



PhD position

Development of a Cell Cycle Model for Optimized Bioprocessing in Large Scale

Research Scientist with diploma/master's degree in the field of biotechnology, chemical or process engineering, or mathematics on a part-time basis (30h/week), limited to 42 months.

to strengthen our team at the Vienna site, starting from July 2026:

CHASE is a European Research and Technology Organization for Chemical Systems Engineering with its headquarters in Austria. We enable companies in the chemical process industry to make their production more energy-efficient, more resource-saving and more sustainable.

In interdisciplinary and transdisciplinary partnership with renowned universities, successful companies and committed stakeholders, we support companies in the fields of chemistry, petrochemistry, gas, pharmaceuticals, plastic, food, sugar and pulp manufacturing to create products for our daily use in a more efficient and more eco-friendly way.

For our upcoming project "DeSimplify" in the context of creating the configurable process modelling architecture that acknowledges the complexity of chemical production systems, we are seeking a skilled and motivated person to join our team to develop a microbial cell cycle model. You will be part of a multidisciplinary team to integrate the developed model onto simulated particles representing individual cells inside the turbulent mixing pattern of a bioreactor. The monthly salary is EUR 2784,08 plus collective agreement increase per 01.01.2026.

We are looking forward to hearing from you: personal@chasecenter.at

Reference number: 025

Application: until 31 March, 2026

CHASE your future

You will contribute to the following tasks:

- Comprehensive collection of literature on state-of-the-art mechanistic cell cycle modelling including kinetic descriptions of cell growth, cell division and cell death, assessing, selecting and formulating the appropriate approach(es)
- Develop a cell cycle model with kinetics depending on local nutrient availability
- Numerical simulation studies for comprehensive dataset generation with the goal of building a surrogate model
- Validation of the developed surrogate model in a pilot scale bioreactor
- Participation in project meetings and dissemination of results in international journals and conferences

Your expertise:

- Master's degree or diploma in Biotechnology, Process Engineering, Chemical Engineering, Mechanical Engineering, Mathematics, Physics, or a related field
- Experience with numerical integration methods and sound mathematical background
- Experience with mechanistic model development
- Experience with working in a biotechnological laboratory
- Proficiency in Python (or Julia)
- Familiar with Git and collaborative code development
- Experience with statistical experimental design (DoE, model-based DoE)
- Creative, with the ability to work independently and present research at scientific conferences
- Strong ability to collaborate with cross-functional teams and stakeholders, with excellent interpersonal skills
- Excellent verbal and written communication skills, with a good command of English

CHASE your career

We are committed to providing a framework for your professional growth:

- State of the art research infrastructure, focus on digitization (Industry 4.0)
- Excellent working atmosphere with strong ties to and interactions with academia
- The possibility to apply your research skills in an application-oriented and industry-relevant context
- Flexible working hours and home office days
- Additional training in diverse fields such as machine learning, or project management
- The possibility for a research stay at selected partner universities within Europe
- The monthly salary is EUR 2784,08 plus collective agreement increase per 01.01.2026.

For further information, please contact:

Jan Niklas Pauk, Team leader – Bioprocess Technologies
janniklas.pauk@chasecenter.at

We look forward to receiving your application (cover letter, CV, academic certificates, employment references), including the reference number of the job posting, to the following email address:

personal@chasecenter.at

By submitting your application documents, you expressly consent to the transmission of your application documents to the partners involved in CHASE.

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