

PhD position in chemistry

Online seit 19.11.2025 | 2025-11-19-945242 | Wissenschaftliche:r Mitarbeiter:in

Stellenbeschreibung

Faculty of Chemistry and Biochemistry :

Activation of Small Molecules/Technical Electrochemistry

In order to fill a **fixed-term position in part-time (26.69 hours/week = 67%) by March 01, 2026**, we are looking for 1

PhD position in chemistry

We are a dedicated and interdisciplinary team of chemists and engineers, united by our passion for electrolysis and its pivotal role in the energy transition. We combine cutting-edge fundamental research with practical, scalable application solutions to help drive climate protection forward. In our daily work, we rely on state-of-the-art analytical and simulation tools, and we maintain close collaborations with industrial partners, research institutions, and stakeholders. Our goal: to develop customized, forward-thinking solutions for complex challenges in electrochemical technologies. Our research and development portfolio covers a wide spectrum – from designing novel electrolysis materials and optimizing process conditions to scaling up from lab-scale prototypes to industrial systems for hydrogen generation, CO₂ conversion reaction, bioelectrochemical as well as electroorganic systems. Throughout all our activities, quality, innovation, and long-term impact take center stage. As a reliable and forward-looking partner, we accompany our collaborators on their journey toward a more sustainable future.

As a research assistant (m/f/x), you will play an active role in advancing the development of artificial metalloenzymes for selective CO₂ reduction. You will independently plan, conduct, and evaluate experiments at the interface of synthetic chemistry and biochemistry, combining molecular design with protein engineering to develop next-generation catalysts for CO₂ conversion. Your tasks will include the synthesis and characterization of second-sphere-modified cyclam ligands and their metal complexes, the construction of artificial metalloenzymes, and the investigation of their electrochemical and photochemical behavior. You will analyze and interpret electrochemical data (e.g., cyclic voltammetry, linear sweep voltammetry, controlled potential electrolysis) and contribute to structure–activity studies through spectroscopic and crystallographic methods. Working as part of an interdisciplinary team, you will contribute your ideas and expertise to uncover how second coordination sphere effects can enhance selectivity and efficiency in CO₂ reduction catalysis. Your work will support the development of innovative, sustainable technologies for CO₂ utilization and the transition toward a circular carbon economy.

Your tasks:

- Independent planning and execution of experiments
- Setup and operation of electrochemical test systems
- Data analysis and evaluation
- Scientific communication and dissemination
- Collaboration in an interdisciplinary team

Anforderungsprofil & Qualifikationen

Your profile:

1. Experienced chemist with a strong background in synthetic chemistry, preferably with hands-on experience with electrochemical characterization methods.
2. Familiarity with advanced analytical techniques to evaluate catalyst performance and electrode stability.
3. Ability to independently design, conduct, and troubleshoot experiments, ensuring reproducibility and data integrity.
4. Open-minded and collaborative attitude, capable of working effectively in interdisciplinary teams and adapting to evolving project needs.
5. Strong scientific communication skills in English, both written and oral, including the ability to document results clearly and present findings to diverse audiences.
6. Required university degree: MSc. Chemistry, Material Sciences or comparable degrees

We offer:

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- Challenging and varied tasks with a high level of independence
- Collaboration in a committed and appreciative team
- Options for flexible working (mobile working and teleworking)
- A workplace in a green environment with direct access to the botanical garden of Ruhr University Bochum

- A dynamic and supportive interdisciplinary environment where chemists and engineers collaborate closely to tackle cutting-edge challenges in electrolysis and energy conversion.
- Access to state-of-the-art laboratories and advanced equipment, including automated electrochemical test platforms.
- Opportunities for independent research as well as teamwork, fostering personal and professional growth.
- A culture that values open communication, creativity, and the exchange of ideas across disciplines.

Further information:

The position is salaried and based on the collective agreement of the Länder (TV-L). If the personal and collective agreement requirements are met, the employee will receive pay grade E13 TV-L.

Further information can be found at <https://oeffentlicher-dienst.info/> (in German).

The place of work is Ruhr University Bochum.

If the position is funded by third-party funds the employee has no teaching obligation.

RUB sees itself as a university with an international presence. The campus languages are German and English. Competence in at least one of the two languages and the willingness to learn the other are a prerequisite. RUB provides corresponding free courses for employees.

German language courses are offered by the University Language Center (ZFA) in the field of German as a Foreign Language (DaF).

<https://www.daf.ruhr-uni-bochum.de/sbgk/index.html.en>

The Staff Council has the right to participate in all selection interviews. At the request of a candidate (m/f/x), it will ensure its participation in the entire procedure. Please contact wpr@rub.de.

The Ruhr-Universität Bochum is one of Germany's leading research universities, addressing the whole range of academic disciplines. A highly dynamic setting enables researchers and students to work across the traditional boundaries of academic subjects and faculties. To create knowledge networks within and beyond the university is Ruhr-Universität Bochum's declared aim.

The Ruhr-Universität Bochum stands for diversity and equal opportunities. For this reason, we favour a working environment composed of heterogeneous teams, and seek to promote the careers of individuals who are underrepresented in our respective professional areas. The Ruhr-Universität Bochum expressly requests job applications from women. In areas in which they are underrepresented they will be given preference in the case of equivalent qualifications with male candidates. Applications from individuals with disabilities are most welcome.

Contact persons for further information:

Prof. Ulf-Peter Apfel Tel.: +49 234 32 21831

Dr. Julian Kleinhaus Tel.: +49 234 32 27242

Travel costs, accommodation costs and loss of earnings or other application costs for job interviews can unfortunately not be reimbursed.

We look forward to receiving your application via our **online application portal by 2025-12-29**. Please make sure to mention the reference number ANR 5149.

Vorteile für Mitarbeitende

- Vergünstigtes Jobticket
- Arbeitsplatz in lebendiger Metropolregion

Stellenmerkmale

Beschäftigungsart

Wissenschaftliche:r Mitarbeiter:in

Beschäftigungsumfang

Teilzeit (befristet)

Home Office

Nein

Bewerbungslink

<https://jobs.ruhr-uni-bochum.de/jobposting/b9e4fc18b601b12546d15e1d26666bfd0ebc480?ref=stellenwerk>

Kontaktdaten

Firma/Hochschule

Ruhr-Universität Bochum

Anschrift

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Kontakt

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Webseite

<https://uni.ruhr-uni-bochum.de/de/stellenangebote>