



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 Computer Engineering and Microelectronics / Mixed Signal Circuit Design

Reference number: IV-332/25 (starting at the earliest possible / limited until 30/06/2028 / closing date for applications 29/08/25)

About us:

Located in the heart of Germany's capital, TU Berlin is one of the country's largest and most renowned technical universities, with around 35,000 students. TU Berlin is a vibrant place for work, research, learning, and living. We offer a variety of family, sports, and professional development programs. As a certified family-friendly university, we place a strong emphasis on maintaining a healthy work-life balance. Become part of TU Berlin – we are shaping the ideas of the future for the benefit of society.

About the Position

The internationally renowned Chair of **Mixed Signal Circuit Design (MSC)** conducts both fundamental and applied research in the field of energy-efficient microelectronic circuits and systems for mobile, wired, and optical fiber communications.

We offer a challenging and future-oriented position as part of the BMBF-funded research project "**CoolRX**" ("**Highly Energy-Efficient 150Gbit/s Optical ADC-DSP Receiver with AI Based Calibration for Data Centers**"), aimed at the development of high-efficiency CMOS circuits for next-generation optical high-speed communication systems reaching data rates of 150 Gbit/s and beyond. You will join a motivated research team working at the forefront of circuit design, optical communications, and AI-based calibration techniques.

Research Focus

- design of ultra-high-speed mixed-signal circuits in CMOS technology
- integration into advanced optical receiver systems
- exploration of AI-based calibration techniques
- close collaboration with our international partner National Yang Ming Chiao Tung University (NYCU), Taiwan
- Scientific and personal exchange with NYCU is an integral part of the project

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Your responsibility:

- independent research in high-speed integrated CMOS design, including TIAs, equalizers, VGAs, and ADCs for future communication systems up to 224 Gbit/s
- implementation and characterization of your CMOS ICs in our MSC high-frequency lab
- publication of your high-quality research results in international journals and at conferences

Your profile:

- successfully completed scientific university degree (Master, Diploma or equivalent) in the field of micro- or nanoelectronics, electrical engineering, communications engineering, or related disciplines; excellent degree desired
- strong motivation for academic research and interest in a possible PhD (desirable)
- solid experience in analog/digital/mixed-signal circuit design, including schematic design, simulation, and layout
- proven expertise in high-speed CMOS design, including TIAs, VGAs, and ADCs
- knowledge in signal processing and communication theory is a plus
- experience with sub-nm CMOS technologies and EDA tools (e.g., Cadence, Mentor) (desirable)
- proactive, motivated, and team-oriented personality with the ability to work in an interdisciplinary and international environment, especially in cooperation with Taiwan (desirable)
- good knowledge of German and/or English required; willingness to acquire the respective missing language skills

What we offer:

- participation in an ambitious international research project with Taiwan
- close collaboration with other academic and industry partners
- a renowned and motivated research team
- possibility for remote/flexible work arrangements (in consultation with your supervisor)
- access to a wide range of sports and health programs via the university sports center
- comprehensive professional development opportunities
- a friendly and international working environment

How to apply:

Please submit your written application **quoting the reference number**, along with the usual documents (cover letter, CV, academic transcripts, references, etc.) to: preferably by e-mail (one single PDF file, max. 5 MB) to: **sekr@msc.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 guarantee 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>

