



**Calibration and Validation Framework
for Selective Laser Melting Process
Based on Multi-fidelity Models and
Limited Experiment Data**

Abstract

There are significant quality and reliability problems for components/products made by additive manufacturing (AM) due to various reasons. Selective laser melting (SLM) process is one of popular AM techniques and it suffers from the low quality and reliability issue as well. To date, modeling techniques for the SLM process are either computationally expensive based on finite element (FE) modeling or economically expensive requiring significant amount of experiment data for data-driven modeling. This talk presents the integration of FE and data-driven modeling with systematic calibration and validation framework for the SLM process based on limited experiment data.

Speaker Bio

Zhimin Xi is an Assistant Professor in the Department of Industrial and Systems Engineering at the Rutgers University - New Brunswick. He received his B.S. and M.S. degree in Mechanical Engineering at the University of Science and Technology Beijing in 2001 and 2004, respectively. He obtained his Ph.D. in Reliability Engineering at the University of Maryland - College Park in 2010. His research interests include reliability and safety for lithium-ion batteries, design for reliable engineering systems, model validation under uncertainty, and prognostics and health management for engineering systems.

**Friday, November 22, 2019
11:00am - 12:00pm**

Chrysler Center, Room 151
2121 Bonisteel Blvd
Ann Arbor
Metered parking is available.



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Questions?

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