TU Dresden, as a University of Excellence, is one of the leading and most dynamic research institutions in the country. Founded in 1828, today it is a globally oriented, regionally anchored top university as it focuses on the grand challenges of the 21st century. It develops innovative solutions for the world's most pressing issues. In research and academic programs, the university unites the natural and engineering sciences with the humanities, social sciences and medicine. This wide range of disciplines is a special feature, facilitating interdisciplinarity and transfer of science to society. As a modern employer, it offers attractive working conditions to all employees in teaching, research, technology and administration. The goal is to promote and develop their individual abilities while empowering everyone to reach their full potential. TUD embodies a university culture that is characterized by cosmopolitanism, mutual appreciation, thriving innovation and active participation. For TUD diversity is an essential feature and a quality criterion of an excellent university. Accordingly, we welcome all applicants who would like to commit themselves, their achievements and productivity to the success of the whole institution.

At the **Faculty of Computer Science, Institute of Computer Engineering**, the **Chair of Compiler Construction** offers, subject to the availability of resources, a project position as

<div align="center">

Research Associate / PhD Student / Postdoc (m/f/x)

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

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starting **January 1, 2024**.

Project: "**MYRTUS: Multi-layer 360° dYnamic orchestrion and interopeRable design environmenT for compute-continUum Systems"** funded by the European Union's Horizon Europe (grant number to be assigned).

Research area:	**Programming models and methodologies for future cognitive cyber-physical systems**
Terms:	The position is limited to 31.12.2026 (with the option to be extended), subject to final funding approval. The period of employment is governed by § 2 (2) the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG).

Position and Requirements: We, at the Chair of Compiler Construction, have the long-term vision of shaping how future electronic systems are programmed. This includes defining novel programming methods and compiler infrastructures to deploy optimized software onto heterogeneous computing systems in both the embedded and high-performance computing domains. MYRTUS is a large-scale European project coordinated by Abinsula SRL (Italy) with partners from Austria, France, Germany, Italy, Spain, Switzerland, The Netherlands and The United Kingdom. MYRTUS seeks to provide the technology to make Cyber-Physical Systems (CPS) capable of collaborating with humans towards a common goal. This includes a *TransContinuum* infrastructure, where edge, fog and cloud computing seamlessly integrate, and are transparently **programmed** and **managed** with methods that leverage state-of-the art artificial intelligence. In this context, we are looking for a highly motivated researcher with interests and background on programming languages, domain-specific languages, optimizing high-level compilers, and design methodologies for heterogeneous systems.

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

- an outstanding university master's/ diploma degree (or equivalent) and – if applicable- a PhD degree in computer science, mathematics, electrical engineering or a relevant area;
- first research experience, preferably in compilers, parallel programming, edge-computing, 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 of LLVM IR and MLIR are beneficial.

Informal enquiries can be submitted to Prof. Dr.-Ing. Jeronimo Castrillon, Tel +49 (351) 463 42716; Email: jeronimo.castrillon@tu-dresden.de

TUD strives to employ more women in academia and research. We therefore expressly encourage women to apply. The University is a certified family-friendly university and offers a Dual Career Service. We welcome applications from candidates with disabilities. If multiple candidates prove to be equally qualified, those with disabilities or with equivalent status pursuant to the German Social Code IX (SGB IX) will receive priority for employment.

What we offer

You will join a team of enthusiastic researchers who pursue creatively their individual research agenda. The chair is also part of the "Center for Advancing Electronics Dresden" (cfaed) and the "Center for scalable data analytics and artificial intelligence Dresden/Leipzig" (SCADS.AI) which offers plenty of resources and structures for career development.

Application Procedure

Complete applications (in English only) including 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 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 **PhD2024-CCC** 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, Helmholtzstr. 10, 01069 Dresden, Germany**. The closing date for applications is **30.10.2023** (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

The cfaed is a cluster which 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. The 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