Institute for Technical Chemistry
Prof. Dr.-Ing. Dieter Stapf
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Student assistant (m/w/d) in the Department Gasification Technology

Numerical modelling and simulation

Motivation

High-pressure entrained flow gasification is an efficient technology for the conversion of low-quality carbonaceous feedstocks (such as biomass, plastic waste or tire waste) into high-quality synthesis gas, which can be used for the production of renewable liquid fuels and chemicals in a circular economy. The biogenic and anthropogenic feedstocks are fed as suspensions of pyrolysis oils and chars into the process. In order to describe the conversion, we are developing mathematical models and methods and are conducting simulations. Our research includes tasks in process engineering, thermodynamics, heat transfer, computational fluid dynamics (CFD) and reactive flows.

Possible tasks

- Development of object oriented software methods in Python, Matlab, C and C++ (for example, evaluation source codes for process and CFD data)
- Method development for CFD (e.g. ANSYS Fluent and OpenFOAM)
- Management of literature databases
- Documentation

Desired skills

- Structured, meticulous and independent work style
- Interest in long-term employment
- Advanced level of English
- Proficiency in programming Python, Matlab, C or C++
- Proficiency in using Jabref or LATEX
- Proficiency in fluid dynamics, thermodynamics, heat transfer, numeric or process engineering

Contact

If you are interested, please send me an Email with a brief statement of your motivation. Please also include your study programme, your semester and an overview of your grades. If you have any questions, please do not hesitate to contact me.

Start	**immediately**
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