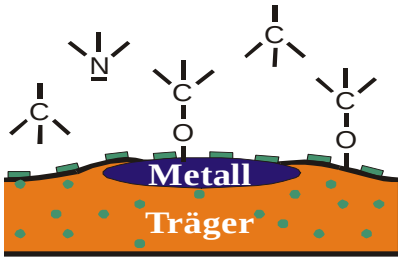
Ruhr-Universität Bochum



SFB 558
„Metall-Substrat-Wechselwirkungen in der heterogenen Katalyse“

Einladung
zum Vortrag von

Dr. Jascha Repp
IBM, Zürich
(Gast von Prof. Köhler)

“Low-temperature scanning-tunneling microscopy and atomic manipulation of adsorbates on ultrathin insulating films“

Abstract: By means of low-temperature scanning-tunneling microscopy (STM) it is not only possible to image individual adsorbates on metallic surfaces, one can also position them with atomic precision. This opens up the fascinating possibility to build up artificial nanostructures atom-by-atom. Using a simple model system, Cu/Cu(111), it will be demonstrated how atomic/molecular manipulation can be used as a new tool in surface physics to obtain important physical information of the adsorption site and adsorbate-adsorbate interactions. Adsorbates on metal surfaces are strongly disturbed in their intrinsic properties by the presence of the substrate electrons. To understand the electronic properties of an individual molecule in meso-scale de-vices and for mono-molecular electronics, an electronic decoupling of the molecules from the supporting substrate is therefore desirable, if not mandatory. Ultrathin insulating NaCl films on copper facilitate an electronic decoupling of this kind. STM ex-periments provide an insight into fundamental issues like the growth, the binding and electronic states of insulator/metal interfaces. Moreover, they open up new possibilities in the so-called “atomic-scale technologies”, because adsorbates on insulating films can now be studied and even manipulated on the atomic length scale for the first time.

Termin:	**21.12.2004**
Zeit:	**11.15 Uhr**
Ort:	**HNC 5/99**

Gäste sind herzlich willkommen.