



SUBMIT AN ABSTRACT BY JULY 1

FEBRUARY 27-MARCH 3, 2022
ANAHEIM CONVENTION CENTER & ANAHEIM MARRIOTT
ANAHEIM, CALIFORNIA, USA
#TMSAnnualMeeting

SUBMIT AN ABSTRACT FOR THE FOLLOWING TMS2022 SYMPOSIUM:

ADDITIVE TECHNOLOGIES

Additive Manufacturing of Large-scale Metallic Components

There is growing interest in the use of additive manufacturing (AM) for large-scale metallic components in the aerospace and automobile industries. Some examples are laser hot wire process, wire arc AM, and electron beam freeform fabrication (EBF3). 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 postprocessing
- 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

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