



**Mi, 2.11.2011, 14 Uhr c.t.**  
**Hörsaal für Physik**

## **“Nanoscopy”**

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In this talk some recent developments in the field of scanning tunneling microscopy, low energy electron microscopy and ultra high vacuum He ion microscopy will be discussed and illustrated with a few scholarly examples.

- (1) The scanning tunneling microscope has revolutionized our ability to explore, and manipulate, solid surfaces on the size scale of atoms. Besides its unparalleled spatial power, the STM is also capable of studying dynamical processes, such as molecular conformational changes, by recording current traces as a function of time.
- (2) Recent low energy electron microscopy studies have revealed an anomalous fast decay of large Pb islands (more than a billion atoms) on Ni(111) that occurs within a few milliseconds.
- (3) The already high surface sensitivity of He ion microscopy can be enhanced by utilizing channelling effects of the substrate. Recent He ion microscopy studies have revealed an amazing high sensitivity to monolayers of organic molecules.