

PhD Position on Integrated Bioprocess Analysis using Digital Twins

Motivation and Goals of this Position

Biopharmaceutical processes are complex as many process parameters must be controlled to achieve consistent product quality. The current solution is characterization of single unit operations, followed by linkage studies to assess interactivities between the unit operations. This is laborious and bioprocesses still fail, when transferring this knowledge along the product life cycle.

We strongly believe that we can use Integrated Process Models (IMP) as a digital twin for bioprocess characterization (Zahel; 2017). This PhD therefore focuses the development of an integrated process model using data from the processes we have in our lab and transfer this process model in a software environment for real-time control strategies.

Opportunities

We offer a highly interesting, diversified position comprising bioprocess technology and modelling tools projected on biopharma bioprocesses in tight cooperation with applied basic science projects with industrial partners.

Requirements

Master in Bioprocess Technology, Biotechnology, Chemical Engineering or similar.

You should have:

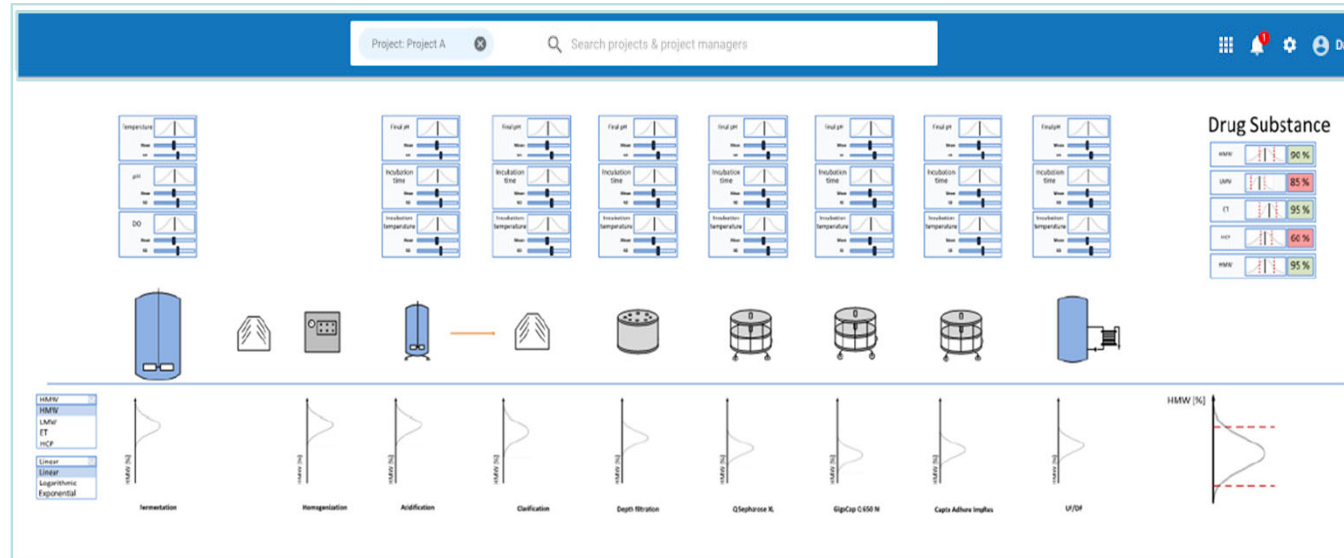
- Experience in bioprocessing: upstream and/or downstream
- Sensitivity for data analysis and statistical assessment of large data sets including strong background in mechanistic and hybrid modelling (Python, MATLAB®)

A superior command of English is required. Furthermore, you should be accustomed to networked and critical analytical thinking, scientifically interested and able to work in a team respecting tight project timelines.

The monthly minimum wage is currently € 2'148,- (14x per year), before tax at a 30h/week employment.

Applicants have no claim for reimbursement of travel costs arising from the recording process. The university aims to increase the proportion of women especially in scientific personnel and encourages qualified women to apply.

This PhD position starts on **January 1st**, 2020 and is scheduled for 3 years.



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