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 Large-scale Metallic Components

There is a growing interest in the use of additive manufacturing (AM) for large-scale metallic components in the aerospace, automobile, and energy sectors. Some examples are laser wire process, wire arc AM, electron beam freeform fabrication (EBF3), and large-scale powder directed energy deposition (DED). The purpose of this symposium is to review and discuss existing and emerging large-scale metal AM processes and provide a forum to present both the fundamental and applied research in large-scale metal AM. This symposium has two main themes.

The first theme emphasizes the experimentation and characterization efforts in large-scale AM to establish process-structure-property relationships. Abstracts are requested in, but not limited to, the following areas:

- Advancements in process hardware and hybrid manufacturing systems
- Defect formation mechanisms
- Microstructure evolution
- Mechanical properties and anisotropy
- Effects of post-processing
- Case studies demonstrating the applications enabled by large-scale AM

The second theme emphasizes modeling efforts in this area. Abstracts are requested in, but not limited to, the following areas:

- High-fidelity melt pool/weld pool-scale models to understand the process physics
- Reduced-order part-scale models to understand temperature history, residual stresses, and part deformation
- Thermodynamic and kinetic modeling to predict the microstructure and phases
- Constitutive models to predict the mechanical properties

ORGANIZERS

Sougata Roy, University of North Dakota
Sneha Prabha Narra, Carnegie Mellon University
Andrzej Nycz, Oak Ridge National Laboratory
Yousub Lee, Oak Ridge National Laboratory
Chantal Sudbrack, National Energy Technology Laboratory
Albert To, University of Pittsburgh
Yashwanth Bandari, AddiTec Technologies LLC

SYMPOSIUM SPONSORS

TMS Materials Processing & Manufacturing Division
TMS Additive Manufacturing Committee

www.tms.org/TMS2023

QUESTIONS?
Contact programming@tms.org