TECHNISCHE UNIVERSITÄT WIEN
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# IAP-SEMINAR

## EINLADUNG

Termin: **Montag, 17.5.2010 um 14:00 Uhr**
Ort: **Technische Universität Wien,**
Freihaus Hörsaal 1, Turm C (rote Leitfarbe), 1.u.2. OG
1040 Wien, Wiedner Hauptstraße 8-10

Vortragender: **Thorsten Hugel**
Department of Physics, IMETUM, CeNS ,CIPSM,NIM, Technische Universität München/D

Thema: **Dynamics and Structures of Biomolecular Systems**

### Kurzfassung

Biomolecular systems sustain life in any organism. They range from molecular motors moving our muscles to signal transduction pathways telling us that we are happy.
In this talk I will first explain some principles of conformational changes and molecular signalling on the example of the heat shock protein and molecular chaperone Hsp90 [1,2].
In the second part I will focus on the interaction between proteins and surfaces in aqueous environment to understand the molecular origins of adhesion and friction [3,4]. Of special interest is how interfaces or medical implants influence protein structure. This is not only relevant for diseases like Alzheimer's, but also for the strength of spider silk [5].
Throughout the talk I will explain single molecule techniques to study biomolecular systems in a near native environment like Fluorescence Resonance Energy Transfer (FRET) and Atomic Force Microscopy (AFM).

[1] Mickler et al., NSMB (2009)
[2] Ratzke et al., submitted
[3] Horinek et al., PNAS (2008)
[4] Geisler el al., Small (2009)
[5] Geisler et al., submitted

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*Alle interessierten Kolleginnen und Kollegen sind zu diesem Seminar im Rahmen des Berufungsverfahrens Biophysik herzlich eingeladen.*

*H. Störi e.h.*
*(LVA-Leiter)*