

**Technische Universität Berlin**

Technische Universität Berlin offers an open position:

Research Assistant – 0.65 working time - salary grade E13 TV-L Berliner Hochschulen
There is the possibility of a doctorate.

Fakultät II – Institut für Chemie – Technische Chemie / Elektrokatalyse – Materialien

Reference number: II-604/24 (starting at 01/01/25 / limited until 31/12/2027 / closing date for applications 13/12/24)

Working field:

The Electrochemical Catalysis, Energy & Materials Sciences group (Dr. Xingli Wang, Prof. Dr. Peter Strasser) at the Department of Chemistry, Berlin Institute of Technology (Technische Universität Berlin, Germany), seeks to recruit a research assistant in the area of electrochemical denitrification for urea/amine synthesis using industrial wastewater. This project is funded by the DFG (German Research Foundation).

The goal of this project is to develop a scalable and selective electrochemical process for synthesizing urea/amines by combining conventional CO₂/CO reduction with the denitrification process. This innovative approach aims to establish a novel heteroatom (C-N) coupling pathway in co-electrolysis reactions under energetically favorable conditions. Key research objectives include:

- Catalyst Development and Characterization: Synthesize and characterize shape-selective catalysts.
- Electrochemical Testing: Conduct electrochemical tests under various conditions to enhance product selectivity and stability during co-electrosynthesis.
- Advanced Analytical Techniques: Utilize in situ/operando characterizations to monitor and understand the structure-reactivity-selectivity relationships of the catalysts.
- Optimization for Industrial Application: Optimize experimental conditions for gas diffusion electrodes in a flow cell electrolyzer to achieve technologically relevant current densities.

A comprehensive set of theoretical and practical skills, relevant for both academia and industry, will be conveyed. The candidate will be encouraged to conduct independent research activities, explore the potential of future research foci and participate in the supervision of student theses within the research project.

More information at <http://www.technischechemie.tu-berlin.de> and https://www.youtube.com/watch?v=ulc1EdklbtI&ab_channel=TUBerlin

Requirements:

- Successfully completed scientific university degree (Master's, Diploma or equivalent) in physical or electro-chemistry, chemical or materials engineering
- Proven expertise in synthesis (molecular catalysts/nanostructured catalysts), electrochemistry, and (in/ex situ) materials characterization (UV-Vis, IR, Raman, NMR, XPS, SEM, TEM, etc.).
- Experience working with international research teams and completing projects in synchrotron facilities.
- Good knowledge of German and/or English required; willingness to acquire the respective missing language skills.

What We Offer:

- Funding: Competitive salary
- Research Environment: Access to state-of-the-art facilities and advanced analytical instruments.
- Professional Development: Opportunities to publish in high-impact journals and present at international conferences.
- Interdisciplinary Collaboration: Work within a dynamic academic community and network with industry partners.

Interested candidates are requested to send a letter of motivation, a CV and a complete list of publications together with the contact details of two references **to Dr Xingli Wang (xingli.wang@tu-berlin.de), quoting the reference number.**

By submitting your application via email you consent to having your data electronically processed and saved. Please note that we do not provide a guarantee for the protection of your personal data when submitted as unprotected file. Please find our data protection notice acc. DSGVO (General Data Protection Regulation) at the TU staff department homepage: https://www.abt2-t.tu-berlin.de/menue/themen_a_z/datenschutzerklaerung/.

To ensure equal opportunities between women and men, applications by women with the required qualifications are explicitly desired. Qualified individuals with disabilities will be favored. The TU Berlin values the diversity of its members and is committed to the goals of equal opportunities. Applications from people of all nationalities and with a migration background are very welcome.

Technische Universität Berlin - Die Präsidentin - Fakultät II, Institut für Chemie - Technische Chemie / Elektrokatalyse - Materialien, Prof. Dr. P. Strasser, Sekr. TC 3, Straße des 17. Juni 124, 10623 Berlin

The vacancy is also available on the internet at
<https://www.personalabteilung.tu-berlin.de/menue/jobs/>

