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TMS 2025

154th Annual Meeting & Exhibition

March 23–27, 2025
MGM Grand Las Vegas
Hotel & Casino
Las Vegas, Nevada, USA
#TMSAnnualMeeting

SUBMIT AN ABSTRACT FOR THE FOLLOWING TMS2025 SYMPOSIUM:

MATERIALS SYNTHESIS AND PROCESSING

Phase Transformations and Microstructural Evolution

Harnessing phase transformations is a highly effective method for engineering desired microstructures in materials for diverse applications. This symposium is part of an ongoing TMS series dedicated to phase transformations and microstructural evolution in materials processing and service conditions. It aims to unite experimental, theoretical, and computational experts to assess current theories on phase transformations and microstructural evolution, particularly in solid states.

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

- Phase transformations in steels and other ferrous alloys, non-ferrous alloys (such as Ni, Al, Ti, Cu, Zr, Nb, Mg based), ceramics, refractory alloys, semiconductors, and other materials for both structural and functional applications.
- Phase transformations and microstructural evolution in high-entropy alloys (HEA).
- Phase transformations under far-from-equilibrium processing conditions or complex thermal histories and mechanical stressing.
- Advanced defect engineering techniques assisted by phase transformations.
- Understanding transformation pathways and metastable microstructures during thermo-mechanical processing.
- The application of data science, simulation tools, and advanced characterization techniques (both in-situ and ex-situ) in understanding and discovering transformation pathways and microstructure signatures during phase transformations.

ORGANIZERS

Bharat Gwalani, North Carolina State Universtiy; **Ashley Paz y Puente,** University of Cincinnati; **Jonah Klemm-Toole,** Colorado School of Mines; **Sriram Vijayan,** Michigan Technological University; **Mohsen Asle Zaeem,** Colorado School of Mines; **LeZhou,** Marquette University; **Adriana Eres-Castellanos,** Colorado School of Mines; **Sophie Primig,** University of New South Wales

SYMPOSIUM SPONSORS

TMS Materials Processing & Manufacturing Division, TMS Phase Transformations Committee

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QUESTIONS?
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