

The new Chair of Biogenic Functional Materials at TUM Campus Straubing for Biotechnology and Sustainability is looking for a

## PhD student (f/m/d) for the development of bio-hybrid proteins for energy applications

Are you passionate about innovation in the field of protein-based materials? Do you thrive on developing applied science with a positive environmental impact? Are you skilled at using multidisciplinary thinking to solve complex professional challenges? Do you find beauty in nature's ingenious solutions to various problems? If you are excited about making a difference and want to innovate in an international and highly collaborative environment, the Chair of Biogenic Functional Materials (BFM) at the Technical University of Munich (TUM) is the ideal place for your future career. BFM offers state-of-the-art infrastructure comprising three inter-disciplinary and inter-connected laboratories focused on the synthesis and engineering of biogenic and sustainable photo- electro-active materials, mechanical/spectroscopic/electrochemical characterizations, and the engineering of lighting and photovoltaic devices with researchers from around the world. We are located at the young TUM Campus Straubing, aiming to become the European leader in developing sustainable technologies and their economic implementation. Learn from Biology, think like a Chemists, and handle like an Engineer...are you ready?

### *Mission*

Proteins are crucial in various biological processes, acting as ligand binders for functions like oxygen transport or energy capture (*e.g.*, heme-binding or chlorophyll-binding, luminescence, enzymes, *etc.*). However, most of them lack the necessary functionalities required for technological applications. Our project seeks to address this limitation by developing new protein scaffolds that can bind synthetic dual-metal compounds and optimize their performance and stability for conversion processes via sol-gel chemistry. We are looking for an individual with initiative and motivation to start her/his career in a new and dynamic chair at TUM. The workflow will span from protein engineering to photo- electro-physical and structural characterizations to final device implementation with collaborators.

**Qualification:** The successful applicant must have the following:

- High motivation and commitment to scientific excellence.
- Master Degree/(10 semester diploma) in biochemistry/biotechnology/chemistry/materials science or related disciplines.
- Experience in molecular cloning (primer design, PCR, *etc.*) is a must.
- Experience in chemistry for ligand binding and/or sol-gel chemistry is required.
- Basic knowledge of computational protein analysis, photophysics and will be welcome.
- Team player skills and enthusiasm to work in a multi-disciplinary, collaborative environment.

- Excellent command of the English language (Fully fluent in writing and speech). No knowledge of German is totally fine (free lessons will be provided).

**Offer:** We offer a deep immersion in bio-based sustainable chemical conversion applications every day.

TUM offers a wide variety 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.

Situated on the Bavarian forest gate, Straubing, the old ducal town on the Danube, is the intellectual hub for renewable raw materials and technologies for sustainability in Germany. Straubing, although small in the number of inhabitants, offers everything you need for a successful Ph.D., including a diverse selection of taverns, cafés, and beer gardens. 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 4-year scholarship in the frame of the Imperial-TUM Joint Academy of Doctoral Studies launched by the Imperial College London (Imperial) and the Technical University of Munich (TUM). The candidate will be enrolled in the qualification program of the TUM Graduate School (Statutes of TUM Graduate School and the TUM Regulations for the Award of Doctoral Degrees) and the IGSSSE qualification program. It is also expected to spend one year at Imperial. The scholarship covers the educational and internship costs and a monthly stipend of € 2.000 (tax and social security free). For more information and applicability criteria please check:

[https://portal.mytum.de/archiv/kompodium\\_rechtsangelegenheiten/stipendien/Stipendien-Merkblatt-EN.pdf/download](https://portal.mytum.de/archiv/kompodium_rechtsangelegenheiten/stipendien/Stipendien-Merkblatt-EN.pdf/download)

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.

**Application:** We look forward to receiving your comprehensive application, including your letter of motivation (1 page) , CV (including complete contact information for two references) and academic transcripts of records in English in a **single PDF file**, via email to [biofunmat@cs.tum.de](mailto:biofunmat@cs.tum.de) . Please indicate **only** "PhD JADS" in the subject line.

The position will be open until the candidate is selected. Publication date: August 2023

For further information, please contact:

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