Faculty of Mechanical Science and Engineering

The Institute of Power Engineering, Chair of Imaging Techniques in Energy and Process Engineering offers, subject to resources being available, a position as

**Research Associate / PhD Position**

(Subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

starting **01.01.2019**. The position is limited until 31.12.2021. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz-WissZeitVG). Balancing family and career is an important issue. The post is basically suitable for candidates seeking part-time employment. The position aims at obtaining further academic qualification (e.g. PhD).

**Tasks:** analysis and modeling of two-phase flow and heat transfer in a nuclear steam generator circuit and analysis of the integral behavior of a primary circuit of a pressurized water reactor under accident conditions. In more detail, the following objectives should be pursued: literature survey on the state of the art in condensation heat transfer in upright heat exchangers with and without primary-side boiling, primary and secondary side natural convection and presence of non-condensable gases on the primary side; mechanistic and CFD-based analysis of different flow situations; derivation and assessment of robust correlations for heat transfer in system codes; development of a combined heat transfer model and integration into an existing system code solver basing on OPENMODELICA; conduction of simulations and validation on existing thermal hydraulic validation data from the Framatome PKL facility; uncertainty analyses with the BEPU method.

**Requirements:** very good university degree (diploma, master degree) in mechanical engineering, energy engineering, physics or alike.

Applications from women are particularly welcome. The same applies to people with disabilities.

Please submit your comprehensive application including the usual documents by **08.10.2018** (stamped arrival date of the university central mail service applies) preferably via the TU Dresden SecureMail Portal [https://securemail.tu-dresden.de](https://securemail.tu-dresden.de) by sending it as a single pdf document to uwe.hampel@tu-dresden.de or by mail to: TU Dresden, Fakultät Maschinenwesen, Institut für Energietechnik, Professur für bildgebende Messverfahren für die Energie- und Verfahrenstechnik, Herrn Prof. Dr.-Ing. habil. Uwe Hampel, Helmholtzstr. 10, 01069 Dresden. Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

Reference to data protection: Your data protection rights, the purpose for which your data will be processed, as well as further information about data protection is available to you on the website: [https://tu-dresden.de/karriere/datenschutzhinweis](https://tu-dresden.de/karriere/datenschutzhinweis)