

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 for Energy Applications V

Additive manufacturing (AM) techniques within energy sectors need an accelerated pace for demonstration and full adoption to market in all energy sectors. AM techniques provide a unique advantage for the energy industry due to the shortened development and fabrication times, product quality, and process repeatability. AM provides new opportunities in the design space during inception of new products (both structural component and material design) due to less 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). Although the obvious advantages of AM, the adoption of these processes have been delayed due to costly and long qualification processes. This symposium aims to provide practical examples and newest data on relevant topics to accelerate qualification and adoption to market in the energy sector. This symposium will integrate invited and contributed talks on the use of AM in various energy industries and includes the following topics based on experimental and computational approaches:

- Material data in extreme energy environments (e.g., high-temperature mechanical testing, creep, creep-fatigue, wear, irradiation behavior, material aging, oxidation, corrosion)
- Development of qualification/acceptance protocols for high-temperature energy systems
- Design, process, and material modeling to support rapid qualification
- Functionally graded and multi-material/multi-functional structures
- Sensor applications in energy systems
- Demonstration and case studies in energy industry
- Non-destructive evaluation

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