



Polymers under Multiple Constraints

Kolloquium

Thursday,
22nd May 2014

at: 5.00 pm

Kleiner Hörsaal
Linnéstr. 5
04103 Leipzig

*Coffee will be
served from
4.30 pm!*

Prof. Ulrich S. Schubert

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Nanochemistry: Applications in surface functionalization, self-assembly and nanofabrication

The availability of new materials, i.e., graphene, carbon nanotubes or inorganic plasmonic nanoparticles, opened up appealing possibilities to access novel material properties. While the resulting properties offer tremendous potential for applications, in many cases the handling and implementation of these materials into devices and functional materials sometimes imposes challenges to allow for the utilization of these materials. Frequently, chemical derivatization, surface coatings as well as the availability of novel synthesis strategies can help to solve these problems.

Different approaches of nanochemistry will be discussed, which cover a range of different methods that can, e.g., be utilized for the functionalization of surfaces to engineer the surface properties. These strategies can be combined with a high resolution SFM based nanolithographic tool, which utilizes the local electrochemical oxidation of a self-assembled monolayer to obtain chemically active surface templates, which can be efficiently used for nanofabrication. These templates can be utilized, e.g., for the template guided synthesis of nanomaterials. Additionally, the advantages of microwave synthesis for nanochemistry will be introduced as a further advancement.

