

The 159th MANA Special Seminar



Molecularly-directed sculpture and tailoring of nanostructures, assemblies and interfaces

Chair: Dr. Katsuhiko Ariga (MANA Principal Investigator)

Prof. Ganpati Ramanath

(Materials Science and Engineering, Rensselaer Polytechnic Institute, USA)

This talk will highlight molecularly-directed approaches to control the structure, chemistry, shape and functionality of nanostructures, their assemblies and interfaces. I will first describe examples of surfactant-mediated synthesis, macroscale assembly and directed doping of nanostructures of metal alloys and semiconductors with sculpted shapes (spheres, rods, plates, strings, branching) and chemistry to realize novel magnetic and thermoelectric properties and stability. I will then describe our work on the use of molecular nanolayers to obtain unprecedented enhancements in chemical stability and mechanical toughness of heterointerfaces. I will conclude with a first-time demonstration of using molecular layers to quantitatively access the nanomechanics of heterointerfacial fracture.

Venue: Seminar Room #431, MANA Bldg.

Date: July 26th Monday Time: 15:30-16:15

Contact: International Center for Materials Nanoarchitectonics (MANA), Nakata (ex. 8806)

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