

## Open Ph.D. positions in the Research Training Group GRK 2160/2 “Droplet Interaction Technologies (DROFIT)”

The International Research Training Group (IRTG): “Droplet Interaction Technologies (DROFIT) is a DFG funded research project between the University of Stuttgart (Germany), the University of Bergamo (Italy) and the University of Trento (Italy). The objective is to understand how micro-scale transport processes affect macroscopic flow properties. The research programme is organised in three thematic research areas (TAs): drop-gas interaction (TA-A), drop-wall interaction (TA-B) and drop-liquid interaction (TA-C). A key feature is the interdisciplinary approach, which envisages the synergic integration of experimental (X-ray micro-CT, micro-PIV), numerical (DNS, discontinuous Galerkin schemes, Direct Simulation Monte Carlo), and analytical methods (heat and mass transfer models for evaporation, interactions). A detailed description of the project (and involved subprojects) can be found at: <https://www.project.uni-stuttgart.de/dropit/>.

The open Ph.D. positions within DROFIT are related to experimental, numerical and theoretical investigations of droplet interaction phenomena with different media, e.g. solids, liquids or gases. Open positions **available at the University of Stuttgart** are related to the following topics:

- SP-A2: Multi-scale modelling of the evaporation process
- SP-A3: Gas-kinetic simulation of micro droplet - gas interaction
- SP-A6: Mathematical and numerical modelling of droplet dynamics in weakly compressible multi-component flows
- SP-B4: Towards asymptotic preserving all-speed simulations for the interaction of droplets with textured walls
- SP-B5: Numerical computation for drop impact on textured surfaces
- SP-B6: Upscaling of coupled free-flow porous media flow processes
- SP-C1: Micro and macro drop impact dynamics with miscible liquids

All vacancies for Ph.D. positions include a full-time position for an initial period of 3 years, which might be extendable for another year. The selected candidates will participate in the International Research Training Group (IRTG) DROFIT. DROFIT is expected to have a significant impact on a wide range of environmental and industrial applications as well as academic aspects. Thus, the selected candidates are likely to be in an exceptionally good starting position at the end of their doctorate for future academic work and/or industrial tasks.

DROFIT also includes an extensive qualification programme to promote the early independence of doctoral and post-doctoral researchers.

### Desired skills and experience

Successful candidates have a M.Sc. in engineering, physics or mathematics. Additionally, candidates should have excellent writing skills. Fluency in English is required; command of German would be appreciated.

### Information and application

In Germany, remuneration is based on the TV-L statutory salary scale and its associated public sector benefits.

The earliest possible start date is 01.11.2022.

**To apply, please visit [https://careers.uni-stuttgart.de/?locale=en\\_US](https://careers.uni-stuttgart.de/?locale=en_US) and search for DROPIIT.** A complete application includes a letter of application, a detailed CV, a list of publications and two references. Please indicate in your application in which sub-project you would be interested. The closing date for applications is **1<sup>st</sup> of September 2022**.

For more information, please contact Dr. Anne Geppert, phone: +49 711-685-62413 or Email: [anne.geppert@itlr.uni-stuttgart.de](mailto:anne.geppert@itlr.uni-stuttgart.de).

At the University of Stuttgart, we actively promote diversity among our employees. We have set ourselves the goal of recruiting more female scientists and employing more people with an international background, as well as people with disabilities. We are therefore particularly pleased to receive applications from such people. Regardless, we welcome any good application.

Women who apply will be given preferential consideration in areas in which they are underrepresented, provided they have the same aptitude, qualifications and professional performance. Severely disabled applicants with equal qualifications will be given priority.

As a certified family-friendly university, we support the compatibility of work and family, and of professional and private life in general, through various flexible modules. We have an employee health management system that has won several awards and offer our employees a wide range of continuing education programs. We are consistently improving our accessibility. Our Welcome Center helps international scientists get started in Stuttgart. We support partners of new professors and managers with a dual-career program.

Information in accordance with Article 13 DS-GVO on the processing of applicant data can be found at [https://careers.uni-stuttgart.de/content/privacy-policy/?locale=en\\_US](https://careers.uni-stuttgart.de/content/privacy-policy/?locale=en_US)