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

# CALL FOR ABSTRACTS

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

## SUBMIT AN ABSTRACT TO:

### MECHANICS & STRUCTURAL RELIABILITY

## Fatigue in Materials: Multi-scale and Multi-environment Characterizations and Computational Modeling

This symposium features new discoveries and advances in the fields of materials fatigue and life prediction. It brings together research scientists and design engineers from all over the world to present their latest work on current issues in investigation and simulation of fatigue damage; identification of fatigue 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 different scales and in different environments both theoretically, numerically, and experimentally.

The symposium will be organized into six sessions:

- Data-Driven Investigations of Fatigue;
- Relationships Among Processing, Microstructure, and Fatigue Properties
- Fatigue Characterization Using Advanced Experimental Methods in 2D and 3D
- Load and Environment Interaction Effects on the Mechanical Response during Fatigue
- Multi-Scale and Multi-Physics Models in Fatigue to better Predict Behavior and Lifetime
- Crack Initiation and Propagation during Fatigue

The proposed six sessions will be carried out over three full days, with morning and afternoon sessions each day. Throughout the six sessions, there will be an estimated 50 oral presentations, with 2-4 of those being keynote presentations. Additionally, 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. A possible edited volume of extended articles on select topics discussed in this symposium will be evaluated during the meeting.

### ORGANIZERS

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

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

**Antonios Kontsos**, Drexel University, USA

**Garrett Pataki**, Clemson University, USA

**Filippo Berto**, Norwegian University of Science and Technology, Norway

Abstract Deadline is July 1, 2018.  
 Submit online at [www.programmaster.org/TMS2019](http://www.programmaster.org/TMS2019)

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