

PhD position in UHV STM/AFM studying molecular switches/structures on surfaces V STM/AFM

Institut für Physik der Kondensierten Materie, Erlangen, TV-L E 13, Teilzeit, Befristete Anstellung,
Bewerbungsschluss: 27.04.2025

Your Tasks

We are seeking a highly motivated candidate to join our team as a PhD student to conduct cutting-edge research in the field of (self-assembled) molecular nanostructures on surfaces using high-resolution scanning probe techniques.

The successful candidate will work on specially designed molecules with the aim to understand and/or control the manipulation of molecular switches and on-surface synthesis of nanographenes adsorbed on surfaces.

The experiments will be carried out at temperatures between 5 K and room temperature under ultrahigh vacuum conditions with advanced scanning probe techniques, such as scanning tunneling microscopy/spectroscopy and non-contact atomic force microscopy.

In particular, external stimuli like thermal excitation and scanning tunneling microscopy manipulation will be applied to excite the molecular building blocks and induce motional changes and covalent reactions.

The project is embedded in the interdisciplinary EU Pathfinder Open project ESiM (Energy Storage in Molecules, <https://esim-project.eu/>).

Close collaboration will take place with research groups from theoretical physics, and synthetic chemistry.

The collaborators from synthetic chemistry will provide specially designed molecular building blocks with tailored functionalities.

We offer outstanding infrastructure with state-of-the-art equipment and possibilities for broad interdisciplinary collaborations.

Your Profile

Necessary qualifications:

We are looking for a motivated candidate who;

- holds a Master's degree in Physics, Material Sciences, Nanosciences, or Physical Chemistry.
- background in surface science and previous experience using ultrahigh vacuum surface analysis equipment or scanning probe microscopy is a benefit, but not mandatory.
- has passion for science and is enthusiastic and a team player.
- has excellent communication skills, the ability to write scientific papers and can deliver

presentations.

- has a good command of English (oral and written, at least B2).

Additional Information

Befristetes Forschungsvorhaben

The application should contain:

- a cover letter outlining motivation, qualifications, experience, and career goals,
- a curriculum vitae,
- contact details of 3 people who can provide information on your suitability for the position (thesis supervisors etc.).

The review of applications will begin immediately and continue until the position is filled.

Interessiert?

Die vollständige Stellenausschreibung sowie alle Infos zum Bewerbungsverfahren finden Sie hier:

