

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

## **PhD (f/m/d) on protein-polymers for solar energy conversion**

The Chair of Biogenic Functional Materials at the Technical University of Munich is seeking a materials science, chemist, or biochemist to bolster research activities in the interface between polymer-protein hybrids, physical chemistry, and solar energy conversion technologies with a strong focus on materials science (biogenic composites, optical/spectroscopic/microscopy/thermal characterization) and fabrication and characterization of sustainable solar cells. Our research focuses on designing multifunctional protein-polymer coatings to solve limitations in current solar cell technologies. Thus, we teach sustainable material science and engineering, protein engineering and chemistry, optics, electronic spectroscopy, mechanical and thermal analysis, and energy-related optoelectronics. The TUM Campus Straubing for Biotechnology and Sustainability is our new home since 2020. It provides an excellent, dynamic environment with top-notch research facilities, modern teaching spaces, and a welcoming, open, multicultural atmosphere that fosters growth for students, scientists, and teachers alike.

### ***Your tasks***

- Research on the design, preparation and characterization of new protein-polymer composites/coatings for optics and photonics.
- Research on the integration and characterization of protein-polymer coatings and materials in solar energy conversion technologies.
- Research on spectroscopy, thermal and structural analysis using experimental and computational methodologies.
- Participation on courses in the Bachelor's and Master's degree programs and implementation of Bachelor's and Master's theses (English).

### ***Qualification***

- High motivation and commitment to scientific excellence.
- University degree in natural sciences or engineering, preferably with a focus on materials science, chemistry, biochemistry, physics, and/or engineering.
- Practical experience in polymer composites (preparation and characterization) and fabrication and characterization of solar conversion technologies is required.
- Practical experience in electronic spectroscopy (IR, Raman, UV-Vis, PL, time-resolved, etc) microscopy (SEM, TEM, AFM, etc.), and mechanical (Flexometer, DMA, etc.) and thermal (TGA, DSC, EIS, etc.) techniques will be positively evaluated.
- Practical experience in protein engineering/chemistry and biogenic polymer chemistry will also be positively evaluated.
- Ability to convey practical and theoretical knowledge in a didactically suitable form.

- Good teamwork and communication skills, as well as a sense of professionalism and responsibility.
- Experience in planning, organizational and coordination activities.
- 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 polymer-protein hybrids, physical chemistry, and solar energy conversion technologies; the candidate will learn and live the translational perspective of designing biomaterials for the sustainable transformation of energy-related technologies. Situated on the Bavarian Forest gate, Straubing as the old ducal town on the Danube, is the intellectual hub for renewable raw materials and technologies for sustainability in Germany. 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 with the possibility to expand it for another year. 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 – TVL13 basis in the new European Project BioSinFin. As an equal opportunity and affirmative action employer, TUM explicitly encourages applications from women, as well as from all people 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 are looking forward to receiving your comprehensive application, including your letter of motivation (1 page), CV (with complete contact information for two references), complete list of publications, participation in projects, and awards/recognitions in English in a single PDF file, via email to [biofunmat@cs.tum.de](mailto:biofunmat@cs.tum.de). Please indicate only "PhD\_ protein-polymer" in the subject line.

The position will be open until the candidate is selected. Publication date: x.x.202x

For further information, please contact:

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