



February-June 2013 Stage Offer

The von Karman Institute (VKI) is a non-profit international educational and scientific organisation active in the domain of Aerospace, Turbomachinery and Environmental and Applied Fluid Dynamics. Its labs are using equipments of all types, from dedicated experimental instruments to High Performance Computing Clusters.

The working environment is an international one, with students and researchers coming from different world countries. The institute is located in the outskirts of Brussels and easily reachable by bike or public transport.

Performance characterization and verification of the Mutation++ library

This project will consist of performance profiling and comparison to other libraries providing similar functionality as Mutation++, a scientific library for finite rate chemistry. When performance issues are encountered, the student will develop and implement optimization strategies to improve performance.

Working Environment

The VKI will provide the support needed for the understanding of the underlying theory and algorithmic approach via a couple of PhD students actively working on the library. As far as the technical part is concerned, other PhD students can offer support and guidance on correct coding guidelines and speeding techniques. The students will be followed actively and constantly. English spoken and written knowledge is a plus.

Prerequisites

C++ and UNIX knowledge is a must, as well as good C skills. Knowledge of debugging, profiling and developing tools like gdb, ddd, gprof, valgrind, kcachegrind, eclipse, Qtcreator is highly recommended.

Proficiency in revision systems like svn, git-hub or others is appreciated.