materials and test techniques for clean energy technology.

#### Sponsored by:

- TMS Functional Materials Division (formerly EMPMD)
- Energy Conversion and Storage Committee

#### Organized by:

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to participate, visit:**

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