computer languages

Einladung

zum Informatik-Kolloquium des
AB Programmiersprachen und Übersetzer am
Donnerstag, den 17. Dezember 2015, um 10:30 Uhr s.t.
in der Bibliothek E185.1, Argentinierstr. 8, 4. Stock (Mitte)

Es spricht

Prof. Dr. Gerald Baumgartner

Louisiana State University, Baton Rouge, LA, USA

über

The Tensor Contraction Engine: A Domain-Specific Approach to Synthesizing High-Performance Codes for Quantum Chemistry

The accurate modeling of the electronic structure of atoms and molecules in quantum chemistry involves computationally intensive tensor contractions over large multidimensional arrays. We are developing a compiler, the Tensor Contraction Engine (TCE), that translates a high-level specification of such computations into efficient, parallel code tailored to the characteristics of the target architecture. This talk provides an overview of the TCE and its domain-specific language. We will discuss several optimization components, including an approach to generating GPU code.

Biographie: Gerald Baumgartner studied computer science at the Universität Linz and earned his Ph.D. at Purdue University. He then taught at Ohio State University and is now associate professor at Louisiana State University. He teaches primarily in the areas of programming languages and compilers. His research interests include compiler optimizations, the design and implementation of domain-specific and object-oriented languages, cloud computing, and testing tools for embedded systems. He is the architect of the TCE, and his extension to the C++ programming language has been publicly available as part of the GNU C++ compiler, Version 2.8. (`http://csc.lsu.edu/~gb/`)

Zu diesem Vortrag lädt der *Arbeitsbereich für Programmiersprachen und Übersetzer am Institut für Computersprachen* herzlich ein.
Tee: Nach dem Vortrag in der Bibliothek E185.1, Argentinierstr. 8, 4. Stock (Mitte).