



Research Assistant - salary grade E13 TV-L Berliner Hochschulen

part-time employment may be possible

Faculty V - Mechanical Engineering and Transport Systems, Institute of Machine Tools and Factory Management / Machine Tools and Production Engineering

Reference number: V-384/25 (starting at the earliest possible / for 24 months / closing date for applications 31/10/25)

Your responsibility:

This project uses structure-borne sound sensors to investigate adaptive milling of carbon fibre reinforced plastic (CFRP). This is made possible by a highly automated test setup for conducting large-scale experimental investigations. The aim is to develop data-driven methods for process monitoring and adaptation in order to prevent tool and workpiece damage and improve machining results. Work within the project is highly interdisciplinary and lies at the interface between manufacturing technology, sensor technology, automation and machine learning methods:

- Research in the field of machining carbon fibre reinforced plastic (CFRP)
- Further development of an automated test setup for conducting extensive milling experiments
- Development and parameterisation of structure-borne sound-based process monitoring for the detection of tool and workpiece damage
- Application of machine learning methods for evaluation of sensor data and derivation of adaptive process strategies
- Identification and validation of process parameter adaptations to increase component quality and process efficiency
- Independent planning, implementation and evaluation of research content
- Communication with colleagues from science and industry and presentation at international conferences

Your profile:

- Successfully completed scientific university degree (Master, Diplom or equivalent) in mechanical engineering, production engineering, mechatronics or related engineering sciences
- Advanced knowledge of manufacturing technology, especially in the field of machining with geometrically defined cutting edge
- Experience in machine learning methods and design of experiments
- Good knowledge of programming language for data analysis and modelling, e. g. Python or Matlab
- Willingness to complete a doctorate thesis is desirable
- Good knowledge of German and/or English required; willingness to acquire the respective missing language skills.
- Knowledge in the field of machining fibre composite materials advantageous
- Knowledge of measurement and automation technology advantageous
- Experience working with CNC tool machines advantageous
- Independent, systematic and structured work approach advantageous

How to apply:

Please send your application **with the reference number** and the usual documents **only via email** (bundled in one PDF document, max. 5 MB) to Dr.-Ing. Bold via **bold@iwf.tu-berlin.de**.

By submitting your application via email you consent to having your data electronically processed and saved. Please note that we do not provide a guaranty for the protection of your personal data when submitted as unprotected file. Please find our data protection notice acc. DSGVO (General Data Protection Regulation) at the TU staff department homepage: https://www.abt2-t.tu-berlin.de/menue/themen_a_z/datenschutzerklaerung/.

To ensure equal opportunities between women and men, applications by women with the required qualifications are explicitly desired. Qualified individuals with disabilities will be favored. The TU Berlin values the diversity of its members and is committed to the goals of equal opportunities. Applications from people of all nationalities and with a migration background are very welcome.

The vacancy is also available on the internet at:
<https://www.jobs.tu-berlin.de>

