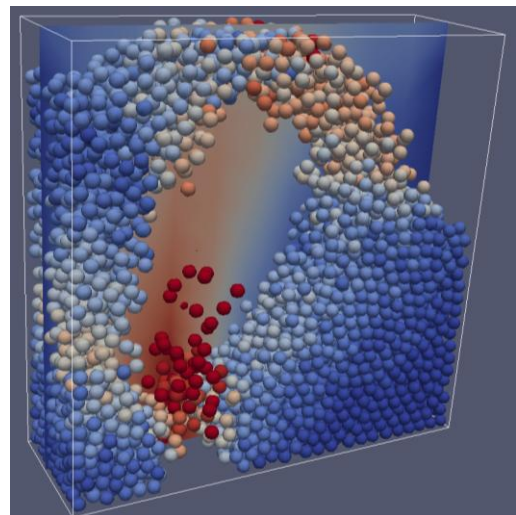**Open PhD Position**

Efficiency and Quality Control for Particle Simulations

The **Christian-Doppler Laboratory on Particulate Flow Modelling** at the Johannes Kepler University Linz, Austria together with the international **CFDEM Project** (www.cfdem.com) and the **Institute for Computational Molecular Science, Temple University** intends to strengthen their research team with a new PhD student co-worker on the aforementioned topic, comprising:

1. *Optimization of existing and development of new parallel algorithms for particle simulation*: This will comprise development with MPI and OpenMP, code profiling and optimization. It is planned that the person can become a core developer of the Open Source DEM code LIGGGHTS.
2. *Quality control for scientific particle simulation*. This will involve software test-harnessing using quality measures appropriate in the scientific context.

The PhD student will work at the CD Lab on Particulate Flow Modelling are embedded in a team of 15-20 researchers (6 Post-Docs) who represent the core of the Open Source based international CFDEM community. The student will be co-advised by the CD Lab and ICMS, including a stay at Temple University. Salary will account to about 2.500€/month 14 times a year. The typical duration of such a PhD thesis is 3 to 3.5 years.

We are looking for persons from the field of **computer science,** or persons from the field of **physics, mathematics or engineering science** with high affection to computer science. Candidates fluent in C++, parallel programming, experienced with game engines, molecular dynamics, discrete element methods or fluid visualization are preferred.

Interested candidates are required to **prepare a two page application**: While the first page should contain information on the applicant (name, photo, date of birth, email, career history, titles of selected projects and publications) the second page should contain an abstract of the applicant's Master thesis (or a selected project).

This short **application is due to October 31st 2012** and should be sent by email (pdf file) to efficiency@cfdem.com

Christoph Kloss, Christoph Goniva (JKU),
Axel Kohlmeyer (Temple University, currently ICTP Trieste) and
Stefan Pirker (JKU, Head of CD Lab)