RESEARCHER PROFILE: **University Project Assistant (PhD Position)**

APPLICATION DEADLINE: **October 25, 2022, 12.00 hrs** Vienna time zone

PROJECT TITLE: Granular and Multiphase Flows–Methods and Tools

We are looking for a university project assistant starting **between December 2022 and March 2023.** This position will be financed for 4 years. It is expected that the successful applicant also enrolls in TU Graz' doctoral program, specifically the Doctoral School of Chemical and Process Engineering (https://www.tugraz.at/en/research/research-at-tu-graz/doctoral-schools/).

In this position you will be working in the research group "**Simulation Science**" (https://ippt.tugraz.at/simsci) at TU Graz. You will be given the opportunity to work with the group members, as well interact with a network of international partners. Your project aims to maintain and establish methods and tools for predicting multiphase flows, including verification and validation with latest experimental techniques (e.g., using µCT imaging data, https://gmct.tugraz.at/). Your project might include teaching activities, as well as the development of teaching material, especially at the later stages of your project.

Skills we are looking for

We are looking for outstanding candidates with the ability to excel in research. The candidates must be eager to learn and gain new experience. **Specific skills** needed for the position are:

• *Physics background*: you must hold a **master's degree in (fluid) mechanics, process engineering, chemical engineering**, (**technical) physics**, **particle technology or similar**. You must have a basic understanding of the flow of granular materials and suspensions.

• *Modeling and simulation expertise*: You should bring a strong interest in **modelling at the particle scale,** and you must have a first experience with **numerical simulations**. Ideally, you are already a user of Discrete Element Method-based or CFD-DEM-based simulators such as LIGGGHTS®, ASPHERIX® CFDEM® or OpenFOAM®.

• *Software and programming background*: you must have at least **basic programming skills in a compiled computer language, preferably C/C++.** You should be open to use **Linux-based operating systems**, as well as computing clusters. Skills in **Matlab/octave or Python** are a strong plus.

• *Personality and ability to communicate*: you should have a goal-oriented and **well-organized personality**, you should have the capability to **learn rapidly and sustainably**. You should be able to **communicate effectively** using English as a language.

We offer

• *A Research Project with High Value*: you will develop methods and tools for simulation and experimental analysis in the field of particle and suspension flow processes. Therefore, you are laying the groundwork for understanding, design, and optimization of process that generate a high value for industry and our society in general.

• *Team and Location*: you will join a small and flexible, young and motivated team at IPPE, as well as be embedded in an international network with outstanding academics and industrialists. You will be encouraged to enroll at Graz University of Technology's PhD program and have to opportunity for international exchange visits. Graz is located in the southern part of Austria, is the home of more than 60,000 students, and hosts six universities – it is a great place to live and study!

• *Impact and Internationality*: you will interact with partners that are active all around the globe

• *A Full Time Position:* 40h/week

• *A Fully Financed Research Project*: We offer an annual gross salary of at least € 42,820.40; overpayment is possible depending on qualifications and experience. A travel budget is available for visits at our partners, as well as for presentations at conferences. Of course, there is budget for performing the research (office, access to computer clusters, etc.).

General Regulations and Requirements of TU Graz

Graz University of Technology aims to increase the proportion of women, especially in management positions and among scientific staff, and therefore expressly **invites qualified women to apply**. In case of underrepresentation, women with equal qualifications will be given priority. Also, persons with disabilities and appropriate qualifications are expressly invited to apply.
Graz University of Technology actively strives for diversity and equal opportunities. In the selection of personnel, persons will not be discriminated on the basis of gender, ethnicity, religion or ideology, age or sexual orientation.
A general requirement is proficiency in written and spoken German and English to the extent to be able to teach at the undergraduate level. Travel expenses incurred in connection with the selection process will not be reimbursed by Graz University of Technology. As a university, the protection of the health of our students and employees is very important to us. For this reason, applicants with proof of a complete COVID-19 vaccination will be given preference in case of equal professional suitability.

Selection and Application process

- Applicants will be reviewed **without regard to gender, sexual orientation etc.** following TU Graz rules (see above**)**.
- **Important:** to apply, upload **a 1 page CV** and **a 1 page motivation letter (please mention the PROJECT TITLE and briefly address each skill as listed above)** that is packaged in a **single ".zip" file** named as "**FAMILYNAME_FIRSTNAME.zip".** Also, you may add up to three recommendation letters in this zip file, but this is not a requirement. **Upload the zip-file via this link: https://cloud.tugraz.at/index.php/s/oDQF6WgoG4MrYQ3.** The password for accessing the upload link is "**univProjA_2022".** Simply drag & drop your file into the grey upload button at the center of the page. If your file displays at the bottom of this upload page, your upload was successful (there **will be no separate email or message confirming your upload**).
- All other formats and document content (e.g., longer CVs) **will NOT BE CONSIDERED for the application process**. **Email** applications **will NOT BE CONSIDERED**.
- By uploading your **CV and motivation letter** you agree that this information - while kept strictly confidential - will be processed and stored by TU Graz **time span of the recruitment process**. Information on data protection regulations can be found at: http://tugraz.at/go/datenschutzinformation-pa
- Selection will be made through structured skill-based review evaluation from CV and motivation letter. After selection for the shortlist, an (online) interview conducted by two people. Additional information may be requested for the (online) interview.

Further Information (however, DO NOT use this Email for submitting applications!)

Assoc.Prof. Stefan Radl (radl@tugraz.at)