WANTED

CHASE

PhD position

Development of Reactive Particle Mechanics and CFD-DEM Coupling Framework

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

to strengthen our team at the Vienna site, starting from Mai 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 as a computational fluid dynamic (CFD) - discrete element method (DEM) developer. You will be part of a multidisciplinary team in the designing and integrating particle reaction mechanics and coupling between CFD and DEM using open-source CFD-DEM platform PhasicFlowPlus (https://github.com/PhasicFlow/PhasicFlowPlus). 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: 026
Application: until 15 March, 2026

CHASE your future

You will contribute to the following tasks:

- Comprehensive collection of literature on state-of-the-art CFD-DEM coupling and particle reaction modelling, assessing, selecting and formulating the appropriate approach(s)
- Integrating particle-fluid heat and mass transfer and reaction mechanics into PhasicFlowPlus
- Implementing and further developing resolved and unresolved CFD-DEM coupling using PhasicFlowPlus for spherical and non-spherical particles
- Validation, scoping and benchmarking the implemented reaction and CFD-DEM coupling
- Code integration and documentation
- Participations in project meeting and publication of results in international journals and conferences

Your expertise:

- Master's degree or diploma in Physics, Mechanical Engineering, Chemical Engineering, Process Engineering, or a related field
- Experience with CFD simulations and development
- Proficiency in C++
- Familiar with Git and collaborative code development
- Experience with parallel code development and hybrid parallelization (CPU/GPU)
- Experience with DEM and CFD-DEM simulations
- 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 monthly salary is EUR 2784,08 plus collective agreement increase per 01.01.2026.

For further information, please contact:
Bahram Haddadi, Team leader – Fluid Dynamics
www.chasecenter.at/fluid-dynamics
bahram.haddadi@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.

Application: until 15 March, 2026