



Vortragsankündigung

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Es spricht: **Prof. Dr. Ludger Wöste** und Arbeitsgruppe
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Zeit: **Mittwoch, 24. Juni 2009 17:15 Uhr**

Ort: **TU Berlin**
Institut für Chemie, Altes Chemiegebäude
Straße des 17. Juni 115, 10623 Berlin
Raum C 243

Thema: **Electronic Coupling of Deposited Clusters
and Support Structures: Modelling Charge
Transfer Phenomena via Multi-Component
Cluster Aggregates**

Abstract: The interaction between deposited cluster systems and the respective support materials has shown to have a pronounced effect on the electronic and geometric nature of surface-bound clusters. This can result in a change of their effective charge and spin state as well as a modified morphology. When utilizing these properties of surfacebound clusters as a sensor, surface morphology can be characterized and inversely, a defined surface structure opens the possibility of tuning the nature of deposited cluster centers in view of their catalytic efficiency and selectivity. While these possibilities are intriguing, the coupling of support and deposited centers is complex, necessitating a plural approach for its characterization. One possible route for gaining atomic scale insight to this phenomenon will be presented in which the aggregate cluster systems, composed of the respective support and deposit materials are assembled and massselected in the gas phase. This allows for exploring their coupling in the framework of a reduced and variable dimensionality in the controlled environment of an ion trap.
Additionally, photo-induced charge transfer or spin and charge modifications of these systems via photo-induced electron-detachment and/or ionization with ultrashort laser pulses offers a method for determining the fundamental energetics and dynamics of electronic coupling in cluster/support systems. Experimental efforts to these means will be presented, which focus on the construction of magnesium oxide surface supported gold cluster architecture, the ultrafast photo-induced charge and spin modification of these systems and discuss the consequences for the reactivity of these systems.

Organisator: **Prof. Dr. Ludger Wöste (FUB)**

Gäste sind herzlich willkommen!

Prof. Dr. Matthias Drieß
Sprecher des Exzellenz-Clusters UniCat