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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:

MATERIALS SYNTHESIS AND PROCESSING

Phase Transformations and Microstructural Evolution

Phase transformation is one of the most effective and efficient means to produce desired microstructures in materials for various applications. This symposium is a continuation of a series of annual TMS symposia focusing on phase transformations and microstructural evolution during materials processing or under service conditions. It intends to bring together experimental, theoretical, and computational experts to assess the current status of theories of phase transformations and microstructure evolution primarily in the solid states.

In addition to fundamental understanding of the mechanisms underlying phase transformations and microstructure evolution, attention will also be given to microstructure engineering using emerging processing/manufacturing techniques to fabricate advanced materials for both structural and functional applications.

The topics of choice for this year include, but are not limited to:

- Phase transformations in steels and ferrous alloys, non-ferrous alloys (such as Ti, Ni, Al, Zr), ceramics, semiconductors and other materials for both structural and functional applications
- Phase transformations and microstructure evolution in high-entropy alloys (HEA)
- Phase transformations under far-from-equilibrium processing conditions or complex thermal histories
- Advanced defect engineering technique assisted by phase transformation
- Understanding transformation pathways and metastable microstructures in solid phase processing of materials using shear deformation
- The application of data science, simulation tools, and advanced characterization techniques (both in-situ and ex-situ) in understanding and discovery of transformation pathway and microstructure signature along it during phase transformations.

ORGANIZERS

Ashley Paz y Puente, University of Cincinnati, USA
Mark Aindow, University of Connecticut, USA
Sophie Primig, University of New South Wales, Australia
Eric Payton, University of Cincinnati, USA
Le Zhou, Marquette University, USA
Sriswaroop Dasari, University of North Texas, USA
Ramasis Goswami, Naval Research Laboratory, USA
Megumi Kawasaki, Oregon State University, USA
Joshua Mueller, Los Alamos National Laboratory, USA

SYMPOSIUM SPONSORS

TMS Materials Processing & Manufacturing Division
TMS Phase Transformations Committee