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VABILO NA PREGLOV KOLOKVIJ /
INVITATION TO THE PREGL COLLOQUIUM

Prof. dr. Sanjay Mathur

Chair, Inorganic and Materials Chemistry, Institute of Inorganic Chemistry
University of Cologne, Germany

Četrtek / Thursday, 18. 10. 2012, ob / at 13:00

Velika predavalnica Kemijskega inštituta / Lecture Hall at the

National Institute of Chemistry; Hajdrihova 19, Ljubljana

Nanochemistry: From Preorganized Molecular Architectures to Functional Materials

The successful synthesis, modification and assembly of nanobuilding units such as nanocrystals and wires of different materials have demonstrated the importance of chemical influence in materials synthesis, and have generated great expectations for the future. Chemical nanotechnologies have played, in the past few decades a major role in the convergence of life, physical and engineering sciences leading not only to simple collaboration among the disciplines but to a paradigm shift based on true disciplinary integration. Implications of chemistry as an innovation motor are now visible for knowledge leap forward in various sectors such as materials engineering for energy, health and security.

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, vapour phase synthesis of nanowires and development of nanowire-based devices.

Vljudno vabljeni! / Kindly invited!

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