



The **Leibniz Institute for Food Systems Biology at the Technical University of Munich (Leibniz-LSB@TUM)**, a legal foundation under civil law in Freising, is a research institution of the Leibniz Association that combines methods of biomolecular basic research with analysis methods of bioinformatics and analytical high-performance technologies to investigate the complex interplay between the human organism and food ingredients.

The research group **Mechanoreceptors/ Section II** at Leibniz-LSB@TUM is currently looking for a

PhD student (m/f/d)

to start as soon as possible. The position is to be filled on a part-time (65%) basis for an initial period of 1 year, with the option to prolong for at least another two years. **Dr. Melanie Köhler** and **Prof. Dr. Veronika Somoza** will supervise the PhD project.

Research project and work environment

You will have the great opportunity contributing a collaborative new research line at the interface of biophysics, food science and cell biology in an energetic young research team. You will be part in a new and growing working group, embedded in an experienced and internationally well-recognized research section of highest quality.

The newly set up research group "Mechanoreceptors" aims to decipher the molecular basis underlying oral texture perception mediated by mechanoreceptors in the oral cavity. Despite being a key driver in the acceptance or rejection of a given food in addition to caloric intake, oral texture perception remains poorly understood relative to taste and smell, the other key sensory inputs required for flavor perception. High-throughput atomic force microscopy (AFM) is used as a central technique in combination with new biophysical methodologies, other advanced microscopy techniques, mechano- and cell biology, food chemistry and biology, chemical sensor technology, and bioinformatics to discover how texture makes flavor. The specific objectives of the project will be developed in relation to the candidate's experience and interests but has a strong cell biology related component.

Your area of responsibility includes

- **Characterizing mechano- and chemoreceptors** involved in oral mouthfeel perception in a **cellular model system** using mostly cell biology and biophysical assays
- Eukaryotic cell culture and transfection of cell lines
- **Experimental** investigations using AFM (force-distance curve-based) imaging, (single molecule) force spectroscopy, nanomechanics, ... and data analysis
- Applying **correlative techniques** such as confocal laser scanning microscopy (CLSM), or related
- **Interdisciplinary** collaborations with other groups at the LSB and beyond
- **Organizational** tasks and duties

Requirements and desired expertise:

The ideal applicant should have

- A graduation in molecular/ cell biology, biochemistry, biophysics or related field
- Advanced knowledge and practical experience in **molecular/ cell biology, and in cell culture techniques**
- **Basic knowledge in food chemistry** and superior interest in **food systems biology**, food-related research
- Keen interest in learning and applying experimental biophysical techniques, in **particular AFM** (essential)
- Great **ambition** and **motivation** to work on complex research questions by applying cutting-edge experimental methodologies

We are seeking a creative, passionate individual with excellent interpersonal communication, time-management skills, commitment to laboratory safety & handling laboratory equipment with care, and strong willingness to cross the borders between biophysics and food-related research. We are looking for a highly motivated team player, who can work independently as well.



In addition to a highly stimulating workplace where your performance counts, we offer

- a performance-related salary in accordance with TV-L, in-line with your personal qualifications and the personal prerequisites
- an interesting and varied task area in the field of university research
- a motivated team that is looking forward to welcoming you
- flexible working times and therefore good compatibility of work and family
- company pension scheme
- special annual payment

In the case of essentially reciprocal suitability, severely-disabled applicants as defined SGB IX will be preferred.

Please address any questions on current topics to Dr Melanie Köhler (m.koehler.leibniz-lsb@tum.de) and get in touch if you think you would be interested in working as part of our team. More information on the working group can be found here: <https://www.leibniz-lsb.de/en/research/research-sections/section-ii/>

Send your application with the usual documents, containing your comprehensive CV and transcripts as well as names of three potential references electronically as a PDF file to the following address, citing the reference number **2023-02-S2-MK**:

Katharina Ranner (Human Resources Department) recruiting.leibniz-lsb@tum.de.

Notes on data protection

As a part of your application for a position at Leibniz-LSB@TUM, you have submitted personal data to us. Please note Please note [our data protection information](#) in accordance with Art. 13 of the General Data Protection Regulation (GDPR) regarding the collection and processing of personal data in the context of your application. By submitting your application, you confirm that you have taken note of the data protection information of Leibniz-LSB@TUM.