

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 machine learning applied to design novel functional nanomaterials

Are you passionate about innovation? Do you love developing 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

We are looking for a motivated Ph.D. student interested in machine learning. The candidate, together with a multi-disciplinary and cross-functional team will help design, implement, and analyze machine learning and deep learning models to design novel functional nanomaterials (e.g., nanoparticles, low-dimensional materials, hybrid materials, bio-hybrids, protein-based materials, etc.) for applications in energy storage and conversion as functional materials. The validation of the design will also be carried out in the chair by experimental members. The student will participate in research programs funding by the European Commission. In addition to the development of the research activities, the student could also participate in the teaching activities of the chair for biogenic functional materials.

Qualification

The successful applicant must have the following:

- High motivation and commitment to scientific excellence
- Master Degree/(10 semester diploma) in chemistry/bio-chemistry/physics/materials science/mathematics/informatics or related disciplines
- Experience in programming (python, fortran or c/c++) and handling spectroscopic/mechanical/thermal studies is required
- Experience in chemistry, biochemistry, and physic concepts is positively judged

- Interest in photo-physical chemistry, spectroscopy, optoelectronics, electronic structure theory, and material science 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 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: 15.09.2021

For further information, please contact:

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