



TECHNISCHE
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Vienna University of Technology

INSTITUT FÜR
ANGEWANDTE PHYSIK
Institute of Applied Physics
vormals/formerly
Institut für Allgemeine Physik



Wiedner Hauptstraße 8-10/E134, 1040 Wien/Vienna, Austria – Tel: +43 1 58801 13401 / Fax: +43 1 58801 13499 – E-mail: office@iap.tuwien.ac.at / <http://www.iap.tuwien.ac.at>

IAP-SEMINAR

EINLADUNG

Termin: **Mittwoch, 5.6.2013 um 16:00 Uhr**
Ort: **Technische Universität Wien,
Institut für Angewandte Physik,
Seminarraum 134A, Turm B (gelbe Leitfarbe), 5. OG
1040 Wien, Wiedner Hauptstraße 8-10**

Vortragender: **Prof. Steven De Feyter**
Department of Chemistry, Division of Molecular Imaging and Photonics,
Laboratory of Photochemistry and Spectroscopy, KU Leuven/Belgium

Thema: **Nanopatterning at the liquid/solid interface via molecular
self-assembly: from fundamentals to applications**

Kurzfassung

Monolayers of molecules can be formed at a variety of interfaces, and over the years many techniques have been developed to construct them and to study the resulting organisation of the molecules. At a liquid-solid interface, 2D assemblies can be created by depositing a solution of the compound of interest on top of the substrate. Depending on the nature of the solvent, the substrate, and the dissolved molecules, the latter might form an ordered monolayer at the liquid-solid interface. When the interactions remain relatively weak, the process is called physisorption. Advanced interface specific methods such as scanning tunneling microscopy (STM) are needed to study the interface at the nanoscopic level.

We focus on several aspects of self-assembly at the liquid-solid interface, ranging from the fundamentals to applications. We will discuss the concept of 2D crystal engineering and the effect of solvent, solute concentration and temperature, bringing insight into thermodynamic and kinetics aspects of the self-assembly process at the liquid-solid interface. Based on these insights, we demonstrate the self-assembly of several achiral and chiral pi-conjugated systems at the liquid-solid interface for the formation of functional nanoporous networks and the functionalization of surfaces.

*Alle interessierten Kolleginnen und Kollegen sind zu diesem Seminar
(45 min mit anschließender gemeinsamer Diskussion) herzlich eingeladen.*

*U. Diebold e.h.
(Seminar-Chairperson)*

*H. Störi e.h.
(LVA-Leiter)*