Open PhD Position in Multi-GPU Fluid Simulation Vienna, Austria

The Centre for Water Resource Systems at the Vienna University of Technology offers a PhD position in the field of real-time fluid simulation.

In the scope of the *Vienna Doctoral Programme on Water Resource Systems (CWRS)*, we will investigate and implement fast simulation techniques to support action planning in flood management. The resulting simulation engine should enable planners to test alternative response strategies in time-critical situations. Our approach is to solve the St. Venant equations on a system of multiple graphics cards using the CUDA programming language. The research will be incorporated as a module into the Visdom (http://visdom.at) software framework. Visdom combines simulation and visualization into one tool to support decision making without the need for special simulation expertise.

The PhD will be jointly supervised by Prof. Günter Blöschl, Institute of Hydraulic Engineering and Water Resources Management, TU Vienna, and Dr. Jürgen Waser, VRVis, Vienna. We provide a very stimulating and highly enjoyable working environment in a competitive, internationally oriented research institution.

We are looking for a highly motivated young scientist who is interested in computational fluid dynamics and flood simulation. Salaries are according to the rates of the Austrian Science foundation: www.fwf.ac.at/de/projects/personalkostensaetze.html.

Applicants must have a master in physics, mechanical engineering, mathematics or a similar field and should fulfill most of the following requirements:

- Good understanding of the mathematical theory behind fluid dynamics
- Practical knowledge of numerical schemes to solve partial differential equations
- Good skills in C++ and GPU programming (CUDA)
- Good knowledge of English in speaking and writing; German is appreciated, but not required
- Tenacity in problem solving and willingness to learn

Your application should include:

- Curriculum vitae
- Publication list, including talks, master thesis, projects that are available online, etc.
- Code samples of your previous work
- Short motivation letter why you apply for this position
- Letters of recommendation

If you are interested in the position, please apply via e-mail to Jürgen Waser (**jwaser@vrvis.at**). **Application deadline is May, 15ᵗʰ 2013**. Late applications will be considered until the position is filled.

Vienna, April, 2013