



TECHNISCHE  
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# IAP-SEMINAR

## EINLADUNG

Termin: **Dienstag, 22.11.2011 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: **Tomas Sikola**  
Institute of Physical Engineering and Central European Institute of  
Technology, Brno University of Technology

Thema: **Fabrication of nanostructures and their application in plasmonics  
and spintronics**

### Kurzfassung

In the first part of the talk the methods used in our group for fabrication of nanostructures will be described. Here, mostly the techniques capable of patterning of surfaces and thin films with lateral resolution below 100 nm will be discussed. The main attention will be paid to Focused Ion Beam (FIB) and Local Anodic Oxidation (LAO) carried out by Scanning Probe Microscopy (SPM). In addition to that hybrid methods combining top down and bottom up approaches will be presented. Particularly, the selective growth of ordered arrays of metallic particles of Co, Ga and Au on the surfaces patterned by above mentioned methods will be discussed. The basic surface processes responsible for this specific growth such as adsorption/desorption, diffusion and nucleation will be briefly specified.

In the 2<sup>nd</sup> part of the talk the possible applications of these metallic structures in the field of plasmonics and spintronics will be outlined.

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*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)*