



Umeå University is
recruiting ...

Postdoctoral positions in Parallel Computing for Future Extreme-Scale Systems (2 years)

at the Department of Computing Science

The Department of Computing Science invites excellent candidates to apply for postdoctoral positions. The successful candidate(s) will join NLAFFET, which is one of the high-profile extreme-scale computing projects funded within the recent FET-HPC call under Horizon 2020. NLAFFET is coordinated by Umeå University with international partners from INRIA (France), University of Manchester and STFC-RAL (UK).

The last date to apply is **2016-04-04**.

Project description

Future extreme-scale supercomputers will be heterogeneous and lead to new and challenging demands for efficient numerical algorithms and parallel software libraries. The aim of NLAFFET is to tackle these challenges and ultimately deliver new scalable numerical libraries for fundamental problems in numerical linear algebra, including the solution of dense and sparse systems of equations and eigenvalue problems. Achieving this requires a co-design effort including developing novel algorithms, exploration of advanced scheduling strategies and runtime systems, offline and online autotuning, as well as avoiding communication and synchronization bottlenecks.

The positions will focus on design, implementation, and evaluation of parallel algorithms for matrix eigenvalue problems with regards to the extreme-scale challenges. The research will be done in close collaboration with recognized researchers and PhD students in the research group as well as with other partners in NLAFFET.

The positions are for two years full-time employment. It might be possible to offer another type of employment for a third year, subject to available resources. The employment will start May 1, 2016, or as otherwise agreed.

Qualifications

The applicant must have a PhD degree in computer science, computational science or another subject relevant for NLAFFET. In particular, documented knowledge and proven experience with software development for parallel numerical computations and good insight into algorithms for matrix computations is required. Documented knowledge and proven experiences of scheduling and run-time systems as well as software autotuning are strong merits. The PhD degree shall not be more than three years old by the application deadline unless there are special reasons. Good research merits and excellent publications in the area of the position are strongly meriting. Excellent communication skills in written and spoken English are required.

Application

A complete application should include:

- A cover letter, including a brief (approximately 2 pages) description of your research interests in relation to the research area mentioned above and how your expertise would contribute. Also include your contact information
- Curriculum Vitae (CV), including a complete list of scientific publications
- Documentation of higher education studies, including courses and grades
- Copy of the PhD Thesis
- Copies of at most five relevant scientific publications, numbered according to the publication list
- Contact information to three reference persons
- Other information relevant for the position, such as documentation and description of experiences from parallel software development and work in or with industry

Please observe that all material needs to be in Swedish or English.

More information

For enquiries and more information, please contact Professor Bo Kågström (email: bokg@cs.umu.se) or Assistant Professor Lars Karlsson (email: larsk@cs.umu.se).

Welcome with your application!

Applications must be submitted electronically using the e-recruitment system MyNetwork Pro, and be received no later than April 4, 2016. Reference number: AN 2.2.1-244-16.

Local environment at Umeå University

The Department of Computing Science is a dynamic environment with around ninety employees representing more than ten countries worldwide. We conduct education and research on a broad range of topics in Computing Science. The focus of the research in the Parallel and Scientific Computing group coincides largely with the objectives of the NLAFFET project.

The High Performance Computing Center North (HPC2N) is a prominent part of the Swedish National Infrastructure for Computing (SNIC). HPC2N provides a wide spectrum of services ranging from internationally competitive Tier-1-type HPC resources and e-Infrastructure to education and user training programs. The procurement of a heterogeneous Peta-scale system is ongoing. The new HPC system will include multi-core CPUs nodes, accelerators and/or nodes using integrated many-core CPUs as well as a portion of fat nodes (at least 4TB memory per node), and becomes a highly relevant platform for NLAFFET.

We kindly but firmly disclaim all contacts from recruitment agents and personnel who sell job postings/ads.