



VABILO NA PREGLOV KOLOKVIJ / INVITATION TO THE PREGL COLLOQUIUM

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**Velika predavalnica Kemijskega inštituta / Lecture Hall at the
National Institute of Chemistry; Hajdrihova 19, Ljubljana**

Complex nano-materials by solution chemistry; From molecules to applications

Solution based processes have gained much interest for the preparation of complex nano-structured materials. Benefits are found in the often direct and simple processing routes allowing for large scale technological exploitation of the processes without the use of complex and size and shape limiting vacuum equipment needed for physical and chemical vapor deposition. The solution chemical routes span a wide range of sub-disciplines that have been rapidly developed during the recent decade to produce very unique and high quality materials of various shapes and complexities. In this seminar solution based routes to complex nano-structured materials in different forms representing different kinds of complex structuring and areas of uses will be presented, as well as some of their applications in renewable energy, electronics and, cutting and mining tools;

Solution processing with heterometallic alkoxide precursors allowing for very low synthesis temperatures, increased doping levels beyond the thermodynamic limits, ultra thin complex composition coatings etc.

- Extended Er-doping range in silica wave-guides for Near IR amplifiers by use of single Er-ion heterometallic alkoxides.
- Electro-ceramic thin and ultra thin films.
- Complex structure and composition large band-gap semi-conductors, including mixed phase, core-shell and wire structures.
- Films and sponges of nano-structured metals and alloys.
- Metal-in-ceramic nano-composite films and foams.

Vljudno vabljeni! / Kindly invited!