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

Ph.D. Student (f/m/d) for
Integrated process and solvent design through reinforcement machine learning for enabling a circular carbon economy

Selecting and optimizing solvents/solvent mixtures is an impactful step in the conceptual design of chemical processes/bioprocesses. We are looking for a motivated Ph.D. student to develop a novel method for the simultaneous selection of solvents and process conditions based on reinforcement machine learning. The method is developed using three examples of applications from our group's other project: plastic recycling, CO_2 capture, and product recovery in a biotechnological fermentation process. Beyond theoretical work, the candidate shall develop and integrate the automatic collection of experimental data using high throughput experiments, which are to be designed and done.

Expected qualification:

- High motivation and commitment to scientific excellence
- Above-average Master Degree / Diploma in engineering (chemical engineering, biochemical engineering, or related disciplines) with a focus/proven interest in computer-based methods.
- Experience in/Dedication to: planning and conducting chemical experiments, process modeling/simulation, and optimization
- Team player skills and enthusiasm to work in a multi-disciplinary, collaborative environment
- Excellent command of the English language
- Interest in leading undergraduate students and participating in our teaching efforts

Our Offer:

- Deep immersion in modern research on renewable fuels using state-of-the-art laboratory infrastructure
- TUM is one of the most renowned universities worldwide. TUM's graduate school offers inspiring and challenging Ph.D. programs, which supplement the research training with outstanding opportunities for career development, continued education, and life-long learning.
- The Straubing Campus for Biotechnology and Sustainability is a fairly new integrative research center to provide the technological and economic foundation for a more sustainable economy through highly interdisciplinary research. Straubing is the region's local hub for social and cultural life, situated on the Bavarian forest gate, directly on the Danube river.
- 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%). The position is non-permanent, aiming to reach a Ph.D.
- 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:

We are looking forward to receiving your comprehensive application in German or English, which includes at least the following:

1. Cover letter/Motivation letter (~ 1 page)
2. Curriculum Vitae
3. Complete set of academic transcripts of records*
4. Transcripts of records of last secondary school degree, e.g., Abitur*

*For the application, you can send the transcripts in any of the following languages: German, English, French, Italian, or Spanish (Translations do not have to be certified for application, only after acceptance.)

We appreciate the application is compiled into a **single, reasonably compressed PDF file** and sent via email to burger@tum.de. Please use "Application for Ph.D. Position 6" as the subject line and **indicate when you would be available to start the position**.

If you are interested in more than one open position in our laboratory, please send only one application and indicate which positions you are interested in.

The deadline for applications is December 31st, 2022.

For further information, please contact:

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http://ctv.cs.tum.de/

As part of your application, you provide personal data to the Technical University of Munich (TUM). Please view our privacy policy on collecting and processing personal data in the course of the application process pursuant to Art. 13 of the General Data Protection Regulation of the European Union (GDPR) at https://portal.mytum.de/kompass/datenschutz/Bewerbung/. By submitting your application, you confirm to have read and understood the data protection information provided by TUM.