WANTED

PhD position

Development of Deformable and Breakable Particle Mechanics in DEM

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 36 months with the possibility to pursue a PhD.

to strengthen our team at the Vienna site, starting January 2027:

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.

For our 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 discrete element method (DEM) developer. In this role, you will play a crucial part in integration of deformable and breakable particle mechanics into open-source DEM platform PhasicFlow (https://github.com/PhasicFlow). The position provides the opportunity to pursue a PhD study. The monthly salary is EUR 2848.81 plus collective agreement increase per 01.01.2027.

We are looking forward to hearing from you: personal@chasecenter.at
Reference number: 040
Application: until filled

CHASE your future

You will contribute to the following tasks:

- Comprehensive collection of literature on state-of-the-art particle deformation and breakages in DEM, assessing, selecting and formulating the appropriate approach(s)
- Deformable particle model implementation into PhasicFlow
- Implementing particle breakage and fragmentation models into PhasicFlow
- Validation, scoping and benchmarking the implemented deformation and breakage mechanics
- 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 DEM simulations and development
- Proficiency in C++
- Familiar with Git and collaborative code development
- Experience with parallel code development is a plus
- 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 2848.81 plus collective agreement increase per 01.01.2027.

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 filled