

The newly established research group in Particle and Fiber Technology for bio-based Materials, led by Prof. Dr. Wenwen Fang, is seeking a highly motivated

## PhD in Biopolymer-based Materials (f/m/d)

As a PhD researcher you join our team at the Technical University of Munich, Campus Straubing for Biotechnology and Sustainability (TUMCS). This is a household position funded by the university with excellent opportunities for both research and career development.

### About the Research Group

Our research focuses on extracting and isolating bio-based polymers such as cellulose and proteins from renewable feedstocks and waste streams. We aim to develop sustainable processes to convert these materials into high-performance fibers and functional materials. By manipulating molecular interactions through chemical and physical methods, we tailor the structural and mechanical properties of bio-based materials to advance the potential of biopolymers in various applications.

### Key Responsibilities

- Fiber Spinning Lab Development: Develop and optimize biopolymer-based fiber spinning processes (e.g., dry-jet wet spinning, core shell fiber spinning) using materials such as cellulose and proteins. Establish and refine experimental protocols, troubleshooting basic lab infrastructure related to spinning and fiber characterization.
- Teaching Support: Assist in preparing and delivering course exercises and laboratory sessions, including setup of experiments, instructional materials, and guidance on laboratory practice.
- Student Supervision: Guide and support students during their thesis work and internship.
- Research: Conduct innovative research on sustainable and functional fibers, with the flexibility to explore new research topics within this field.

This position provides a unique opportunity to build a state-of-the-art fiber spinning lab and a balance in lab development, teaching and research. The research topic is flexible, allowing the successful candidate to contribute their own ideas and innovations within the scope of bio-based fiber materials.

### Qualification

We are looking for a candidate with the following qualifications:

- Master in Polymer Chemistry, Polymer Physics, Material Science/ Engineering
- Experience with bio-based polymers and their processing technologies is an advantage
- Proven ability or willingness to contribute to the setup and management of laboratory infrastructure
- Strong communication skills in both written and spoken English.
- Basic knowledge in mechanical engineering or experience with fiber spinning equipment is an advantage

## What We Offer

- Research Freedom: Flexibility to explore different research topics within sustainable fibers
- Career Development: Opportunity to contribute to the establishment of a new research laboratory and develop leadership skills
- Teaching Experience: Gain valuable teaching experience at one of Germany's leading technical universities
- Collaborative Environment: Work in a highly interdisciplinary and dynamic environment at the TUM Straubing Campus, focused on sustainability and renewable resources
- Salary: 65% TV-L E13 pay scale, 3 years contract, with possibility of extension.
- 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

## Join us!

To apply this position, please submit your application including the attachments mentioned below as **one single PDF** document in English via email to [applications.pft@cs.tum.de](mailto:applications.pft@cs.tum.de)

- CV including publications
- Letter of motivation, maximum 1 page
- Degree certificates and academic transcripts
- Contact details of two referees

The deadline for application is **March 1<sup>st</sup>, 2026**. For more information about PFT group, please check on our website Particle and Fiber Technology