

Paid Master's Thesis

Temperature control of a reactor for green fuels production

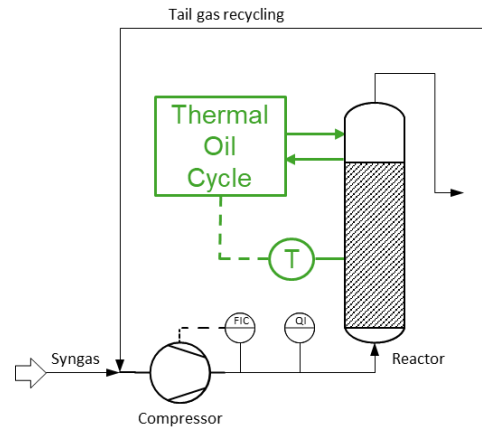
To dedicated students (m/w/d) of electrical engineering, information and computer engineering, or related disciplines we offer the opportunity to write a paid Master's thesis. The project will be conducted in cooperation with the Institute of Automation and Control, Graz University of Technology.

Motivation:

Green fuels are a key factor to a climate-neutral future within the mobility sector (e.g. aviation).

BEST runs a flagship research plant that can produce one barrel of green fuels per day. At this flagship research plant different production routes are researched and demonstrated finally enabling the roll-out of the technologies.

The temperature control of the main reactor is challenging, as the chemical reactions are exothermic, i.e. generate heat. The temperature is controlled via a thermal oil cycle. **The goal** of this master thesis is to improve the temperature control of the reactor.



Objectives:

- Analysis of existing measurement data in MATLAB
- Development of a dynamic model of the thermal oil cycle in MATLAB/Simulink
- Design of an improved temperature control for the reactor in MATLAB/Simulink
- *Implementation at flagship research plant will be performed by BEST colleagues*
- Evaluation of improved temperature control in MATLAB/Simulink

Your profile:

- Studies in electrical, mechanical, process engineering or physics
- Ideally with some background in hydraulics, thermodynamics and control engineering
- Programming experience with MATLAB/Simulink

Our offer:

- Integration into a dedicated team
- Perspective of participation in follow-up projects after successful completion
- Financial compensation based on student staff salary scheme
- Provision of a work place (remote work from home also possible)

Start date: Summer 2024

In the interest of diversity, applications from women are especially welcome at BEST!

Contact us:

Dipl.-Ing. Dr. Markus Göllles
BEST – Automation and Control
markus.goelles@best-research.eu
Tel.: +43 5 02378 - 9208

Univ.-Prof. Dipl.-Ing. Dr. Martin Horn
TU Graz – Inst. of Automation and Control
martin.horn@tugraz.at
Tel.: +43 316 873 -7025