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TMS 2026
155th Annual Meeting & Exhibition

March 15–19, 2026
San Diego Convention Center
and Hilton San Diego Bayfront
San Diego, California, USA
#TMSAnnualMeeting

SUBMIT AN ABSTRACT FOR THE FOLLOWING SYMPOSIUM

DATA-DRIVEN AND COMPUTATIONAL MATERIALS DESIGN

Dilute Alloying and Impurity Effects on Phase Transformations

Minor alloying additions, intentional or otherwise, can play an outsized role in both phase stability and transformation kinetics. We encourage submissions on all material systems that exhibit such effects, defining dilute as approximately < 3 at%.

Examples include:

1. Elemental additions that alter the nucleation behavior, promoting or inhibiting nuclei, changing their density and location, or otherwise altering the transformation pathway through the formation of intermediary phases or other mechanisms.
2. Additions that alter the available diffusion pathways and rates of key species within the material.
3. Additions that change the degree or type of chemical ordering.
4. Additions that impact the interfacial energy of one phase in relation to another, such as altering the stacking fault energy, to promote or inhibit a phase transformation.
5. Additions that impact martensitic or strain induced transformations, including those governing shape memory alloy behavior.

SPONSORED BY:
TMS Materials Processing & Manufacturing Division; TMS Phase Transformations Committee

ORGANIZED BY:

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