

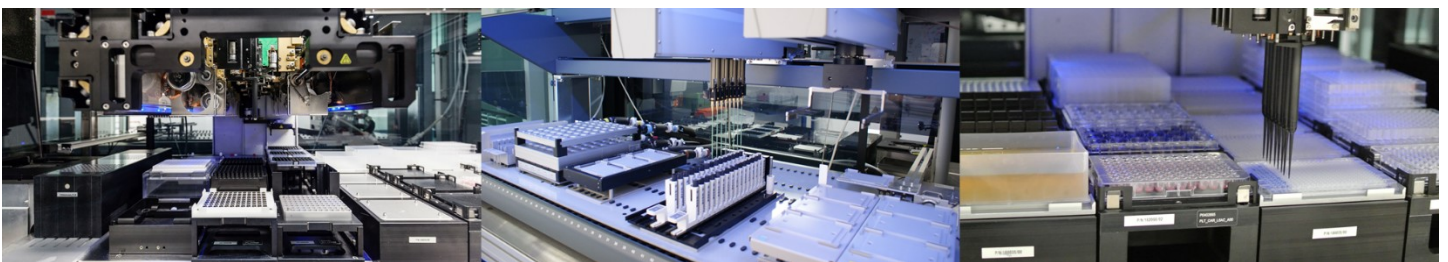
Bachelor / Master thesis

The chair of bioprocess engineering is looking for a student of biotechnology or related disciplines to work on the following topic:

Integration of an automated shaker into a high-throughput facility for microbial cultivations

Start: May 2024 or later

Duration: 3 months (Bachelor) / 6 months (Master) full time



Background and objective:

High-throughput screening accelerated bioprocess development, e.g., for drug development. Various platforms for automated small-scale experiments are utilized to screen for new strains and process conditions. For complete integration of devices allowing for full automation, the physical integration of these via transfer rails or mobile lab robots is required. Additionally, digital integration for automated, hands-off data exchange is needed.

In recent years, device manufacturers have responded to this requirement by developing laboratory devices which provide the physical and digital interfaces. The objective of this project is the integration of an automated shaker for microwell plates into a high-throughput facility for microbial cultivations, including the physical transfer of cultivation plates as well as the digital access and control of the device as well as data transfer.

Tasks:

- Development of computer code to connect to the automated shaker, read out data and set commands using a provided command list.
- Transfer of microwell plates to and from the shaker using a mobile lab robot.

Prerequisites:

- Programming experience (e.g., Python)
- Prior knowledge of bioprocess development is of advantage

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