

Master thesis / HiWi position: Investigation and optimization of a Power2X process

Job description

One of the most dynamic energy research locations in Germany is currently being created in Cottbus as part of the energy transition and structural development. As a young, up-and-coming university, the Brandenburg University of Technology Cottbus-Senftenberg (BTU), which traditionally has a focus on energy research, is playing a central role in this structural development process. In the new "Energy Innovation Centre" (EIZ) at BTU Cottbus-Senftenberg, more than 70 scientists* are researching innovative solutions and technologies for a climate-neutral energy supply of the future - in Lusatia and worldwide - together with an interdisciplinary partner network.

Within the EIZ, we are investigating different Power2X processes using heterogeneous surface chemistry applications. Reliable and stable catalysts have to be produced and experimentally as well as virtually optimized. Virtual optimization is done using appropriate 1D catalyst models.

Your tasks

- Literature research on catalytic Power2X process,
- Process optimization with regard to catalyst composition and dimension using the 1D software tool LOGEcat,
- accompany experimental campaign,
- (Software coding to enhance reactor model, according to your skills).

Your qualification

- Master student in process engineering, chemical engineering, mechanical engineering, environmental engineering, chemistry, or comparable subjects;
- IT knowledge: experienced handling of office software and data processing software (such as gnuplot), coding skills are welcome;
- Knowledge in (surface) chemistry and physics is preferable;
- Interpersonal skills: capacity for independent work, excellent programme achievement, curiosity.

The thesis advertisement is valid immediately. Are you interested? Then please send your CV and motivation letter to Rakhi: rakhi.rakhi@b-tu.de. In case the contact person is sick or out of office, please contact: yvonne.teetzen@b-tu.de.