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:

MATERIALS DESIGN

Hume-Rothery Symposium on Connecting Macroscopic Materials Properties to Their Underlying Electronic Structure: The Role of Theory, Computation, and Experiment

This symposium will bring together experts in first-principles statistical mechanics, continuum modeling, and advanced experimental characterization to assess the current state of the art in multi-scale descriptions of thermo-kinetic phenomena as they relate to equilibrium and non-equilibrium properties of materials. It will survey recent progress in methods that connect phenomenological theories of materials to their underlying electronic and crystal structures, with a particular focus on phase stability, phase transformations and the effect of chemistry, and temperature on mechanical properties. The symposium will combine treatments of computational approaches spanning multiple length scales and experimental techniques to characterize structure and non-equilibrium evolution. Specific topics will include phase stability, diffusion, structural transformations, chemo-mechanics during diffusional phase transformations, and phase transformations in highly anisotropic and low-dimensional systems.

Sessions will cover materials theory, computation, and experiment as applied in fundamental studies of structural and functional materials. The session is by invitation only.

ORGANIZERS
Raymundo Arroyave, Texas A&M University
Wei Chen, Illinois Institute of Technology
Yong-Jie Hu, Drexel University
Tresa M. Pollock, University of California, Santa Barbara

SYMPOSIUM SPONSORS
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QUESTIONS?
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