Institut für Physik

Montanuniversität Leoben

A-8700 LEOBEN, Franz Josef Straße 18, Austria
Tel: +43 3842 402-4601, Fax:+43 3842 402-4602
e-mail: physics@unileoben.ac.at

S E M I N A R

aus

Halbleiterphysik und Nanotechnologie

Di, 3.3.2015, 13:15 Uhr
Hörsaal für Physik

"Novel Strategies for Combining Molecules, Clusters, and Nanocrystals into Functional Inorganic Solids"

Prof. Dr. Maksym V. Kovalenko

ETH Zürich, Department of Chemistry and Applied Biosciences, Zurich, and
Empa-Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, Switzerland

Chemically synthesized inorganic nanocrystals are considered to be promising building blocks for a broad spectrum of applications including electronic, thermoelectric, and photovoltaic devices. To achieve high degree of electronic coupling, the nanocrystal packing, surface chemistry and surrounding medium need to be properly designed [1].

This talk will provide an overview of the most recent developments towards functional inorganic materials built from nanocrystal building blocks. Special attention will be paid to rational combinations of inorganic molecules, clusters and nanocrystals – from synthesis strategies and surface chemistry, to self-assembly and device applications. Several examples will include nanocrystal-based materials for Li-ion and Na-ion batteries [2,3,4], infrared-active nanostructures [5], and hybrid molecular-nanocrystal superlattices [6].

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4. M. I. Bodnarchuk, K. V. Kravchyk, F. Krumeich, S. Wang, and M. V. Kovalenko. *ACS Nano*, **2014**, *8*, 2360.
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