

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 protein-polymer composites for energy applications**

**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***

Fluorescent protein-based bio-phosphors applied as color converters are considered front-runners in sustainable lighting and photovoltaics. Both the type of protein-polymer interaction and the shielding of proteins into polymer matrices lead to electro-photo-active composites. In the form of films, they are applied to fully functional energy-related devices to replace toxic and/or unsustainable components of our current technologies. 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 protein-protein composites using fluorescent proteins and artificial/biogenic polymers to enhance thermal and mechanical features to preserve the proteins' photoluminescence under different stress scenarios. The candidate will be involved in the supervision of Ph.D. students working on the synthesis of new polymers and proteins for the above purposes. She/he will be responsible for the characterization of composites to establish direct relationships between composite composition and fabrication and protein stabilization under device operation conditions.

### ***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 polymer and biopolymer composite materials is required
- Experience with GPC, DSC, TGA, DMA, SEM, TEM, and AFM is necessary
- Experience in SAX/WAX GISAX/GIWAX and/or SANS will be positively evaluated
- 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\_MS" in the subject line.**

The position will be open until the candidate is selected. Publication date: 21.12.2020

For further information, please contact:

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