

THE WORLD COMES HERE.
TMS 2023
152nd Annual Meeting & Exhibition

MARCH 19–23, 2023
SAN DIEGO CONVENTION CENTER &
HILTON SAN DIEGO BAYFRONT
SAN DIEGO, CALIFORNIA, USA
#TMSANNUALMEETING



SUBMIT AN ABSTRACT BY JULY 1 FOR THE FOLLOWING TMS2023 SYMPOSIUM:

ADDITIVE TECHNOLOGIES

Additive Manufacturing of Metals: Applications of Solidification Fundamentals

Additive manufacturing is a disruptive technology, offering increased part complexity, short lead times, and opportunities for local microstructure control. Microstructure and defect development in AM processes is influenced by solidification and melt pool dynamics, but currently the application of fundamental solidification theories to AM process conditions has not been fully explored. Furthermore, increased demand for customized material properties and localized microstructure control will inevitably require a detailed understanding of solidification in these processes. The goal of this symposium is to highlight research in metal additive manufacturing that applies fundamental solidification theories to understand and solve contemporary processing challenges.

This symposium will inform the solidification community about the unique characteristics of AM and guide the AM community to recognize the parallels that exist in the welding and solidification literature. Both experimental and modeling submissions are encouraged, especially in which modeling or theories are connected to experimental results or in-situ characterization, as well as the use of data analytics and machine learning approaches to building process-structure-property relationships. The symposium will consist of 4 total sessions.

ORGANIZERS

Wenda Tan, The University of Michigan
Alex Plotkowski, Oak Ridge National Laboratory
Lang Yuan, University of South Carolina
Mohsen Asle Zaeem, Colorado School of Mines
Lianyi Chen, University of Wisconsin-Madison

SYMPOSIUM SPONSORS

TMS Materials Processing & Manufacturing Division
TMS Additive Manufacturing Committee
TMS Solidification Committee

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QUESTIONS?
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