SUBMIT AN ABSTRACT TO:

ADDITIVE TECHNOLOGIES

ADDITIVE MANUFACTURING FOR ENERGY APPLICATIONS III

Additive manufacturing (AM) techniques provide unique opportunities within energy sectors and these techniques have been utilized more focused in recent years. However, due to the large variety of materials, specific industry design and qualification requirements, full adoption in all energy sectors are limited in-spite of the increased interests. Specifically, components to be utilized in harsh environments can benefit significantly from AM designed parts through engineered gradient alloy benefits, functional graded materials, cladding, combining dissimilar materials and in-service monitoring through embedded sensors, to mention a few. Additionally, recent AM techniques venture even more within interdisciplinary space by combining additive with other conventional manufacturing methods providing limitless opportunities.

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

- AM as solution for extreme corrosive environment applications
- Exotic material components for energy applications (e.g. High Entropy Alloys (HEA), Molybdenum, nuclear fuel systems)
- Processing-microstructure-property relationship of AM fabricated materials for structural components
- Novel in-situ processing or monitoring to increase process repeatability
- Aid of AM for miniaturization (e.g. sensors, compact heat exchangers)
- Effects of building processing heat input and post processing heat treatments
- Advances in AM design methodologies, AM techniques and characterization techniques.
- Modeling and simulations for design of high-performance AM fabricated materials
- Qualification approaches

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