

The Laboratory of Chemical Process Engineering at TUM's Campus in Straubing is looking as soon as possible for a

*Opportunities
for Talents*

Ph.D. student (f/m/d) for Oxygen Management in Electrochemical Direct Air Capture and Wastewater Bioprocesses

Many emerging processes rely on oxygen-sensitive chemistry and biology—yet their aqueous media are often unavoidably contacted with air and become oxygen-saturated. Dissolved oxygen can impose oxidative stress on redox-active systems in electrochemical direct air capture (DAC) and related electrochemical processes, lowering efficiency and material stability. Oxygen also reduces yields in anoxic biotechnological operations such as denitrification in wastewater treatment. This advertised position targets research on efficient, scalable, and low-energy strategies to remove dissolved oxygen from oxygen-saturated aqueous mixtures, enabling more robust process performance. It will be part of a joint project with two other groups of TUM and an external application partner. The candidate will develop physical and chemical deoxygenation concepts for two given applications, measure and model physico-chemical properties, conceptually design, optimize, and test the concepts.

Expected qualification:

- Above-average Masters or PhD degree in process engineering (chemical engineering, biochemical engineering or related engineering disciplines)
- Experience in and dedication to experimental work in a chemical laboratory environment and computer programming.
- Team player skills and enthusiasm to work in a multi-disciplinary and multi-cultural environment
- Excellent command of the English language, good command of the German language
- Interest in leading undergraduate students and participating in our teaching efforts

Our offer:

We offer a competitive salary and benefits depending on work experience and seniority under the public service wage agreement of the Free State of Bavaria - TV-L E13 (100%). Part-time is possible if requested by the candidate. The position is non-permanent, aiming at reaching a Ph.D. Post-Docs are also welcome if they have experience in the given area of research. As an equal opportunity and affirmative action employer, TUM explicitly encourages applications from women and others who would bring additional diversity to the university's research and teaching strategies. Preference will be given to disabled candidates with essentially the same qualifications.

Application process:

Please send your application documents (minimum: cover letter, CV, transcripts of Bachelor and Master) in one PDF file with subject: „Application for Position Oxygen“ to Prof. Burger. He is happy to also answer questions on the position.

Technische Universität München, Campus Straubing für Biotechnologie und Nachhaltigkeit

Professur für Chemische und Thermische Verfahrenstechnik

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