



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:

NANOSTRUCTURED MATERIALS

Advances and Discoveries in Non-equilibrium Driven Nanomaterials and Thin Films

This conference plans to bring together scientists and engineers who focus on advances in synthesis and processing, atomic-scale characterization, structure-property correlations, and modeling of novel non-equilibrium nanostructured materials and functional thin films. The scope of the conference includes zero-dimensional (such as nanodots), one-dimensional (nanotubes and nanowires), two-dimensional (thin films), and three-dimensional (bulk) nanostructures, uniquely synthesized under extreme non-equilibrium conditions. Integration of such novel functional materials on practical substrates, such as silicon and sapphire, play a critical role in creating multifunctional materials for next-generation systems and will be included as one of the important areas of interest in the proposed symposium.

The symposium highlights the science of the thin film deposition methods, nonequilibrium processing techniques (laser/electron/ion irradiations, flash sintering, and mechanical milling, etc.), role of interfaces, and defects for fabricating such novel non-equilibrium nanostructures and thin-film heterostructures. It focuses on the recent discoveries of 2D materials, nanodiamonds, oxide thin films, and nanostructures through non-equilibrium processing which stands to revolutionize quantum computing, superhard coatings, high-temperature, and high-power electronics, and biomedical applications.

Topics include:

- Non-equilibrium processes for the synthesis of novel nanostructures
- Structure-properties correlations in complex oxide thin film heterostructures
- Atomic-scale characterization of 0-D, 1-D, 2-D, and 3-D nanostructures with novel functional properties
- Pulsed laser deposition and laser processing of novel materials and epitaxial thin-film structures
- Nanomaterials fabrication with guided laser/ion/electron irradiations
- Role of defects and interfaces in properties manipulations in nanostructures
- Coatings and surface modifications for high-temperature and high-power electronics and biomedical applications

ORGANIZERS

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