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Tuesday, 12th December 2023, 16:00 s.t.

TU Wien, Institut für Angewandte Physik, E134
1040 Wien, Wiedner Hauptstraße 8-10
Yellow Tower „B“, 5th floor, SEM.R. DB gelb 05 B



The seminar will be also held as a zoom meeting

<https://tuwien.zoom.us/j/96062751637?pwd=ZkRUWnlkUFFZb2pEdm55ZzFteTBNdz09>

Meeting ID: 960 6275 1637

Password: 9ANd8XWj

Preparation of Model-Catalysts for Fundamental Studies in UHV

In this seminar, I will summarize surface science studies addressing transition metal oxide surfaces that have been conducted at the iNANO center in Aarhus. Although we often start our studies with high-resolution scanning tunneling microscopy (STM), it is the combination of STM studies with various other techniques, such as X-ray photoelectron spectroscopy (XPS), and infrared reflection absorption spectroscopy (IRRAS), and density functional theory (DFT) calculations, which leads to a knowledge gain. Firstly, I will present examples found on the anatase $\text{TiO}_2(101)$ surface (a- TiO_2). The interaction with vanadium, the preparation of $\text{V}_2\text{O}_5/$ a- TiO_2 and $\text{WO}_3/$ a- TiO_2 model catalysts will be addressed, as well as the interaction of water with a- $\text{TiO}_2(101)$. If time permits, I will summarize our results addressing ultrathin FeO islands supported on Pt(111). After assigning of the islands edges at oxidizing and reducing conditions, I will discuss an *in-situ* STM experiment of the CO oxidation reaction.

All interested colleagues are welcome to this seminar lecture
(45 min. presentation followed by discussion).

Friedrich Aumayr
(LVA-Leiter)

Ulrike Diebold
(Seminar Chair)