

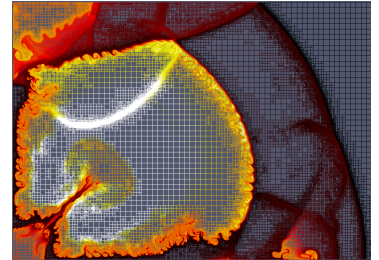
Research Scientist/Software Engineer/Postdoctoral and PhD Positions in Scientific Computing/ Parallel Adaptive Numerical Algorithms/ Software Development

Research Scientist/ Software Engineer/ Postdoctoral Researchers

The Skoltech Center for Design, Manufacturing and Materials (CDMM) Moscow, Russia has an open full time Research Scientist/Software Engineer/Postdoctoral position in the research group of Professor Oleg V. Vasilyev, in the area of

Scientific Computing/ Parallel Adaptive Numerical Algorithms/ Software Development

The initial appointment is for a period of 1 year with possibilities for further prolongation and promotion based on the results of performance evaluation.



Research Areas and research duties

We are seeking a Research Scientist/Software Engineer with PhD or equivalent degree in Computer Science, Computational Mathematics, Applied Mathematics, or the related field with expertise in software development and/or high performance scientific computing and excellent analytical skills. The successful candidate will work with the team of research scientists and PhD students and lead the development of the next generation **Adaptive Wavelet Environment for in Silico Universal Multiscale Modeling**, a unified, dynamically adaptive, wavelet multi-resolution (multi-scale), and multi-form simulation platform integrating variety of numerical algorithms and solvers with modeling and visualization framework. At the core of the problem solving environment is an adaptive multi-scale/multi-form modeling and simulation framework with tight integration of numerics and physics-based modeling that on-the-fly identifies the dynamically dominant structures, resolves and “tracks” them on a space-time adaptive mesh, while modeling the effect of the unresolved motions using the compatible multi-level model form.

Candidates are expected to have a strong background in computer science and/or applied mathematics. Solid knowledge of **C++** with **object-oriented** software design is also required. Previous experience working with a team on at least one large (>100,000 lines) software project is essential. Proficiency working with standard developer tools in a cross-platform environment; proficiency debugging and profiling applications, such as gdb or Valgrind; experience with unit testing frameworks, such as Google Test; good understanding of parallel algorithms and concurrent programming (C++11 threads, MPI, OpenMP); and knowledge of new features provided by the C++11 and C++14 standards are essential. The balance of work between algorithm and software development will depend on the candidate’s strengths and preferences. Good communication skills (evidenced by papers, conference presentations and/or classes taught) in English are also a must.

Selected applicants will receive a highly competitive compensation package (salary commensurate with experience, housing allowance in case relocation will be needed, medical insurance). The position is available immediately and the starting date is negotiable.

The application file should contain a CV, a list of publications and/or software development projects with detailed description of the candidate’s contributions to the project, a research or software development statement, and names with contact information of minimum three references. The research/software development statement should be no more than two pages and should summarize the candidate’s technical strengths, past research/software development accomplishments, research/software development interests, and long term career objectives. The application should be emailed to Prof. Oleg V. Vasilyev (O.Vasilyev@skoltech.ru). The candidate’s e-mail message should contain “research scientist/software engineer position” in the subject.

Graduate Students

Students interested in pursuing Ph.D. studies in the above topics are advised to first contact Prof. Oleg V. Vasilyev (O.Vasilyev@skoltech.ru). The standard procedure is to apply via Skoltech Admissions for Doctoral Programs (<http://www.skoltech.ru/en/apply>).

Successful candidates are expected to have masters or equivalent degree in Computer Science, Applied Mathematics, Physics, Mechanical Engineering, Aeronautics, or the related field. Applicants should have a strong mathematical or programming background and a desire to use mathematical and computational tools in their research. A good knowledge of C++ and/or Fortran is highly desirable.

<http://faculty.skoltech.ru/people/olegvasilyev>