Professorship of Biothemodynamics
TUM School of Life Sciences
Technical University of Munich

Research Associate/Doctoral candidate (f/m/d) in Supercritical Fluids and Functional Porous Biomaterials

The Professorship of Biothermodynamics at the TUM School of Life Sciences is seeking a Research Associate to work on the development of sustainable, functional, bio-based porous materials using green supercritical fluid technologies. The position (TV-L E13) offers the opportunity to pursue a PhD, access to state-of-the-art research infrastructure, and close collaboration with industrial partners.

We invite applications for a Research Associate position with a strong experimental background in material science and processing. The position is offered within the framework of a research project funded by the Federal Ministry for Economic Affairs and Energy and carried out in close cooperation with industrial partners. Research activities within our group focus on the development, analysis, and optimization of innovative separation and material-processing technologies, with particular emphasis on supercritical fluids, functional materials, and sustainable processing routes.

Responsibilities

Design and develop functional porous bio-based materials (e.g., cellulose) via supercritical fluid processing and investigate their structure–property relationships:

- Perform research activities within the project in close cooperation with industrial partners.
- DoE, documentation, and analysis of experimental results.
- Participate in project meetings, prepare technical and scientific reports, and present research results.
- Support the teaching activities of the professorship, including the supervision of BSc and MSc theses.

Your profile

- M.Sc. degree in Chemistry, Materials Science, Chemical Engineering, or a related discipline.
- Strong interest in separation processes and material processing.
- Hands-on experience in working in the laboratory.
- Understanding of phase equilibria phenomena in high-pressure fluid systems, particularly in supercritical CO_2, is an advantage.
- Experience in material characterization methods (e.g., BET, SEM, DSC) and analytical techniques (e.g., HPLC, GC) is an advantage.
- Analytical thinking, strong organizational skills, and the ability to work independently.
- Excellent written and verbal communication skills in English; knowledge of German is an advantage.

We offer

- Working at TUM, one of the most renowned universities worldwide.
- Access to a state-of-the-art laboratory infrastructure.
- Close collaboration with industrial partners.
- Working in a multidisciplinary and international team.
- Possibility to participate in international scientific conferences.
- A Research Associate position (TV-L E13) with the possibility to pursue a PhD

Application

Applications in English or German should include the following:

- A one-page motivation letter.
- Curriculum vitae.
- Complete set of academic transcripts of records.

We are looking forward to receiving your application **as a single PDF document sent to contact.btd@ls.tum.de by 26.04.2026.**

For further information, please contact:

Prof. Dr.-Ing. Mirjana Minceva or Dr. Jelena Pajnik
Professorship of Biothermodynamics
TUM School of Life Sciences

More information

https://www.lse.ls.tum.de/btd/home/
https://www.ls.tum.de/ls/startseite/

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.