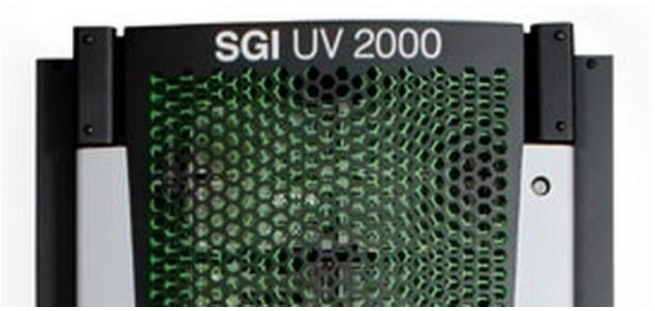
TECHNISCHE UNIVERSITÄT DRESDEN

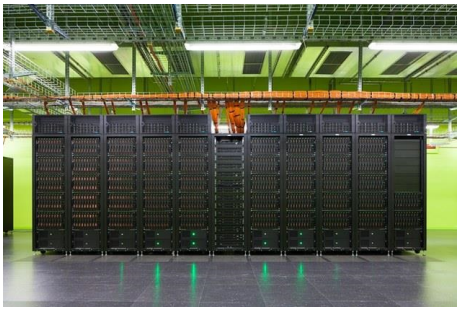
Institut für Statik & Dynamik der Tragwerke

Fakultät Bauingenieurwesen Institut für Statik und Dynamik der Tragwerke, Univ.-Prof. Dr.-Ing. habil. Michael Kaliske

Student Assistant (SHK/WHK) Job

The institute for Structural Analysis is looking for student assistants for improving large-scale Finite Element Methods (FEM) in high-performance computing (HPC) environments. Numerical algorithms like FEM relies on the construction and solution of huge systems of equations. Modern solvers for those systems benefit from multi-core architecture of computer clusters, e.g. Venus and Taurus at TU Dresden.





ZIH, TU Dresden, 2017

The main objective of this student job is to implement interfaces to advanced equation solvers into FEM and to find optimal setups on different shared and distributed memory architectures by performing benchmarks.

Tasks

- Literature study concerning efficient parallel equation solvers and their properties
- Developing a FORTRAN interface into FEM code for most promising solvers
- Performing various benchmark simulations on several HPC architectures
- Optimisation of the software setups

Your profile

- Student of engineering, informatics or mathematics
- Good knowledge in **programming**, **compiling** and LINUX
- Basic knowledge in English
- Open to learn new methods and computer tools

We offer

- Workingload up to 40 h/month
- Flexibility in working hours
- Insight into FEM tools and HPC environments

The student assistant will be extensively supervised by Dr.-Ing. Johannes Storm. For those who are interested in Finite Element Method and High Performance Computing, we can further offer Project Work or Diplom-/Masterthesis.

For application please send your CV to johannes.storm@tu-dresden.de