Lehrstuhl für Biogene Funktionswerkstoffe
TUM Campus Straubing für Biotechnologie und Nachhaltigkeit
Technische Universität München

Ph.D. student (f/m/d) for predictive power on Materials Science

Are you passionate about innovation? Do you love developing applied science with environmental impact? Do you use multidisciplinary thinking to solve professional questions? Do you think of nature as a collection of sustainable machines? Can we apply these machines to our daily life? 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 you. 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

We are looking for a motivated Ph.D. student with background in theoretical chemistry and computational skills and with a strong motivation to develop new prediction tools (e.g. Machine Learning) for material science. The candidate, will join a multi-disciplinary and cross-functional team to design, implement, train and analyze machine learning models to develop novel functional nanomaterials (e.g., nanoparticles, low-dimensional materials, bio-hybrid materials, protein-based materials, etc.) for energy conversion and storage.

The successful applicant must have the following:

- Master Degree or 10-semesters diploma in chemistry, physics or related disciplines.
- Experience with molecular electronic structure codes like Gamess, Orca, Turbomole, Gaussian, Molcas, etc.
- Proficiency in Python. Experience with other programming languages will be positively evaluated.
- Team player skills and enthusiasm to work in a multi-disciplinary, collaborative environment.
- Fluency in the English language (writing/speaking). No knowledge of German is totally fine (free lessons will be provided).

Offer

We offer a deep immersion in modern materials designing for sustainable energy technologies; the candidate will learn and live the translational perspective of designing bio- and nano-hybrid materials for sustainable energy-related applications every day. The validation of the design will also be carried out in the chair by experimental members.

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 3-year contract with the possibility to expand it up to 1 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 - TV-L E13 (50-65%). 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 are looking 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 . **Please indicate only "PhD PE 03" in the subject line.**

The position will be open until the candidate is selected. Publication date: 19.12.2022

For further information, please contact:

Prof. Dr. Rubén D. Costa
Chair of Biogenic Functional Materials,
Technical University of Munich
Email: biofunmat@cs.tum.de