WANTED

CHASE

PhD position

Modelling, Monitoring and Control of Continuous Microbial Fermentation Processes

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 36 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, and pulp manufacturing to create products for our daily use in a more efficient and more eco-friendly way.

We are seeking a skilled and motivated person to join our team, focusing on model-based monitoring and control of a continuous microbial production process. In this role, you will first develop a mechanistic model to describe process dynamics and subsequently develop and implement algorithms for model-based monitoring and control, integrating the developed mechanistic model with available Process Analytical Technologies (PATs). The monthly salary is EUR 2848,81.

We are looking forward to hearing from you: personal@chasecenter.at
Reference number: 029
Application: until 31 May, 2026

CHASE your future

You will contribute to the following tasks:

- Comprehensive collection of literature on state-of-the-art techniques for modelling of continuous microbial fermentation as well as model-based monitoring and control to assess, select and formulate the appropriate approach(es)
- Data generation for setup, calibration and validation of a mechanistic model of the continuous fermentation process
- Development and validation of a real-time process monitoring strategy by combining the calibrated mechanistic model with available PAT
- Development of algorithms to implement optimal model-based control strategies
- Participation in project meetings and publication of results in international journals and at conferences

Your expertise:

- Master's degree or diploma in Biotechnology, Chemical Engineering, Process Engineering, Mathematics, or a related field
- Experience with numerical integration methods (ODEs, PDEs, DAEs), (mixed-)integer (non-)linear programming and sound mathematical background
- Proficiency in Python (or Julia)
- Experience with microbial fermentation processes, preferably in continuous process mode
- Familiar with Git and collaborative code development
- Creative and goal-oriented mindset, 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 monthly salary is EUR 2848,81

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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