



TECHNISCHE UNIVERSITÄT WIEN
INSTITUT FÜR ANGEWANDTE PHYSIK
WIEDNER HAUPTSTR. 8-10/E134, 1040 WIEN
<http://www.iap.tuwien.ac.at>



Invitation

Institute of Applied Physics – TU Wien

Univ.-Prof. Dr.

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Nanophotonics

Abstract:

In 1873, Ernst Abbe pointed out that optics below the dimensions of the wavelength of light is pretty cumbersome, specifically that resolution should be limited by diffraction. This claim kept its dogmatic character for one century until Stefan Hell put forward the idea to break this limit in fluorescence microscopy using stimulated emission depletion (STED). We are now using STED in lithography and we construct sub-diffraction patterns, including bio-inert scaffolds that carry, in three dimensional space, bio-functional nanoanchors which allow for targeted placement of proteins or oligonucleotides. Another approach to nanoscale optics is plasmonics. Multi-layered gold/silver/oxide nanostars are one example which we use for the improvement of organic LEDs or random lasers. Voltage-clamped gold nanoparticles also allow for an optical read-out of chemical processes at their solid-liquid interface.

Date:

Thursday, **27.10.2016**, 16:00

Venue:

TU Wien
Freihaus Hörsaal 2
Wiedner Hauptstr. 8-10, 2nd floor