

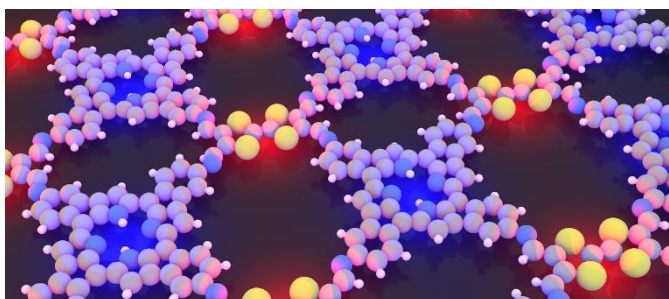
## PhD topic: Investigating Excitons in Two-Dimensional Photoactive Materials

Join our [Surface Chemistry group](#) as a Ph.D. candidate and contribute to groundbreaking research funded by the ERC Starting Grant "WEPOF." We focused on unraveling the mysteries of excitonic phenomena within covalent organic frameworks, with the ultimate goal of advancing photoenergy conversion efficiency in these materials.

### Description

As the selected candidate, your primary responsibility will involve on-surface synthesis of precisely crafted two-dimensional frameworks. The growth process will be meticulously monitored using near-ambient pressure X-ray photoelectron spectroscopy (NAP-XPS). Following synthesis, advanced scanning tunneling and atomic force microscopy (STM/AFM) techniques will be applied at cryogenic temperatures and under ultra-high vacuum conditions to characterize the resulting 2D polymers. Innovative methods will be developed to directly image photoexcited states at the atomic scale.

Collaborations with the Department of Physical Chemistry team and international partners will be an integral part of this exciting research endeavor.



### Required qualifications

- Completed scientific university studies (diploma, master's degree) in chemistry, physics, materials science, or a related field.
- Basic knowledge and practical experience in at least one of the following areas: scanning tunneling microscopy (STM), atomic force microscopy (AFM), X-ray photoelectron spectroscopy (XPS), ultra-high vacuum (UHV), and laser technology.
- Basic programming skills (e.g., Python, MATLAB, LabVIEW).
- Proficient written and spoken English skills.

### Offer

The position is funded as part of an ERC Starting Grant and will be typically limited to three years. Employment extent: 30 hours/week. Remuneration will be based on the [FWF scheme](#).

### Application

Interested candidates should submit their application documents, including a CV, contacts for two references, a motivation letter, and relevant certificates, by **01.03.2024** to Prof. Dr. Laerte Patera at [laerte.patera@uibk.ac.at](mailto:laerte.patera@uibk.ac.at). Only complete applications will be given full consideration. Join us in advancing the next generation of materials for artificial photosynthesis!