

TMS 2018
147th Annual Meeting & Exhibition**MARCH 11 – 15, 2018**
PHOENIX, ARIZONA**SUBMIT AN ABSTRACT TO:****ADDITIVE TECHNOLOGIES****ALLOY DEVELOPMENT AND POWDER MANUFACTURE
FOR ADDITIVE MANUFACTURING**

Additive Manufacturing process is capable of producing complex near-net shapes with wide varieties of metals and alloys. The most commonly used alloys for powder-bed fusion are typically weldable and have a characteristic solidification behavior. Although powder-bed-fusion-processed materials are produced with high-temperature gradients and solidification rates, the knowledge of alloy development from rapid solidification and welding research has not been fully exploited to produce unique material properties for engineering applications. In addition, alloy design is an important aspect of other additive processes which require sintering, such as binder jetting and material jetting.

This symposium will address the multi-faceted aspects of alloy design for additive manufacturing processes including:

- Computational methods in design of alloy materials
- Experimental methods in suitability for additive process
- Unique microstructures and properties produced by additive processes
- Effects of process conditions on structure-property relationships
- Prediction of properties based on ICME techniques
- Prediction of process regimes for development of unique structure and properties
- Application of welding models and know-how for alloy design
- Powder production methods for development of additive powder
- Design of alloys for super-solidus sintering process

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