



## Bachelor Thesis / Master Thesis

### Start: from now

- Faculty 1 - Mathematics, Computer Science and Natural Sciences
- Faculty 4 - Mechanical Engineering
- Faculty 6 - Electrical Engineering and Information Technology

### Methanol synthesis process simulation

#### Motivation:

On the path to a climate-neutral, fossil independent transportation sector, green fuels can play a significant role. Besides hydrogen, methanol can provide a good alternative due to its easy storage capabilities and fuel properties. Especially methanol synthesis as a part of a power-to-methanol process with hydrogen from an electrolyser and concentrated CO<sub>2</sub> captured from industry processes, is a promising approach is to use excess electrical power from renewable energy sources to produce alternative fuels.

#### Tasks:

1. Building a simulation model:  
Based on an existing power-to-methanol simulation model with a simplistic blackbox model of the methanol synthesis, a new detailed simulation model will be developed
2. Integration into the current power-to-methanol model
3. Evaluation and interpretation of initial simulation results