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**TMS2019**  
148<sup>th</sup> Annual Meeting & Exhibition

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

**JOIN US FOR THIS TMS2019 SYMPOSIUM:**

**MATERIALS DESIGN**

**ICME Case Studies and Validation: Extreme Environments**

This symposium focuses on Integrated Computational Materials Engineering (ICME) case studies and experimental validation of materials for extreme environments.

We are seeking abstracts in the following general topic areas, including:

- Developing and validating ICME approaches for material design, manufacturing process development (including advanced manufacturing techniques), mechanical behavior (e.g., tensile and creep), and environmental performance (e.g., corrosion and/or oxidation resistance)
- Performing critical experiments to fill knowledge gaps for physics-based, mechanistic process-structure-property models, elucidating the relationship between environment and the evolution of microstructure
- Developing methods to expedite verification and validation testing of materials for extreme environments and relevant performance models under representative extreme environments
- Demonstrate how this approach can be applied to novel alloys (e.g., high entropy alloys), critical alloy systems (e.g., Ni-based alloys), coatings, novel extreme environments (e.g., supercritical CO<sub>2</sub>), and/or novel product forms (e.g., thin sheet materials)

**ORGANIZERS**

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

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