



TECHNISCHE UNIVERSITÄT WIEN
INSTITUT FÜR ANGEWANDTE PHYSIK
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Invitation

Institute of Applied Physics – TU Wien

Prof. Dr.

Axel Rosenhahn

Analytical Chemistry - Bionterfaces
Ruhr-University Bochum
Germany

Applied Interface Physics - Understanding Bioadhesion

Abstract:

Tailoring bionterfaces to control adhesion requires a quantitative understanding of chemical and physical surface properties and the mechanism of the attachment process. To derive this knowledge, novel tools are desired to image and probe the interaction of microorganisms with a surface in real time. In the pedagogical introductory part it will be explained, how holography can be used to directly monitor responses of microorganisms to surfaces. The quantification of the interaction of biofilm formers with functionalized interfaces by microfluidic shear force assays will be presented with a focus on the quantitative nature of the experiment and the possibility to extract the activation energies of detachment. X-ray nanoprobe analysis at synchrotron sources serves as complementary toolbox to shed light on the attachment processes, to screen novel active coating ingredients, and to image and analyze the organization of organisms and organelles.

Date:

Wednesday, **23.11.2016**, 14:30

Venue:

TU Wien
Freihaus, 9th floor
SemR DB gelb 09