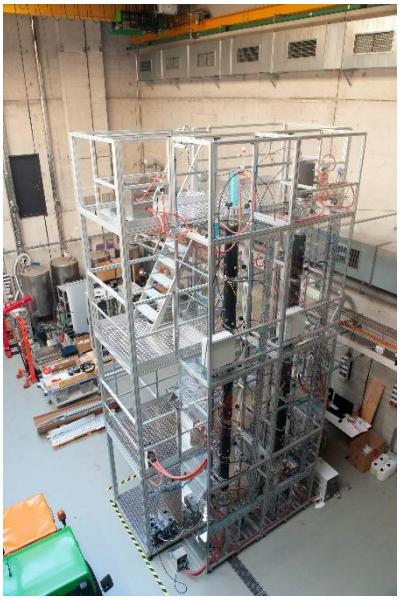
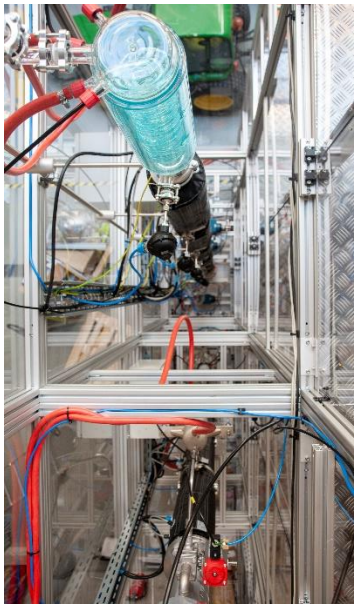
Professur für Chemische und Thermische Verfahrenstechnik
Campus Straubing für Biotechnologie und Nachhaltigkeit
Technische Universität München

Bachelor-, Masterarbeit, Forschungspraktikum

Operation of a pilot distillation plant for machine learning





Description

At the Chair of Chemical and Thermal Process Engineering, machine learning for the operation of a chemical plant, is being investigated. A pilot plant for the continuous production of OME3-5 was built in our technical center. This includes, among other things, a distillation section with two distillation columns (see photos), one of which is operated under pressure and the other under vacuum.

The goal is generation of continuous process data using the pilot plant, to provide real experimental time-series data. Data sets with and without anomalies will be generated, the data will have different complexity scales (from single-units to the whole plant, from water runs to reactive systems.

In the context of this student research project, the pilot plant will be operated. This includes the preparation of feed mixtures, the analysis of samples in the laboratory, the independent planning and execution of short and long-term experiments in the pilot plant as well as the evaluation of the results with the help of the programs LabVIEW and modelling using Pyomo.

Prior Knowledge

Previous knowledge from the lectures in physical chemistry or thermodynamics is desirable, but not a mandatory requirement. Good supervision and training are provided.

Start date

As per request

Technische Universität München
TUM Campus Straubing
Aparna Muraleedharan
Uferstraße 53
94315 Straubing,
Raum: 01.3505.111, Tel. +4921 187 276, aparna.muraleedharan@tum.de