The Chair for Electron Device and Integrated Circuits in the department of Electrical and Computer Engineering has an open position for a Research Associate (salary group E13 TV-L according to qualification).

The Chair for Electron Devices and Integrated Circuits (CEDIC) at the TU Dresden, has been an internationally recognized research group in the area of device modeling for high-frequency (HF) applications, with significant contributions in particular to the theoretical understanding of bipolar (heterojunction) and carbon nanotube transistors and the exploration of their high-frequency performance and physical limits as well as the development of related models and tools for circuit design. CEDIC is also strongly involved in the Excellence Cluster Center for Advancing Electronics Dresden (Cfaed) and various other funded research projects. The successful candidate is expected to contribute to an externally funded research project.

**Project tasks.** The specific tasks comprise: (i) Investigation of the high-frequency large-signal behavior of 22nm SOI MOSFETs; (ii) adaptation and extension of a MOSFET compact transistor model towards an accurate description of high-frequency large-signal operation; (iii) extraction of compact model parameters and development of extraction methods; (iv) investigation of the impact of transistor layout on high-frequency characteristics; (v) design, tapeout and experimental evaluation of circuit building blocks for technology performance assessment and compact model verification; (vi) analysis of the impact of physical effects on device and circuit performance. The work requires a strong cooperation within a team of researchers at the Chair for Electron Devices and Integrated Circuits and in industry. Participation in research project related progress reports, presentations at project meetings and conferences, and publications is also expected.

**Required qualification:** Applicants should hold an outstanding Master's/Dipl.-Ing. degree in electrical engineering. Hands-on experience in three or more of the following areas is mandatory: MOSFET theory, modeling and model implementation in circuit simulators (e.g. via Verilog-A); compact model parameter extraction; experience with standard commercial circuit simulators (SPECTRE, ADS, HSPICE...); on-wafer experimental characterization of electronic devices above 1 GHz; design of integrated circuits and their characterization above 1 GHz. Additional knowledge in computer programming as well as a good working knowledge on semiconductor devices will be a prerequisite for a successful application. Excellent English language and communication skills are highly desired.

We particularly encourage qualified women to apply. Applications from disabled candidates or from those with additional support needs are welcome.

**Application Procedure:** Your application (in English only) should include: motivation letter, CV with a description of completed projects in the areas described above, transcript of grades (i.e. the official list of coursework including your grades) and proof of English language skills. Complete applications should be submitted only by e-mail (as PDF-document) quoting Research Associate application in the subject header to: michael.schroeter@tu-dresden.de. The closing date for applications is Nov. 20, 2017. Please note: We are unable to receive electronically signed and encrypted data.