

Research position (PhD Candidate) in the field of Bioprocessing/Bioengineering/Biotechnology (f/m/d)

part-time 65 %

Organizational Unit:

Karlsruhe Institute of Technology (KIT), Institute for Process Engineering in Life Sciences, Microsystems in Bioprocess Engineering, CZS Junior research group BIOSCALE

Your tasks:

As part of your role, you will work in an interdisciplinary environment with bioprocess engineers, bioinformaticians, molecular biotechnologists, and systems biologists to understand and scale microbial bioprocesses.

As part of your role, you will engage in the following tasks:

- Planning, execution and evaluation of microbial bioprocesses, especially with bacterial systems, such as *Corynebacterium glutamicum*, *Escherichia coli*
- Chemo-Stat, Turbido-Stat, as well as (fed-)batch fermentations on a liter scale
- Collection and processing of bioprocess data and analysis (HPLC, LC-MS)
- Laboratory work in the field of transcriptomics, especially RNA isolation and preparations for RNA-Seq
- Development of concepts for characterization and scaling of bioprocesses based on biological data especially transcriptomics
- Preparation of scientific publications, collaboration on patent specifications.
- In addition to the scientific work, there is the possibility of a PhD.

Starting date and duration:

Spring/Summer 2025 for 3 years

Your qualification:

You have a university degree (diploma (university) / Master) in bioprocess engineering, biotechnology or similar. Expertise in performing microbial fermentations in stirred bioreactors is required. A thorough understanding of the underlying physiology of microorganisms as well as a basic understanding of systems biology, especially omics analyses. In addition, one or more of the listed competencies highly advantageous:

- Knowledge of handling biomolecules (DNA/RNA).
- Knowledge of handling in stirred bench top bioreactors.

Very good language skills (English or/and German) for reporting, project documentation as well as conference presentations are desirable as well as an open communication behavior, a quick grasp and analytical thinking.

Remuneration: EG 13, provided that the professional and personal requirements are met.

Application deadline until: 15.03.2025, **Requirements:** Please send your CV, transcript of records and motivation letter as one pdf file via email.

Contact person: Dr. Nadja Alina Henke, nadja.henke@kit.edu

