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 Student**

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

starting **01.01.2020**. The position is limited for 3 years. 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 offers the chance to obtain further academic qualification (e.g. PhD).

**Tasks:** Development of a method for the measurement of axial and radial dispersion coefficients in multiphase contactors with the flow modulation technique. In detail, it comprises the following sub-tasks: familiarization with hydrodynamic modelling of reactors and contactors and measurement of characteristic parameters with methods using ionizing radiation and other signal carriers; uncertainty quantification for these measurement techniques based on given application scenarios; experimental qualification of the method of flow modulation for bubble columns and trickle bed reactors; further development of mathematical models for parameter estimation.

**Requirements:** excellent university degree (Diplom, Master), preferably in process engineering, energy engineering, mechanical engineering, electrical engineering, applied mathematics or physics; profound and readily available mathematics and physics knowledge; further knowledge in at least one of the fields: measurement techniques, system theory, frequency space analysis, mass transfer, process engineering; self-reliant scientific work within an interdisciplinary team; practical skills with respect to experimental work; active communication with scientific partners; profound English language skills.

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

Please submit your comprehensive application including the usual documents by **04.12.2019** (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.

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**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)