Technische Universität Berlin

Research Assistant - salary grade E13 TV-L Berliner Hochschulen

part-time employment may be possible; under the reserve that funds are granted

Faculty IV - Electrical Engineering and Computer Science, Faculty IV - Institute of High-Frequency and Semiconductor System Technologies - Forschungsschwerpunkt Technologien der Mikroperipherik
Reference number: IV-337/25 (starting at 01/11/25 / until 31/01/2028 / closing date for applications 22/08/25)

Your responsibility:

In a third-party funded research project, test structures for monitoring printed circuit board processes are being developed and tested. The aim is to prepare printed circuit board manufacturers for the latest developments in high-frequency circuits up to 110GHz.

The tasks assigned to TU Berlin focus in particular on the development of test structures. To this end, you will simulate waveguides with Ansys HFSS, design printed circuit boards with Altium, and analyze and optimize the test structures you have designed up to 110 GHz using network analysis. The project could be your entry into the world of 5G/6G mobile communications or 224 Gb/s data communications. In addition, we offer the prospect of a doctorate.

Your profile:

- Successfully completed scientific university degree: Electrical Engineering (Master's degree, diploma or equivalent), deally with a focus on high-frequency technology
- Knowledge and experience in at least two of the following areas:
  a) Experience with design software for printed circuit boards (Altium, Mentor, or comparable programs)
  b) Experience with RF circuit simulation software
  (ADS or comparable programs)
  c) Knowledge of S-parameters and line theory
  d) Knowledge of network analysis
  e) Good German and/or English skills required; willingness to acquire any missing language skills
- Initial experience with 3D Maxwell simulation software (HFSS, CST, or similar) are an advantage
- Initial experience with wafer probers and network analyzers up to 110GHz are an advantage
- Knowledge of manufacturing processes for printed circuit boards are an advantage
- Knowledge of high-speed data communication (Ethernet, PCIe, USB, or similar) are an advantage

You are a team player who likes to get to the bottom of things? Do you want to explore the limits of high-frequency technology and apply theory and practice in current telecommunications technologies? Then you've come to the right place, especially if you also (desirable):

- have a structured and independent way of working
- are ready to take on responsibility for subtasks, and
- are a team player

How to apply:

Please send your application with the **reference number** and the usual documents (one file max. 5 MB) only via email to **personal@tmp.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

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