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# 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:

### MATERIALS DESIGN

## Accelerated Discovery and Insertion of Next Generation Structural Materials

Structural stability of aerospace and energy related materials, manufactured by conventional and additive routes, is of great importance to avoid catastrophic failures during operation. Understanding their thermo-mechanical response under extreme pressure, temperature or corrosive conditions would immensely aid in designing alloys, and thereby increasing their lifetimes. This symposium delves into investigations, focused on using high throughput tools for accelerated materials discovery and root cause analyses of fielded and new make parts.

The topics of interest to this symposium include, but are not limited to, the following:

- ICME tools coupled with multi-scale experimentation to correlate processing history to microstructural hierarchy and ensuing property response
- ML-based multi objective optimization models targeted towards more reliable predictive capabilities with realistic (usually small) experimental data
- High throughput experimental approaches for accelerated material-microstructure-property optimizations to facilitate ML

The focus is on structural high temperature and light-weight materials such as refractory alloys, high entropy alloys, Ni- Co-based alloys, high strength titanium alloys, maraging steels and ODS alloys.

ORGANIZERS

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