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TMS2024

153rd Annual Meeting & Exhibition

MARCH 3–7, 2024
HYATT REGENCY ORLANDO
ORLANDO, FLORIDA, USA
#TMSAnnualMeeting

SUBMIT AN ABSTRACT FOR THE FOLLOWING TMS2024 SYMPOSIUM:

DATA-DRIVEN AND COMPUTATIONAL MATERIALS DESIGN

High Performance Steels

The profound technological importance of steels, and the everlasting challenges to make them more superior, but also more sustainable, motivate multidisciplinary research across academia, national laboratories, and industry to continuously improve the fundamental understanding of steels and their behavior. The High-performance Steels Symposium focuses on new insights in steel design and processing-microstructure-property relationships.

Providing an improved understanding of these relationships requires the use of various experimental and computational methodologies, including:

- Novel mechanical testing approaches (e.g., micro-mechanical tests, in-situ tests, etc.) and microstructure characterization techniques (e.g. Synchrotron diffraction, neutron diffraction, SEM-EBSD, SEM-ECCI, HRTEM, APT, etc.), as well as new applications of conventional testing and characterization methods.
- Physics-based modeling of microstructure development and steel behavior (e.g., ab initio methods, computational thermodynamics, crystal plasticity, discrete dislocation dynamics, etc.) in the spirit of integrated computational materials engineering (ICME).
- Computational or data-driven approaches to design and understand novel steel microstructures.

This symposium welcomes contributions in all these directions, especially in integrated approaches.

ORGANIZERS

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QUESTIONS?
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