SUBMIT AN ABSTRACT BY JULY 1

FEBRUARY 27-MARCH 3, 2022
ANAHEIM CONVENTION CENTER & ANAHEIM MARRIOTT
ANAHEIM, CALIFORNIA, USA
#TMSAnnualMeeting

SUBMIT AN ABSTRACT FOR THE FOLLOWING TMS2022 SYMPOSIUM:

CHARACTERIZATION

Advanced Characterization Techniques for Quantifying and Modeling Deformation

Objective: This symposium will provide a venue for presentations featuring the use of advanced characterization techniques in all classes of materials to quantify and model deformation mechanisms.

Background and Rationale: Advances in characterization technology have greatly improved our ability to quantify deformation mechanisms such as dislocations, twinning, and stress induced phase transformations, and the microstructural changes accompanying deformation such as texture evolution, grain morphology changes, and localized strain. A variety of relatively new techniques are being applied to both structural and functional materials. These techniques, in combination with modeling, are improving our understanding of deformation and failure during material processing/forming and under normal or extreme conditions in service. In situ techniques, especially, are providing enhanced understanding of individual mechanisms, their interactions, and direct validation of simulations from computational materials science models. This gathering provides a venue to discuss and share new advances in current techniques or new technique development or in pairing with algorithms or simulations as they apply to deformation behavior.

Areas of interest include, but are not limited to:

- Dislocations, deformation twins, and stress-induced phase transformations
- All advanced X-Ray-based techniques
- All advanced electron-based techniques including HR-(S)TEM, EBSD, HR-EBSD, ECCI, PED, in situ TEM
- All structural and functional materials systems
- Advances in material modeling through the use of advanced characterization techniques
- New characterization and in-situ technique development

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