HZB Helmholtz Zentrum Berlin

Technische Universität Berlin

University Professor - salary grade W3

for the field of **“Catalytic Technologies for Sustainable Fuels and Chemicals”** combined with the position of **Head of a newly founded institute at the Helmholtz-Zentrum Berlin**.

Faculty II - Mathematics and Natural Sciences
Reference number: II-323/25 (starting at the earliest possible / permanent / closing date for applications 14/09/25)

About us:

Technische Universität Berlin – Faculty II – Institute of Chemistry – together with the Helmholtz-Zentrum Berlin fu?r Materialien und Energie are seeking applications for a joint appointment (Berliner Modell) for a

Your responsibility:

Developing and implementing innovative, climate-neutral technologies are crucial to driving the energy transition in hard-to-electrify sectors like the chemical industry and air and sea transport, significantly reducing their CO2 emissions sustainably. The professorship “Catalytic Technologies for Sustainable Fuels and Chemicals” addresses an innovative research field at the cross-section of lab-scale synthesis and process application with a strong drive towards furthering scalable technology to industrial application.
We expect the successful candidate to develop a research program of international significance focusing on:

Process-oriented catalyst design for advanced catalytic technologies

- Explore the potential of novel and multifunctional catalytic materials and technologies for the sustainable production of fuels and chemicals, e.g. from (diluted) renewable CO2 feedstocks
- Develop advanced, scalable synthesis techniques beyond traditional methods to precisely control the composition and structure of catalysts to tune their activity and selectivity

Design and integration of coupled catalytic processes

- Design and engineer concepts that integrate e.g. thermocatalytic and electrocatalytic conversions
- Explore synergistic effects between thermal and electrochemical activation to achieve superior catalytic performance
- Demonstrate and optimize sustainable catalytic processes in suitable reactor environments

Technology development and transfer

- Bridge the gap between laboratory experiments and scalable catalytic processes
- Push technology transfer by building strategic partnerships with the private sector and by facilitating spin-off activities
- Augment technological development with strong collaborations to address life cycle analysis and exploration of market opportunities/trends via techno-economic assessments for a comprehensive approach

In terms of teaching, the professorship should focus on the field of green chemistry, materials science chemistry and synthesis and catalysis of the Master’s program in Chemistry. Here, for example, courses in the field of application-oriented catalysis research and the technical use of carbon dioxide sources as a resource are conceivable and desirable. Applicants must be able to teach courses in English.
The successful candidate will be expected to offer and supervise research activities for final theses and doctoral theses. The professorship also entails the acquisition and management of third-party funded projects and close cooperation with existing departments in the field of heterogeneous catalysis.

Further responsibilities include leading and managing the department and its staff; supporting the advancement of junior scholars, women, and diversity; knowledge and technology transfer; initiatives to promote internationalization; gender and diversity competence and sustainability-oriented action; as well as committee work.

Your profile:

Hiring requirements:
The candidate must fulfill the hiring requirements pursuant to Section 100 of the Berlin State Higher Education Act (BerlHG). These include a university degree with a specialization in chemistry, material science or equivalent; a pronounced aptitude for academic work, generally demonstrated by the quality of the candidate’s doctorate; additional academic achievements, generally demonstrated by a positive evaluated junior professorship, Habilitation, or equivalent achievement; and an aptitude for teaching documented by a teaching portfolio (for further information regarding teaching portfolios, please see the following TU Berlin web page: https://www.tu.berlin/en/go209650/)

Further requirements are several years of subject-specific teaching experience and a demonstrable and internationally outstanding research profile in electrochemical or thermal heterogeneous catalysis, with a focus on catalyst development and synthesis or technology development, supported by relevant publications.
The proven ability to acquire external research funding is also a prerequisite.

Desirable competences:
We expect a commitment to advancing the field of sustainable energy and a passion for addressing the global

challenges of climate change and energy transition. A strong network in the academic and industry community is of advantage, demonstrated affinity with entrepreneurship is a plus. We expect strong communication and collaboration skills, with the ability to work effectively with international and interdisciplinary teams. Additionally, experience in managing complex research projects with partners from public and private sectors is a plus.

Technische Universität Berlin expects its professors to possess the ability to head their department, manage its staff, and assume responsibility for its strategic development. For us, this includes commitment to the advancement of junior scholars and women, the gender and diversity competence required to create diversity-sensitive working and study conditions, providing fresh impetus in research and teaching, and participating in academic self-administration. Experience in interdisciplinary cooperation, scientific communication, and knowledge and technology transfer is preferable.

As a university with an international profile, we require our professors to teach in English (German is a plus) or be willing to acquire the language skills they lack within a reasonable period of time.

Technische Universität Berlin has approximately 35,000 students, 350 professors, and 7,000 staff, and is a University of Excellence within the Berlin University Alliance. We very much value the diversity of our members and are committed to equal opportunities. We are a certified family-friendly university.

The **Helmholtz-Zentrum Berlin für Materialien und Energie** (HZB) is one of 18 Helmholtz Centers funded by the Federal Republic of Germany and the states of Berlin, Thuringia and Bavaria. At HZB, more than 1,200 employees work together with researchers from national and international partners (universities, industrial companies and research centers) on the discovery and development of new materials and technologies for a climate-neutral energy supply. As one of the leading institutions in the material research and technology development for sustainable energy applications, HZB is driving the development of catalysis for sustainable fuels and chemicals. Within the framework of this interdisciplinary professorship, the head of the newly founded institute is expected to substantially strengthen the research field of technology development in the field of sustainable catalysis at HZB. With modern laboratories in the newly developed research building dedicated to catalysis at Helmholtz-Zentrum Berlin in the Technology Park Adlershof, the successful candidate will have access to world-leading analytical facilities, including the synchrotron source BESSY II, in close proximity to 600 tech companies and research organizations.

How to apply:

Technische Universität Berlin and Helmholtz-Zentrum Berlin is seeking to increase the proportion of women in research and teaching and actively encourages applications from suitably qualified female candidates. Preference will be given to applicants with severe disabilities who equally fulfill the requirements of the position.

Please submit your application **quoting the reference II-323/25** with the relevant documents (CV, references, research concept, teaching portfolio, list of publications, the 5 most signification publications, and documents demonstrating projects with third-party funding which you have completed or applied for) exclusively as a PDF (single file) via email to the dean of Faculty II, Prof. Dr. Wilhelm Stannat at **appoint@naturalsciences.tu-berlin.de**.

By submitting an online application, you as the applicant give your consent for your data to be processed and stored electronically. We would like to point out that we cannot guarantee the security of personal data transmitted if your application is sent unprotected by electronic means. Data protection information on the processing of your data in accordance with the GDPR can be found on the website of the HR department:
https://www.tu.berlin/abt2-t/services/rechtliches/datenschutzerklaerung-bei-bewerbungen.

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