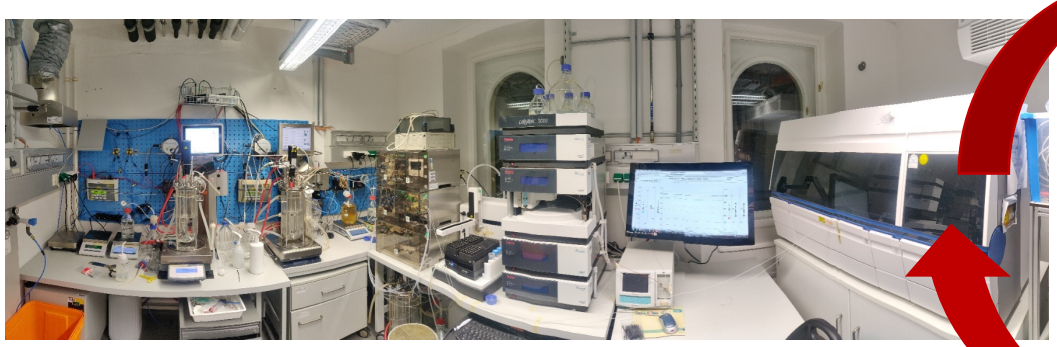
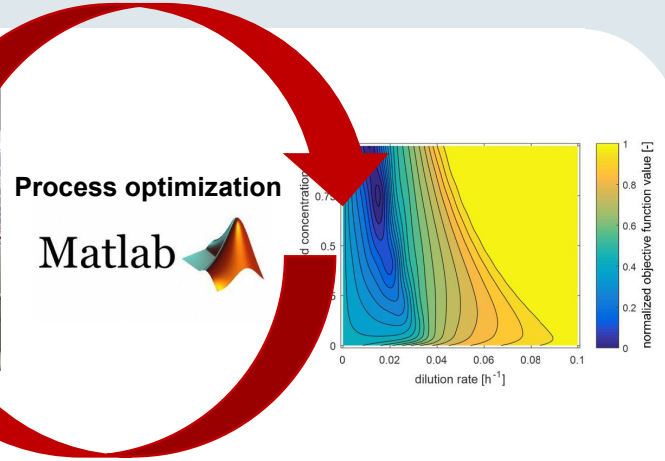
Master thesis

Model-assisted microbial bioprocess development





Project goal

We are working on new methods for **fast and effective bioprocess development**. The efficiency of bioprocess development can be significantly increased by combining experimental characterization and computer simulations. Dynamic models are used to calculate optimal process conditions which are validated in bioreactor experiments subsequently. Are you interested to do research at the **interface of fermentation technology and process modelling**? We are looking forward to hearing from you!

Opportunities

You will perform lab scale **bioreactor cultivations** with a *Corynebacterium glutamicum* strain producing a **protein of industrial relevance**. Thereby, you can get to know various analytical methods (e.g. online HPLC, enzyme assay robot) and a real-time process control system in our **newly setup Process Analytical Technologies Lab**. You will learn to use **model-based analysis and optimization** of process parameters in Matlab (alternatively also in Python) and apply it on the investigated bioprocess**.**

Requirements

You are studying biotechnology, process engineering, mechanical engineering or a similar subject. Previous experience with microbial laboratory work and Matlab or Python is favorable. Most important is your **motivation to learn something new!**

Time-frame and salary

This work ideally starts in January 2020 and is scheduled for 6 months. Starting date can be discussed on demand. A small compensation (€ 1800 = 6 x € 300) upon successful completion of the thesis is possible.

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