Modeling and Control of Biopharmaceutical Processes

Objective: This research focuses on advanced modeling and control strategies for biopharmaceutical processes to improve efficiency, reduce resource use, and lower costs, promoting more sustainable and economically viable local production.

Key Tasks:

Modeling of fermentation units (fed-batch, various lab scales) using data-driven, hybrid, or mechanistic approaches

Observer design with intended soft sensor application (model-based estimation of product concentration)

Design of model-based optimization algorithms

Development in a simulation environment followed by deployment on the real system

Requirements:

MS degree in an engineering field, computer science, mathematics, or related fields

Knowledge or strong interest in the control engineering field

Passion for applied research at the interface of science and industry

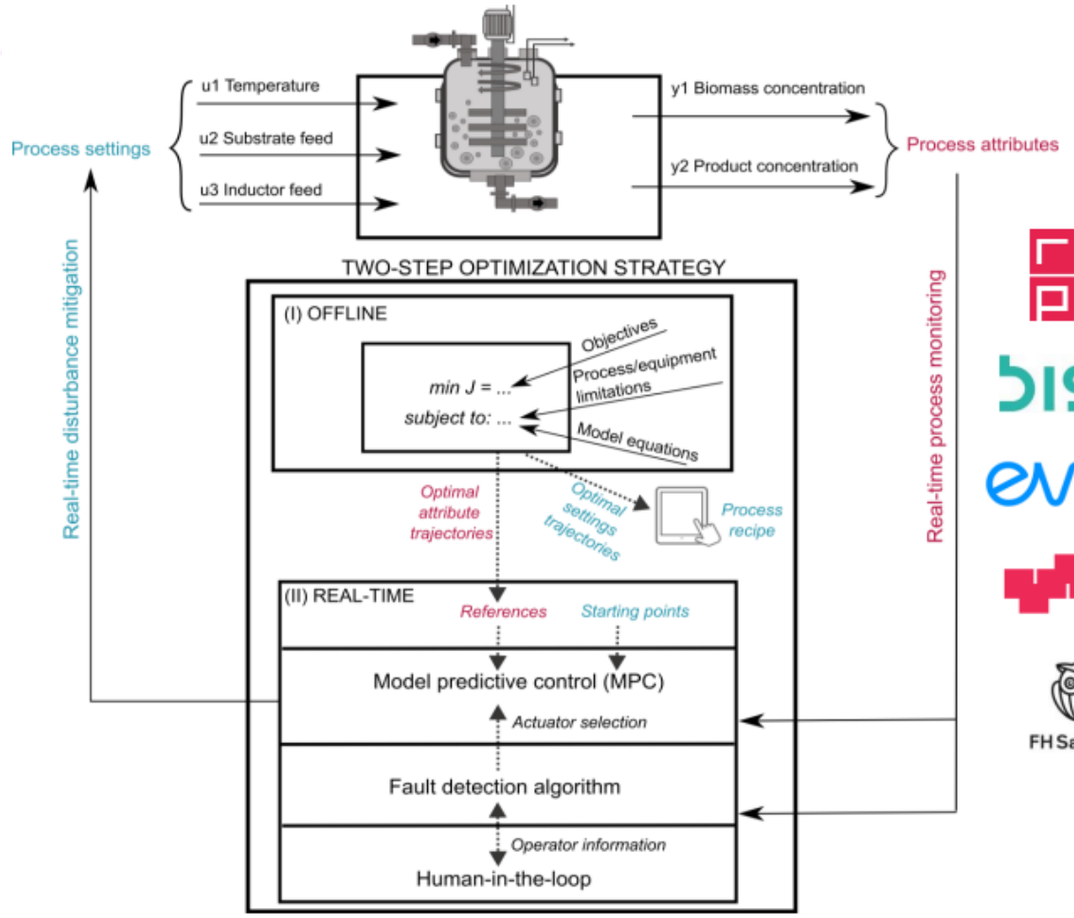
Willingness to write a PhD, publish, and attend international conferences

What We Offer:

Multidisciplinary research environment and access to modern infrastructure

The best of both worlds: Academic research support combined with industrial challenges and insights.

Competitive salary (min. € 47.600,- gross/year, overpayment - depending on qualification - possible), part-time options



Selma Celikovic, selma.celikovic@rcpe.at, Martin Steinberger, martin.steinberger@tugraz.at
Institute of Automation and Control