Faculty of Computer Science

The Institute of Computer Engineering, Chair of Processor Design, in the context of the DFG project ReAp (Runtime Reconfigurable Approximate Architecture – KU 3495/1-1), offers as of 1 February 2018 a position as

**Research Associate / PhD Student**

(subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

*Research area:* **Low-power Embedded Systems Design**

*Terms:* The position is limited to 31 January 2020 (with the option to be extended). The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG).

**Position and Requirements**

At the Chair of Processor Design we have the long-term vision of shaping the way future electronic systems are designed. In this project, we will develop system architectures that are able to reduce the energy consumption by a few orders of magnitude, albeit with slight loss in accuracy.

The successful candidate will: develop novel techniques for designing approximate components, identify mechanisms for reconfiguring the approximate components, prototype these components on FPGA, and demonstrate the use of these components in a multimedia application.

We aim at attracting the best talent in the respective research fields and expect the following: an outstanding university degree (Master’s or equivalent) in computer science, electrical engineering or a related field; previous experience in the field of multiprocessor embedded systems; good programming skills (especially on scripting, assembly-level and C languages) as well as good hardware-design skills (especially using VHDL/Verilog and component-based design); experience in using FPGAs for design will provide an added advantage; very good interpersonal and communication skills, in particular, the ability to effectively work in collaborative research efforts; an independent, target- and solution-driven work attitude; inter- and multidisciplinary thinking; strong motivation and interest to join one of the most ambitious interdisciplinary research clusters; fluency in English - written and oral.

**What we offer**

You will join a team of enthusiastic researchers who pursue creatively their individual research agenda. Other ongoing projects at the Chair of Processor Design can be found at [https://www.cfaed.tu-dresden.de/pd-about](https://www.cfaed.tu-dresden.de/pd-about). The Chair also is a part of the Cluster of Excellence “Center for Advancing Electronics Dresden”, which offers plenty of resources and structures for career development.

Informal enquiries can be submitted to Prof. Dr. Akash Kumar, Tel +49 (351) 463 39274; Email: akash.kumar@tu-dresden.de

Applications from women are particularly welcome. The same applies to people with disabilities.

**Application Procedure**

Your application *(in English only)* should include: motivation letter, CV, copy of degree certificate, transcript of grades (i.e. the official list of coursework including your grades) and proof of English language skills. Complete applications should be submitted preferably via...
the TU Dresden SecureMail Portal https://securemail.tu-dresden.de by sending it to akash.kumar@tu-dresden.de quoting the reference number PhD1712-PD1 in the subject header or by mail to: TU Dresden, Fakultät Informatik, Institut für Technische Informatik, Professur für Prozessorentwurf (Processor Design), Herrn Prof. Akash Kumar, 01062 Dresden, Germany. The closing date for applications is 15.01.2018 (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.

About cfaed

cfaed is a cluster of excellence within the German Excellence Initiative. It brings together 300 researchers from TU Dresden and eleven other research institutions in the areas of Electrical and Computer Engineering, Computer Science, Materials Science, Physics, Chemistry, Biology, and Mathematics. cfaed addresses the advancement of electronic information processing systems through exploring new technologies which overcome the limits of today’s predominant CMOS technology. www.tu-dresden.de/cfaed

About TU Dresden

The TU Dresden is among the top universities in Germany and Europe and one of the eleven German universities that were identified as an ‘elite university’ in June 2012. As a modern full-status university with 14 departments it offers a wide academic range making it one of a very few in Germany.