

Friedrich-Alexander-Universität Erlangen-Nürnberg

GPU Research Center

About the GPU Research Center at the Friedrich-Alexander-Universität Erlangen-Nürnberg

The Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) [did](#) always show a strong commitment to parallel computing. Our HPC related projects range from large scale supercomputing simulation codes down to highly integrated industry solutions with real time constraints. CUDA capable GPUs allow us to achieve higher performance levels within a lower power envelope. We aim at increasing the efficiency of our solutions, especially within the context of heterogeneous systems and in the light of upcoming architectures.

About the co-PIs

Andreas Schäfer [is](#) a staff member of the Department of Computer Science at the Friedrich-Alexander-Universität, Germany. He [did](#) participate in IBM's ExtremeBlue internship program and has received a Ph.D. scholarship of the state of Thuringia at the Friedrich-Schiller-Universität Jena. He is now pursuing his Ph.D. as a [postdoc](#) at the FAU where he focuses on scientific computing and HPC. He is the lead developer of [LibGeoDecomp](#), a CUDA and MPI enabled stencil code library.

Dietmar Fey [is](#) a professor at the Department of Computer Science at the Friedrich-Alexander-Universität. He holds the Chair of Computer Architecture whose research deals with parallel computing on various hardware architectures, ranging from cluster computers and GPUs down to FPGAs and nanotechnology.

Harald Köstler [finished](#) his Ph.D. in 2008 on multigrid methods in medical image processing. Currently, he is a postdoctoral researcher at the Chair for System Simulation at the University of Erlangen-Nuremberg (FAU). His research interests include software engineering concepts for simulation software, multigrid methods and programming techniques for parallel hardware, especially GPUs and heterogeneous GPU-CPU clusters.

Gerhard Wellein

[Gerhard Wellein](#) holds a PhD in solid state physics from the University of Bayreuth and is a professor for high performance computing at the Department for Computer Science at the University of Erlangen-Nuremberg. He leads the HPC group at Erlangen Regional Computing Center (RRZE) and has more than ten years of experience in teaching HPC techniques to students and scientists from computational science and engineering programs. His research interests include solving large sparse eigenvalue problems in quantum physics, hybrid parallel programming, novel parallelization approaches, performance modeling, and architecture-specific [code](#) optimization.

Thorsten Pöschel [is](#) full professor at the Friedrich-Alexander-University Erlangen-Nuremberg and head of the Institute for Multiscale Simulation. His

programming, novel parallelization approaches, performance modeling, and architecture-specific code optimization.

Thorsten Pöschel is full professor at the Friedrich-Alexander-University Erlangen-Nuremberg and head of the Institute for Multiscale Simulation. His main area of research is the theoretical and numerical investigation of granular matter and other many-particle systems. In particular, the focus of interest is on multiscale problems of the relation between microscale particle properties and macroscopic material characteristics.