

Automation of the setup and the post processing for pharmaceutical bioreactors simulations

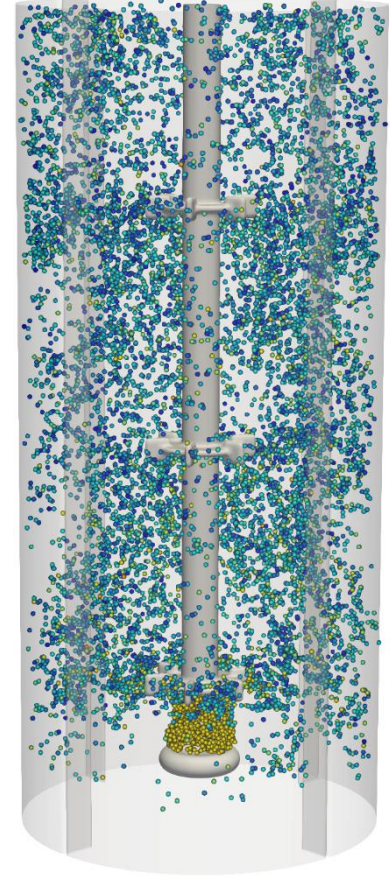
Background

The Institute of Process and Particle Engineering is a world leader in the development of simulation tools for industrial-scale bioprocessing units. For example, our current code can model processes in large-scale bioreactors, up to 200m³.

We are therefore looking for design exercise (Konstruktionsübung) student with engineering background (chemical engineering, bioprocess engineering, physics or similar) interested in extending the simulation tool by adding algorithms for the **automation of the setup and the post processing** of the simulation.

The simulation code currently uses a JSON text file as interface to the user to define the simulation parameters. The task of this exercise is to extend a **HTML page with Java Script** to create this JSON file. A working example already exists.

The second task is to create **Python scripts** to control the software **Paraview**, which is currently used to post process the simulation results (e.g. create videos, images and plots automatically).



Tasks

- Expand the existing HTML/Java Script page
- Write the Python scripts necessary to create videos, images, plots with Paraview automatically

Requirements

- Background in chemical or bioprocess engineering, physics or similar
- Being familiar with programming, simulation and modeling

What we offer:

- Integration in an internationally leading team
- Opportunity to be part of a commercialization project
- Paid design exercise
- Start of a future career in software creation

Start: Summer/Fall 2019

Contact

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