The Institute of Mechanical Process Engineering (IMVT) at the University of Stuttgart has an opening for a fully-funded Ph.D. position in the area of “Investigation of Hydrodynamic Cavitation in Mixing- and Cleaning-Processes of different Multicomponent Systems”

Our institute conducts theoretical and experimental research related to the behavior and the interaction between solid, particulate and fluidic (gas/liquid) substances or material systems, as they appear in the production of high-performance, high-value materials and products, in technical applications and processing plants, and in nature.

The cavitation of a liquid (i.e., the formation of vapor bubbles and subsequent sudden condensation/implosion of these bubbles) has broad technical applications, such as the breakage/erosion of kidney stones in the medical field or surface cleaning via ultrasonically-induced cavitation. Hydrodynamic cavitation, in particular, is very energy-efficient and scalable. This project aims at investigating hydrodynamic cavitation processes for use in mixing and cleaning processes. To do so, suitable physical and numerical models are to be developed and experimentally validated in order to describe the relevant processes. The feasibility of a novel particle-based measurement concept is also to be evaluated as part of this project.

**Your Profile**

A master degree in process engineering, mechanical engineering, biotechnology, environmental engineering, or another related discipline. Good communication skills, highly motivated, with a strong background in theoretical and computational fluid mechanics. Experience with multiphase flows and phase-change processes and experimental measurement techniques are desired. Experience in Openfoam, ANSYS Fluent/CFX and Matlab/Simulink is a plus. Excellent English skills and good German skills are required.

**We offer**

The position is fully funded for the duration of the Ph.D. studies. Salary for this position is € 3672 gross per month, based on the German TV-L, salary group E13 (100%). It is expected that the candidate actively supports education and the teaching mission of the institute.
The University of Stuttgart aims to increase the number of female employees. Qualified women are therefore especially encouraged to apply. Handicapped applicants will be preferred if applicability and qualification are equivalent.

How to Apply

Applications with the usual documents (letter of motivation, CV, copies of degree diplomas, course transcripts from all previous institutions, list of publications, language test scores if applicable, list and contact information of references) should be sent by e-mail to carsten.mehring@imvt.uni-stuttgart.de by July 1, 2018. For additional information, please visit our institute website at www.imvt.uni-stuttgart.de or contact Prof. Carsten Mehring.