Faculty of Computer Science

The **Institute of Computer Engineering, Chair of Compiler Construction**, in the context of the DFG project **TraceSymm** (Trace analysis and Symmetry theory for improved application mapping onto manycores – CA 1602/4-1), offers as of **1st of January 2018** a position as

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

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Research area: **Programming Heterogeneous Manycore Systems**

Terms: The position is limited to 31 December 2020 (with the option to be extended).
The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG). The position offers the chance to obtain further academic qualification (e.g. PhD).

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 mathematics (e.g., graph theory, trace analysis and the study of symmetries), parallel programming models (e.g., extensions to OpenMP), and runtime systems. The PhD student will work closely with researchers working on domain-specific languages, optimizing compilers and multiple layers of the programming stack, in the context of the Excellence Cluster cfaed (www.cfaed.tu-dresden.de).
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 applied mathematics (e.g. graph algorithms), optimization techniques or compilers; 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.
What we offer
You will join a team of enthusiastic researchers who pursue creatively their individual research agenda. The Chair of Compiler Construction is part of the 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.-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 SecureMail Portal https://securemail.tu-dresden.de by sending it as a single pdf document quoting the reference number **PhD1710-CC1** in the subject header to **jeronimo.castrillon@tu-dresden.de** or alternatively by post to: **TU Dresden, Fakultät Informatik, Institut für Technische Informatik, Professur für Compilerbau, Herrn Prof. Jeronimo Castrillon, 01062 Dresden, Germany**. The closing date for applications is **23.11.2017** (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.