

# Estimation and Control Algorithms for Fermentation in a Bioreactor

During gas fermentation, microorganisms can utilize different gases such as carbon dioxide to grow and produce useful side products such as biodegradable plastics. To optimize the process, an automated bioreactor was set up in cooperation with the institute of biotechnology and biochemical engineering and experiments with different controllers were carried out.

The goal of this thesis is the simulation of the chemical and biotechnological processes, development of control and estimation strategies and experimental verification of the algorithms in the experimental setup.

- Development of control and estimation algorithms for different fermentation processes.
- Integration of sensors into bioreactor and LabVIEW environment
- Perform fermentation experiments

- Start: now
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