Ferdinand-Braun-Institut gGmbH

Das Ferdinand-Braun-Institut, Leibniz-Institut für Höchstfrequenztechnik (FBH) ist eine anwendungsorientierte Forschungseinrichtung auf den Gebieten der Hochfrequenzelektronik, Photonik und Quantenphysik. Das FBH erforscht elektronische und optische Komponenten, Module und Systeme auf der Basis von Verbindungshalbleitern. Diese sind Schlüsselbausteine für Innovationen in den gesellschaftlichen Bedarfsfeldern Kommunikation, Energie, Gesundheit und Mobilität. Es verfügt über die gesamte Wert-schöpfungskette vom Design bis zu lieferfertigen Systemen.

Master thesis: Automated measurements optimization – 08/26

The focus in the RF Power Lab is on applications with output powers in the range of 5...200 W in the microwave range up to 40 GHz. We work on novel concepts to increase efficiency in broadband modulated power amplifier systems for modern telecommunication and signals with high peak-to-average power ratios. In particular, we investigate dual-input amplifier systems based on load & supply-voltage modulation and how to use them in AI-controlled intelligent self-tunable systems. Integrated reconfigurable components and circuits are also in focus and more advanced integrated transceivers for radar and telecom. In addition, we develop novel autonomous RF measurement systems for improved RF power transistor characterization and the optimization of such devices based on machine learning.

City: Berlin; Starting date (earliest): At the earliest possible; Remuneration: -; Reference number: 08/26; Closing date: 13/04/26

Tasks

1. Assessment and analysis of GaN technology characterization data

- Identification of outliers during testing, with and without machine learning methodologie
- Post-Measurements data optimization, data filtering
- Addition of data informed choices in the automated measurements (Co-Development of a decision tree

2. Adapting live measurement library and electrical measurements to optical data connection

- Organization of single wafer pictures into wafer-wide live updating optical maps
- Connection of optical imaging to electrical measurements

Requirements

- On-going master studies in Computer Science. Electrical Engineering, Communications and Signal Processing, or Physics with Applied Mathematics

- Knowledge of machine learning, signal processing, microwave engineering, nonlinear and behavioral modeling, AI-based modeling
- Interest in applied mathematics, signal processing
- Experience in Matlab and Python (preferably)
- Starting date: a.s.a.p.

What we offer

- an open and appreciative international team, always available with help and advice
- a modern workplace in Berlin Adlershof with good public transport connections
- exciting insights into practical applications and the opportunity to gain valuable experience

Application

Does it sound interesting? Then we look forward to receiving your online application by April 13, 2026.

If you have questions, please contact Dr. Olof Bengtsson, Tel.: 030 6392-2643, E-Mail: olof.bengtsson@fbh-berlin.de.

Data protection notice: The above contact details are provided exclusively for interested applicants to get in touch. Enquiries from recruitment agencies are not welcome. Any use of the personal information contained in this advertisement by other third parties is expressly prohibited.

More information at https://stellenticket.de/202508/TUB/
Offer visible until 12/04/26