

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

## **Postdoc (f/m/d) for the development and characterization of hybrid solar cells**

**Are you passionate about innovation?; Do you love to develop applied science with environmental impact?; Do you use multidisciplinary thinking to solve professional questions?; Are you able to appreciate the beauty of nature's answers to its many challenges?; Would you like to innovate in an international and highly collaborative environment? Then the Chair of Biogenic Functional Materials (BFM) at the Technical University of Munich (TUM) is the perfect place for your future. 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 Chemist, and handle like an Engineer...are you ready?**

### ***Mission***

Bio-hybrid solar cells could become a front-runner in sustainable energy technologies. Both the type of protein-polymer and protein-nanoparticles interactions as well as the shielding of bio-compounds preserving its functionality lead to photo-active thin film electrodes and electrolytes. We are looking for an individual with initiative and motivation to continue her/his career in a new and dynamic chair at TUM. The candidate will develop new device architectures based on proteins and metal oxide nanoparticles applied as photoelectrodes as well as electrolyte additives to enhance panchromatic light-harvesting, energy transfer, and electron injection processes. The candidate will be involved in the supervision of Ph.D. students working on the preparation of bio-hybrids and their implementation into solar cell schemes. She/he will be responsible for the characterization of devices to establish direct relationships between structural/electronic features and device figures of merit.

### ***Qualification***

The successful applicant must have the following:

- High motivation and commitment to scientific excellence
- Successful Ph.D. in Material Science/Chemistry/Biotechnology or similar validated with a strong publication record and recognitions
- Experience in the preparation and spectroscopic/mechanical/microscopic/thermal characterization of metal oxide nanoparticles/electrodes, protein-polymer composite, protein-metal oxide materials is required

- Experience with absorption/emission, DSC, TGA, DMA, SEM, TEM, and AFM is necessary
- Experience with solar cell fabrication and characterization (OPV, DSSCs, Perovskite, etc.) is necessary
- Experience with solid-state spectroscopy and/ solid-state lighting and photovoltaics will be positively evaluated
- 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 energy technologies; the candidate will learn and live the translational perspective of designing biomaterials for sustainable energy-related applications every day.

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. 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 2-year contract with the possibility to expand it. 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. As an equal opportunity and affirmative action employer, TUM explicitly encourages applications from women as well as from 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 are looking forward to receiving your comprehensive application including your letter of motivation (1 page), CV (including 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 "PD\_2" in the subject line.**

The position will be open until the candidate is selected. Publication date: 15.09.2021

For further information, please contact:

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