Campus Straubing für Biotechnologie und Nachhaltigkeit
Technische Universität München

The group “sustainable energy materials” offers a position to pursue a

PhD (f/m/d) in Electrochemistry / Analytical chemistry

About us:

The Technical University of Munich is located in the south of Germany and is **one of the most renowned universities** of **technology** in **Germany** with top rankings in research and teaching. Our highly qualified students are responsible for our outstanding position as a **university** that is **recognized** in the areas of **science** and **engineering**.

Our group “Sustainable Energy Materials” concentrates on the understanding of structure-performance indicators in electrocatalytic reactions. Our catalysts are the heart of sustainable energy conversion processes such as in hydrogen fuel cells or electrolyzers. Utilizing innovative, automated characterization techniques we evaluate the catalyst’s performance. This enables the examination of numerous materials in a short time and thus accelerates the discovery of new materials. The corresponding reaction mechanisms that are essential for understanding the underlying processes are examined. We work closely with various institutions and companies from all over the world, especially the USA, the UK, and Germany.

Your Profile:

- Master in chemistry, physics, material science, engineering, or a closely-related field
- You have experience/interest in electrochemistry (electrocatalysis, plating, corrosion…)
- Knowledge/Interest in method development
- Knowledge/Interest in analytical chemistry
- Excellent English speaking and writing abilities
- No German language skills required
- Interdisciplinary team working skills with high independency and outstanding academic performance
- Hands-on mentality

Applicants should submit their CV including A-level, bachelor and master degrees, and a motivation letter detailing their interest and suitability for the position.

Mission:

We test novel catalysts for sustainable energy conversion processes such as polymer electrolyte fuel cells or electrolyzers, H_2O_2 production, or electrochemical CO_2 reduction. To do so, the stability of newly developed catalysts is of pressing concern. You will continue our research line around stability assessment of novel catalysts by electrochemical flow cell measurements that will be coupled to on-line analytics (c.f. https://www.nature.com/articles/s41563-019-0555-5). Specifically, an in-house designed flow cell is coupled to inductively coupled plasma mass spectrometry and the stability against dissolution will be assessed. This will be done with collaboration partners around the world. The workflow spans from analytical chemistry to material science and engineering. There is no need for previous knowledge in the described fields but a strong motivation to learn and push the boundaries of our current knowledge further. We are looking for an individual with a high willingness to take initiative and motivation to start her/his career at TUM.

We offer:

TUM offers a wide range of inspiring and challenging Ph.D. programs, which will supplement the research training with outstanding opportunities for career development, continued education, and life-long learning.
We offer excellent working conditions in a young and interdisciplinary team. In an open environment, you will have the freedom to develop and realize your own ideas. TUM Campus Straubing for Biotechnology and Sustainability offers scientific and academic excellence in a student-friendly and fresh environment. The successful applicant will hold a 3-year contract. We offer a competitive salary and benefits depending on work experience and seniority in accordance with the public service wage agreement of the Free State of Bavaria - TV-L E13 (67%). As an equal opportunity and affirmative action employer, TUM explicitly encourages applications from women and all others who would bring additional diversity dimensions to the university’s research and teaching strategies. Preference will be given to disabled candidates with essentially the same qualifications.

Interested?

We are looking forward to receiving your application via e-mail to marc.ledendecker@tum.de. The position will be open until an appropriate candidate is found.

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