Open PhD Position in Flood 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 flood simulation.

In the scope of the *Vienna Doctoral Programme on Water Resource Systems* (http://www.waterresources.at/), we investigate and implement fast simulation techniques to support decision making in flood management. The resulting engine should support the fast simulation of different processes in large-scale scenarios, including river flooding, storm-water events, or underground flows. Our approach is to solve the underlying hydrodynamic equations on a system of multiple graphics cards using the CUDA programming language. The research will be incorporated as modules into the Visdom (http://visdom.at) software framework, co-developed by the VRVis center for virtual reality and visualization (http://vrvis.at/) and the TU. 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 enjoyable working environment in a competitive, internationally oriented research institution. We are looking for a motivated young scientist who is interested in computational fluid dynamics and flood simulation. Salaries are according to the rates of the Austrian Science foundation for doctorands, paid 14 times per year:
https://www.fwf.ac.at/de/forschungsfoerderung/personalkostensaetze/

Applicants must have a master in physics, computer graphics, 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 April, 15th 2016**. Late applications will be considered until the position is filled.

Vienna, February, 2016