

# PhD Position: Microbiology of Functional Beverages

## About us

The Professorship for Functional Beverage Technology (Breselge Lab) at the TUM School of Life Sciences, Campus Weihenstephan, is a newly established research group dedicated to advancing the science of functional beverages. We explore the microbial ecology and metabolic potential of functional beverages. Our research integrates microbiology, fermentation science, and systems-level approaches to decode and design complex beverage fermentations for health, flavour, and industrial application.

## About the PhD position

This PhD project will focus on the isolation, physiological characterization, and functional evaluation of microbial strains from fermented beverage ecosystems (e.g. water kefir and related systems). The goal is to better understand microbial interactions and metabolic outputs, and to translate this knowledge into controlled and application-oriented fermentation systems.

The project combines classical microbiology, fermentation science, and modern molecular approaches, with strong potential for industrial collaboration.

## Your responsibilities

- Isolate, cultivate, and preserve microbial strains from fermented beverage systems
- Perform physiological, genomic, and functional characterization of strains
- Design and optimize laboratory-scale fermentation experiments
- Analyse chemical and microbiological parameters
- Integrate microbiological and fermentation datasets
- Publish results in peer-reviewed journals
- Contribute to grant proposals
- Support teaching activities in the field of functional beverages

## Job profile

- You are highly motivated and have a strong in microbiology and beverage fermentations
- MSc in Biology, Microbiology or related discipline.
- Experience of culturing and isolating microbial strains.
- Experience in characterizing microbial strains and fermentations.
- Experience in or willingness to learn bioinformatics, statistical data analyses, data processing and analytical chemical analyses.
- Evidence of research activity (publications, conference presentations, awards) is desirable.
- Project management, analytical, report writing and data analysis skills is desirable.
- Commitment to teamwork and collaborating with colleagues and international partners.
- A willingness to contribute to teaching activities.
- Excellent English communication skills.

### **We Offer**

- Friendly and inspiring working atmosphere in an international, young research group.
- Access to state-of-the-art infrastructure.
- Graduate Education at an excellent university.
- The position is fixed-term (36 months).
- Salary according to TV-L E13 (65%).
- The position is suitable for disabled persons. Disabled applicants will be given preference in case of generally equivalent suitability, aptitude and professional performance.
- TUM strives to raise the proportion of women in its workforce and explicitly encourages applications from qualified women.

### **Start Date**

As soon as possible.

### **How To Apply**

Please send your letter of motivation, complete CV, and contacts of two potential references in a single PDF document to [application.fbt@ls.tum.de](mailto:application.fbt@ls.tum.de). The deadline for application is **March 24<sup>th</sup>, 2026**.

Please contact [application.fbt@ls.tum.de](mailto:application.fbt@ls.tum.de) for any questions you might have.

### **About TUM**

The Technical University of Munich (TUM) combines top-class facilities for cutting-edge research with unique learning opportunities. It is committed to finding solutions to the major challenges facing society. All this combines to make it one of Europe's leading universities.

Find out more about us at [www.tum.de](http://www.tum.de).

### **Data Protection Information**

When you apply for a position with the Technical University of Munich (TUM), you are submitting personal information. With regard to personal information, please take note of the Datenschutzhinweise gemäß Art. 13 Datenschutz-Grundverordnung (DSGVO) zur Erhebung und Verarbeitung von personenbezogenen Daten im Rahmen Ihrer Bewerbung. (data protection information on collecting and processing personal data contained in your application in accordance with Art. 13 of the General Data Protection Regulation (GDPR)). By submitting your application, you confirm that you have acknowledged the above data protection information of TUM.

**Contact:** [application.fbt@ls.tum.de](mailto:application.fbt@ls.tum.de)