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**TMS 2020**

**149<sup>th</sup> Annual Meeting & Exhibition**

February 23-27, 2020 • San Diego, California, USA



Submit an abstract to:

## **Mechanics and Structural Reliability**

### **Fatigue in Materials: Fundamentals, Multiscale Characterizations and Computational Modeling**

This symposium features novel methods and new discoveries for understanding material fatigue and life prediction. It brings together scientists and engineers from all over the world to present their latest work on current issues in characterizing and simulating fatigue damage; identification of microstructural weak links; enhancement of fatigue strength and resistance; quantitative relationships among processing, microstructure, environment, and fatigue properties; and life prediction. This symposium provides a platform for fostering new ideas about fatigue at multiple scales and in multiple environments, numerically, theoretically, and experimentally.

The symposium will be organized into six sessions:

- Data-Driven Investigations of Fatigue
- Multiscale Modeling Approaches to Improve Fatigue Predictions
- Microstructure-based Fatigue Studies on Additive-Manufactured Materials (Jointly organized with the Additive Manufacturing Fatigue and Fracture IV: Toward Confident Use in Critical Applications symposium at TMS2020)
- Fatigue Characterization Using Advanced Experimental Methods in 2D and 3D
- Multi-mechanical Interactions during Extreme Environment Fatigue Loading
- Crack Initiation Mechanisms and Short-Crack Growth Behavior

A poster session will be held to supplement the oral presentations and to encourage student involvement. Students may submit an abstract for a poster presentation, an oral presentation, or both. Prizes for best posters will be awarded.

#### **ORGANIZERS**

**Garrett Pataky**, Clemson University, USA

**Ashley Spear**, University of Utah, USA

**Jean-Briac le Graverend**, Texas A&M University, USA

**Antonios Kontsos**, Drexel University, USA

**Brian Wisner**, Ohio University, USA

#### **SYMPOSIUM SPONSORS**

TMS Structural Materials Division

TMS Computational Materials Science and Engineering Committee

TMS Integrated Computational Materials Engineering Committee

TMS Mechanical Behavior of Materials Committee

**Abstract Deadline is July 1, 2019. Submit online at**  
**[www.programmaster.org/TMS2020](http://www.programmaster.org/TMS2020).**

**Questions?**  
**Contact [programming@tms.org](mailto:programming@tms.org)**