Chair of Physical Chemistry
Department of Chemistry
Technical University of Munich
Lichtenbergstraße 4
D-85748 Garching

The Chair of Physical Chemistry of the Technical University of Munich investigates fundamental processes in energy conversion, sustainable chemistry and sensing. We offer a stimulating research environment in a multidisciplinary laboratory in one of the highest-ranked universities in Europe. For our projects we advertise

4 PhD Positions (66% TV-L E13) in the fields of Physical Chemistry or Experimental Physics

Project Description

Size-dependent structural and electronic effects make clusters and nanoparticles extremely interesting for highly selective, mild sustainable catalytic and energy conversion processes. We investigate model systems of size selected clusters in various environments, ranging from isolated clusters to supported ones and from low pressure gas phase to chiral environments and liquid phase. Hereby, we develop and apply state-of-the-art laser spectroscopies, advanced surface science techniques, cutting-edge reactivity measurements, and time-resolved scanning probe microscopies.

Our projects involve 4 topics for independent PhD theses: 1. Photocatalytic reactivity for green hydrogen evolution on nanostructured materials; 2. Electrochemical microscopy in sustainable catalysis at the atomic scale; 3. Chirality transfer and nonlinear laser spectroscopy for chiral recognition; 4. Thermal reaction pathways on metal clusters in environmental chemistry.

As the successful candidate, you will benefit from the membership at the TUM Graduate School and an active international scientific network within the Excellence Cluster e-conversion, a DFG Collaborative Research Center and an international graduate school. You will participate in meetings with our international collaborators, present your results in national and international conferences and take part in exchange programs for PhD students.

Required qualifications

Prospective candidates have a degree in chemistry, physics or a related field and are highly motivated to work on sophisticated physicochemical experimental setups. They have experimental experience in at least one of the following fields: handling of laser systems, operating vacuum chambers or surface science methods, performing electrochemical characterizations, designing chemical reactors or working on problems in analytical chemistry. They should enjoy solving technical challenges and bring along good communication skills in English. The successful candidates will further show a willingness to learn about new techniques and scientific fields and contribute their ideas to the project. We are looking for team players who collaborate closely with other team members while also working independently on their own project. Experience in basic programming skills is advantageous, but not required.

Our offer

The positions are available immediately for the duration of three years. Payment will be based on the Collective Agreement for the Civil Service of the Länder (*66% TV-L E13*). TUM strives to raise the proportion of women in its workforce and explicitly encourages applications from qualified women. Applications from disabled persons with essentially the same qualifications will be given preference.

Application

Please send your CV, letter of motivation (max. 1 page) and indicate up to two reference contacts to (*recruitment.pc@ch.tum.de*). Only complete applications will receive full consideration. Applications will be evaluated continuously until 30.11.2022. Successful candidates can be hired immediately. Find more details on our website.