



TECHNISCHE
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INSTITUT FÜR
ANGEWANDTE PHYSIK
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IAP-SEMINAR

EINLADUNG

Termin: **Dienstag, 22.6.2010 um 16:30 Uhr**
Ort: **Technische Universität Wien,**
Freihaus Hörsaal 6, Turm A (grüne Leitfarbe), 2. OG
1040 Wien, Wiedner Hauptstraße 8-10

Vortragender: **Thomas Huser**
NSF Center for Biophotonics Science and Technology, and Department of
Internal Medicine, University of California, Sacramento, Kalifornien/USA

Thema: **Imaging HIV Transfer between T Cells with Optical Superresolution**

Kurzfassung

Live cell imaging with molecularly specific contrast is a particular strength of optical microscopy, permitting the dynamic observation of events at the single cell level within a cell or interactions between cells. This provides highly quantitative biophysical data e.g. to unravel the systems biology of HIV transfer between cells. Most live cell imaging experiments make use of the high specificity provided by labeling cellular components with fluorescent dyes and fluorescent proteins. Here, I will present our latest data on tracking HIV-1 transfer between cells by conducting 4D live cell fluorescence microscopy with a replication-competent clone of the virus. I will also discuss how extensions of fluorescence microscopy, in particular 3D structured illumination super-resolution microscopy allow us to further dissect the structure of adhesive synapses between cells that form during cell-cell virus transfer. I will also touch upon how label-free optical microscopy methods, in particular doubly-resonant coherent anti-Stokes Raman scattering (DR-CARS) microscopy will soon allow us to overcome the short time window set by fluorescence photobleaching and follow such and similar processes for unrestricted periods of time.

*Alle interessierten Kolleginnen und Kollegen sind zu diesem Seminar (60 min)
im Rahmen des Berufungsverfahren Biophysik
herzlich eingeladen.*

*H. Störi e.h.
(LVA-Leiter)*