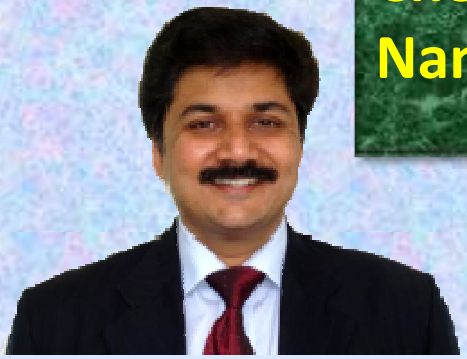
The 72nd MANA Special Seminar



Chemically Engineered Nanoparticles, Nanowires and Nanocomposites: Processing, Applications and Devices

Chair: Dr. Yoshio Bando (MANA COO)

Prof. Sanjay Mathur

University of Cologne, Institute of Inorganic Chemistry

Leibniz Institute of New Materials (INM)

Chemical nano-sciences enabling controllable manipulation of matter at molecular length scale have become fundamental generators for innovations in materials processing. The successful synthesis, modification and assembly of nanobuilding units such as nanocrystals, -wires and – tubes of different materials have demonstrated the importance of chemical influence in materials synthesis, and have generated great expectations for the future. Inorganic nanostructures inherit promises for substantial improvements in materials engineering mainly due to improved physical and mechanical properties resulting from the reduction of microstructural features by two to three orders of magnitude, when compared to current engineering materials. This talk will present how chemically grown nanoparticles, nanowires and nanocomposites of different metal oxides open up new vistas of material properties, which can be transformed into advanced material technologies. The examples will include application of superparamagnetic iron oxide nanoparticles for drug delivery applications, molecule-based synthesis of nanowires and development of single-nanowire based devices.

Venue: **Seminar Room #431, MANA Bldg., NAMIKI Site**

Date: **April 6th Monday** ***Time:*** **15:30-16:15**

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