



TECHNISCHE  
UNIVERSITÄT  
WIEN  
Vienna | Austria



## ***PhD Position Single-Protein and Nanoparticle Analysis***



There is a big demand for the identification of proteins with ever-increasing sensitivity and in complex samples, in particular, for emergent single-cell protein profiling. However, most protein species in mammalian cells are only available in low concentrations, and the limited sensitivity of mass spectrometry only allows for the detection of the most abundant proteins with millions of copies per cell.

The consortium with collaborators at **TU Wien**, **ETH Zurich** and **the Niels Bohr Institute of Copenhagen University** has unique competence for sensor concepts, which will allow us to develop **new approaches to measuring mass**. We will develop single-protein UV-Vis & IR absorption spectroscopy and single-protein gravimetric mass spectrometry.

In this project we bring a **radically new analysis technology to the field of protein analysis**. To create this novel technology, this project engages contributions from physics, electrical engineering, microsystem technology, machine learning, analytical chemistry, and biochemistry. It is the combination of these disciplines that is at the heart of the success of this project.

Your profile:

- curious, pro-active, eager to work in a highly motivated work environment
- interested in basic research
- skills in Chemistry, Electrical Engineering, Physics or similar research fields

*Prof. Dr. Martina Marchetti-Deschmann*  
*TU Wien, Institute of Chemical Technologies and Analytics*  
*Getreidemarkt 9/164*  
*A - 1060 Vienna*  
*T: +43-1-58801-15160*  
*E: [martina.marchetti-deschmann@tuwien.ac.at](mailto:martina.marchetti-deschmann@tuwien.ac.at)*