



# EINLADUNG

zum Vortrag  
von

**Dr. Olga V. Safonova**  
Paul Scherrer Institute, Switzerland

## Design of XAS experiments for uncovering active sites in heterogeneous catalysts

am Dienstag, 11. März 2025, um 17:30 Uhr

**Ort:** Lise-Meitner-Hörsaal, Fakultät für Physik, Universität Wien,  
1090 Wien, Strudlhofgasse 4 / Boltzmannngasse 5, 1. Stock  
*Barrierefreier Zugang: Boltzmannngasse 5, Lift, 1. Stock rechts über den Gang zum  
Hintereingang des Hörsaals*

### Abstract:

X-ray absorption spectroscopy (XAS) is a powerful tool for uncovering the structure of active sites in heterogeneous catalysts. In this talk, I will show how one can design ex situ, in situ, and operando XAS experiments to decipher the descriptors of catalytic activity, distinguish active species from spectators, and detect the surface intermediates. The methodology will be illustrated by the examples from our recent works on preferential oxidation of carbon monoxide over supported Pt-FeO<sub>x</sub> catalysts, oxidative dehydrogenation of alcohols over supported VO<sub>x</sub> species promoted by titania and ceria, and CO<sub>2</sub> hydrogenation catalysis over Cu-Ga particles.