REGIONAL CENTRE OF ADVANCED TECHNOLOGIES AND MATERIALS

Regionální centrum pokročilých technologií a materiálů

REGIONAL CENTRE OF ADVANCED TECHNOLOGIES AND MATERIALS
RUDOLF ZAHRADNÍK LECTURE

General Director of RCPTM cordially invites you to the lecture
in the framework of **RUDOLF ZAHRADNÍK LECTURE SERIES**
This talk will be delivered by

Prof. Mario Ruben
(Karlsruhe Institute of Technology)

Karlsruhe Institute of Technology

„(Supra)Molecular Quantum Spintronics"

Tuesday, May 20, 2014, 12:30, assembly hall of Faculty of Science,
17. listopadu 12, Olomouc.

Mario Ruben was awarded his PhD from the University of Jena in 1998. The following three years, he worked at a post-doctoral position with Prof. J.M. Lehn at the "Institut de Science et d'Ingénierie Supramoléculaires" (I.S.I.S.) in Strasbourg dealing with the self-assembly of functional molecules, particularly spin transitions systems. In 2001 he joined the Institute of Nanotechnology in Karlsruhe and he obtained the Habilitation (HDR) from the University of Strasbourg in 2005. His research interests include the design and the construction of molecular devices; in this field, Mario Ruben currently leads several European network projects (www.biomach.org; FunSMARTs I and II, MULTIFUN). From 2013 he is a professor for Chemistry; Chair „Molecular Materials", Karlsruher Institut für Technologie. He published more than 120 scientific publications, 10 of them in Nature family journals (~4.500 citations, H-37).

Abstract: Magnetic molecules have recently attracted interest in view of their potential to realize nanometre-sized (single-)molecular spintronic devices by a combination of bottom-up self-assembly and top-down lithography techniques. We report herein on the controlled generation of magnetic molecular nanostructures on conducting surfaces, partially self-assembled on sp2-carbon nano-structures (SW-CNTs, graphene, etc.), or between nano-gap gold electrodes. The obtained supramolecular devices are investigated in view of their I-V-characteristics by means of UHV- and solution-based scanning probe, break junction and electromigration techniques.