Faculty of Computer Science

In a collaborative project for novel design methodologies and heterogeneous manycore architectures for future 5G communication standards and beyond the Chair of Compiler Construction at the Institute of Computer Engineering is looking to fill a fixed-term position as of the 1 July 2019 as

**Research Associate / PhD student**
(subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

*Research area:* Programming models and compilers for 5G applications

*Terms:* 100% of the fulltime weekly hours, the position is limited to 31 May 2022 (with the option to be extended).

The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG).

The project is a collaboration with National Instruments, the Chair of Processor Design headed by Prof. Akash Kumar and the Vodafone Chair of Mobile Communications Systems headed by Prof. Gerhard Fettweis.

**Position and Requirements**

At the Chair of Compiler Construction we have the long-term vision of shaping the way future electronic systems are to be programmed. This includes efficiently programming emerging heterogeneous manycore architectures, where we have a long trajectory in dataflow programming models and associated optimizing compilers. In this context, we are looking for a highly motivated PhD student to develop novel mathematical abstractions and methods that make it possible to solve larger, more complex programming problems. This compiler research will touch upon topics from parallel programming models (e.g., dataflow models of computation, compilers and language design), discrete mathematics (e.g., graph theory), and runtime systems. The student will work closely with researchers working on reconfigurable architectures, manycore processors and multiple layers of the programming stack.

We aim at attracting the best talent in the respective research fields and expect the following:

- An outstanding university degree (master's/ diploma or equivalent) in computer science, mathematics, electrical engineering or a relevant area.
- First research experience, preferably in compilers, parallel programming, embedded systems, applied mathematics (e.g., graph algorithms), optimization techniques.
- Sound knowledge in software development.
- An independent, target- and solution-driven work attitude.
- Inter- and multidisciplinary thinking.
- An integrative and cooperative personality with excellent communication and social skills.
- Fluency in English - written and oral.
- Knowledge about 5G and other wireless communication standards is a plus.
What we offer
You will join a team of enthusiastic researchers who pursue creatively their individual research agenda.

Informal enquiries can be submitted to Prof. Dr.-Ing. Jeronimo Castrillon, Tel +49 (351) 463 42716; Email: jeronimo.castrillon@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 Secure-Mail Portal https://securemail.tu-dresden.de by sending it as a single pdf document quoting the reference number PhD1906-CCC in the subject header to jeronimo.castrillon@tu-dresden.de or by post to: TU Dresden, Fakultät Informatik, Institut für Technische Informatik, Professur für Compilerbau, Herrn Prof. Jeronimo Castrillon, Helmholtzstr. 10, 01069 Dresden, Germany.

The closing date for applications is 31.05.2019 (stamped arrival date of the university central mail service applies).

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

About cfaed
Cfaed is a cluster of excellence within the German Excellence Initiative. It brings together 200 researchers from TU Dresden and ten 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.