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**TMS 2020**

**149<sup>th</sup> Annual Meeting & Exhibition**

February 23-27, 2020 • San Diego, California, USA



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## Additive Technologies

### Additive Manufacturing for Energy Applications II

Exploration of additive manufacturing (AM) techniques within energy sectors has shown an increase of applications, a large variety of materials, and industry-specific design and qualification requirements. Full adoption to market in all energy sectors is limited in spite of the increased interest. AM techniques provide a unique advantage for the energy industry due to the shortened development and fabrication times, product quality, and process repeatability. Not yet commonplace in the energy sector, AM provides new opportunities in the design space during inception of new products (both structural component and material design) due to fewer limitations on localized design features that could not generally be performed using conventional fabrication processes (e.g., casting, extrusion, etc.) and subtractive fabrication (e.g. machining).

This symposium will integrate invited and contributed talks on the use of AM in energy industries (nuclear, wind, fossil, ocean, water) and will include, but are not limited to, the following topics based on experimental and computational approaches:

- Processing-microstructure-property relationship of AM-fabricated materials for structural components
- In-situ sensor and embedded sensor development in extreme environments (e.g. temperatures [very high, subzero], radiation, corrosive, high flow media)
- In-situ processing and characterization and effects of post-processing heat treatments
- Advances in AM design methodologies, new material designs, and AM techniques
- Modeling and simulations for design of high-performance AM-fabricated materials
- Qualification approaches
- Economic advantages: Case Studies

#### ORGANIZERS

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Questions?  
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