

4 PhD positions in the joint research programme HerMes: Heterogeneous Human-Machine Teams

Digital transformation permeates all areas of our society and leads to the emergence of sociotechnical cyber-physical systems, such as in the domain of Industry 4.0. Software components, machinery, transportation vehicles, and intelligent objects are increasingly autonomous and possess self-organization capabilities, allowing them to dynamically coordinate and collaborate with humans. In order to cope with the complexity of engineering such systems, methodologies to secure and optimize heterogeneous human-machine teams need to be developed.

The joint research programme will tackle innovative scientific questions from the field of heterogeneous human-machine teams. TU Clausthal offers an excellent environment for the interdisciplinary research efforts at the intersection of computer science, mathematics, engineering, and economics. The scientific qualification of the PhD students will be supported by a lightweight course schedule tailored to individual needs. All PhD candidates will be working together at the Clausthal premises of Simulation Science Center Clausthal/Göttingen (SWZ).

The PhD programme is comprised of four PhD projects, studying challenging questions of human-machine team coordination in (re-)manufacturing and recycling applications:

- PhD project 1.1: Safe ad-hoc cooperation between humans and autonomous machines
- PhD project 1.2: Sensor-based assessment of the ability of persons interacting with machines to take over the machine operation
- PhD project 2.1: Data assimilation for sensor-based modelling of movement patterns of human and machine actors
- PhD project 2.2: Modelling and optimization of the coordination of heterogeneous human-machine-teams

For further information, please visit: <https://www.simzentrum.de/en/hermes>

We expect a completed Master's degree with very good performance in one of the aforementioned fields or a similar field of study. We further expect a high level of self-organization and the willingness to work in an interdisciplinary team. A good command of the English language is required.

We offer an attractive workplace in an interdisciplinary team and a highly topical research area. TU Clausthal is a small university offering excellent supervision and a familiar atmosphere. Each PhD project will be supervised by a tandem of two professors, to support completion of your dissertation within a period of three years.

Conditions of employment

Each PhD student will be employed full-time according to the TV-L E13 pay scale for the duration of three years. Expected start of the programme is January / February 2019.

Application

Applications (in either German or English) must be received in electronic form (pdf) by November 29th, 2018.

Your application should contain: A cover letter explaining your interest and qualifications indicating which of the Ph.D. projects you are interested in; a tabular CV; a copy of your last transcript or graduation diploma; and a 1-2 page research statement. Please direct your application to:

Prof. Dr. Jörg P. Müller
TU Clausthal - Institut für Informatik
Julius-Albert-Str. 4
38678 Clausthal-Zellerfeld, Germany
Email: bewerbung@in.tu-clausthal.de

In case your application is positively evaluated, you will be invited to a full-day assessment workshop on December 7th, 2018. Please make sure to save the date.

TU Clausthal is seeking to increase the number of women and encourages qualified women to apply for the position. Qualified applicants with a disability will be given preference. The application shall be accompanied by documentary evidence. Applications from people of all nationalities are welcome.

Reimbursement of application costs is not possible. The submitted application documents will be disposed at the end of the selection procedure in accordance with the legal provisions.