At the Center for Advancing Electronics Dresden the following position within the ESF Junior Research Group “Re-Learning - Selbstlernende und flexible Elektronik durch inhärente Bauelement-Rekonfiguration” is offered, subject to resources being available:

**Research Associate**
(Subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

**About the project**
IoT and AI technologies are finding their way into our everyday lives and this goes hand in hand with an increasing amount of data and an enormous rise in IT-based energy consumption. Consequently, a computation limitation of static hardware is expected. The project, which will be funded by the European Social Fund (ESF) and the Free State of Saxony, aims at the development of approaches for hardware representations for machine learning that address these challenges. The tasks within the offered position include the development of adaptive hardware neuronal networks based on organic and inorganic reconfigurable devices and require close cooperation with engineers, physicists and computer scientists.

**Position**
cfaed-ESF2020-02

**Investigator:** Prof. Dr. Thomas Mikolajick - Chair of Nanoelectronic Materials

**Terms:**
100% of the fulltime weekly hours, as soon as possible – 28.02.2022 (The period of employment is governed by the Fixed-Term Research Contracts Act (Wissenschaftszeitvertragsgesetz)). The position aims at obtaining further academic qualification.

**Tasks:**
Fabrication of silicon / germanium RFETs and demonstration of neural circuit functionality

**Requirements**
- university degree (excellent Master of Science or diploma) in physics or electrical engineering with focus on microelectronics.
- experience in semiconductor technology processing (e.g. coating, lithography, wet chemistry etc.); experience in physical and electrical characterization of semiconductor devices
- due to funding regulations the last degree must been achieved after 15.06.2015,
- strong analytic and problem-solving skills, creativity,
- an independent, target- and solution-driven work attitude,
- strong communication skills, especially in cross-disciplinary communication,
- fluency in English, knowledge of German is a plus

**What we offer**
You will join an enthusiastic and ambitious research group, where you can drive your project forward and benefit from inspirational interactions with like-minded researchers. On this project, you will closely interact with PhD students from other disciplines working on the same project, giving you the opportunity to gain (first) experience in supervising students. The working language of our international teams is English.

For informal enquiries, please contact Dr. André Heinzig (andre.heinzig@tu-dresden.de, +49 351 463 39129) or Dr. Uta Schneider (uta.schneider@tu-dresden.de, +49 351 463 43700).
Applications from women are particularly welcome. The same applies to people with disabilities.

**Application Procedure**
Your application *(in English only)* should include: a motivation letter, your CV with publication list, copy of degree certificate, and transcript of grades (i.e. the official list of coursework including your grades). Please include also a link to your Master's or PhD thesis. Complete applications should be submitted preferably via the TU Dresden SecureMail Portal [https://securemail.tu-dresden.de](https://securemail.tu-dresden.de) by sending it as a single pdf document quoting the reference number *cfaed-ESF2020-02* in the subject header to recruiting.cfaed@tu-dresden.de or alternatively by post to: TU Dresden, cfaed, Frau Dr. Uta Schneider, Helmholtzstr. 10, 01069 Dresden, Germany. The closing date for applications is **03.03.2020** (stamped arrival date of the university central mail service applies). Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

**Reference to data protection:** Your data protection rights, the purpose for which your data will be processed, as well as further information about data protection is available to you on the website: [https://tu-dresden.de/karriere/datenschutzhinweis](https://tu-dresden.de/karriere/datenschutzhinweis)

**About cfaed**
cfaed is a Central Academic Unit of TU Dresden integrating about 200 researchers from the university and 10 other research institutes in the areas of Electrical Engineering, Computer Science, Materials Science, Physics, Chemistry, Biology, and Mathematics. cfaed catalyses and promotes projects & collaborations in fundamental research for future-proof electronics beyond current technology roadmaps on an internationally leading level. It is a central hub for interdisciplinary and cross-scale research. [www.cfaed.tu-dresden.de](http://www.cfaed.tu-dresden.de)