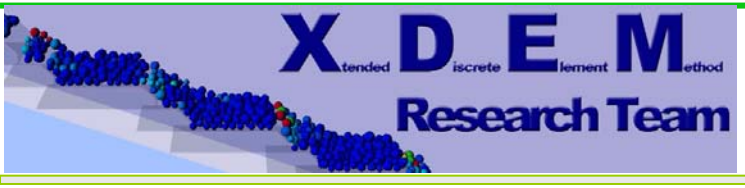


Research Team name: XDEM Research Team

Presenter: Prof. Dr.-Ing. Bernhard Peters
University of Luxembourg

Team Presentation – Annual Workshop, COST Action MP1106
Dublin, September, 2012

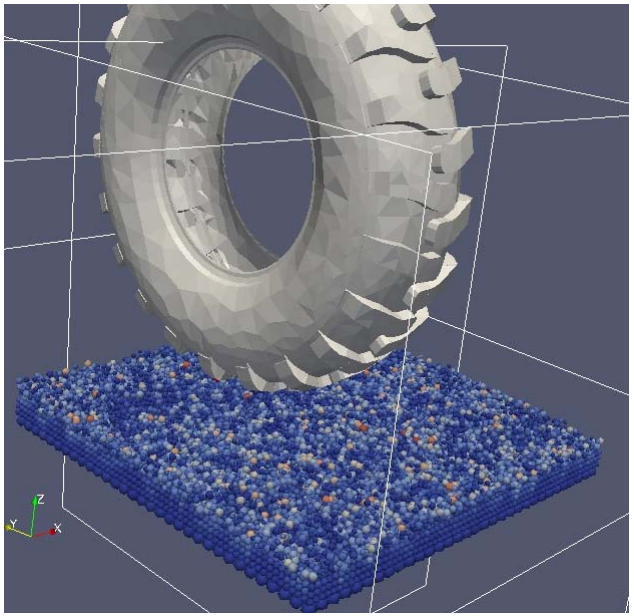
Team's general info

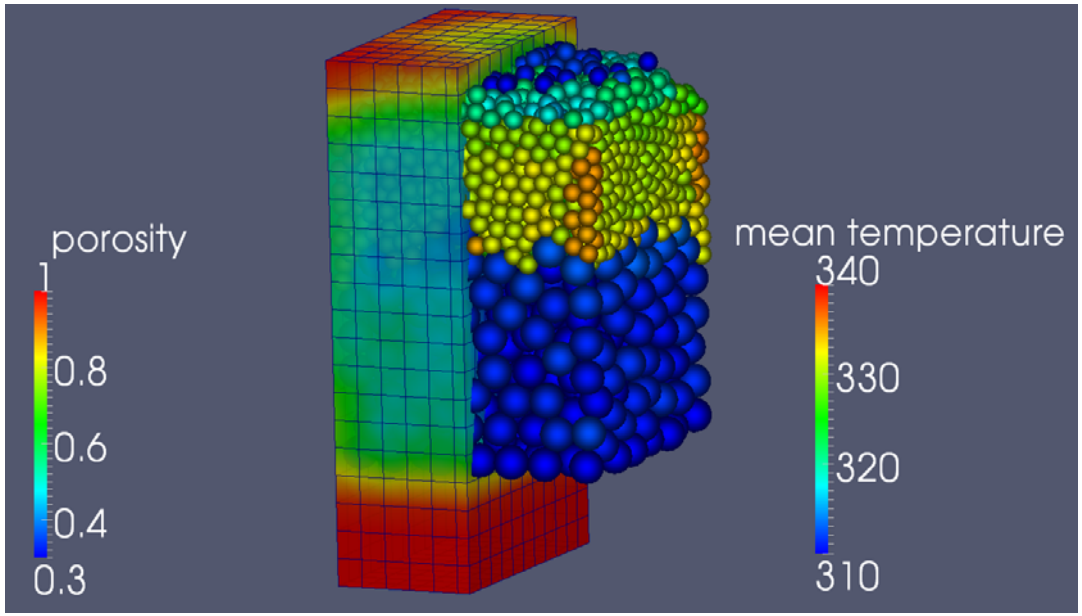
Research Team Name: XDEM Research Team
Number of team members: 13

Team leader: Bernhard Peters, Mechanical Engineer
- 1 post-doc (computer science, mechanical engineering)
- 8 Ph.D. students (mechanical, electrical, chemical engineering)
- 1 M.Sc. student (environmental engineering)
- 2 undergraduate students (mechanical engineering)

Relevance to MP1106

Extended Discrete Element Method (XDEM)





Research interests related to MP1106:

- •Gas-liquid interfaces
- •Liquid-solid interfaces
- •Gas-solid interfaces
- •Interphase heat and mass transfer
- •Multi-phase flow and transport

University of Aachen, Dresden, Stuttgart, University of Applied Science Lucerne, Irstea – Grenoble, Lithuanian Energy Institute, Delphi, Paul Wurth, Soil Concept, IEE, CERATIZIT, Goodyear, inuTech, ASCOMP

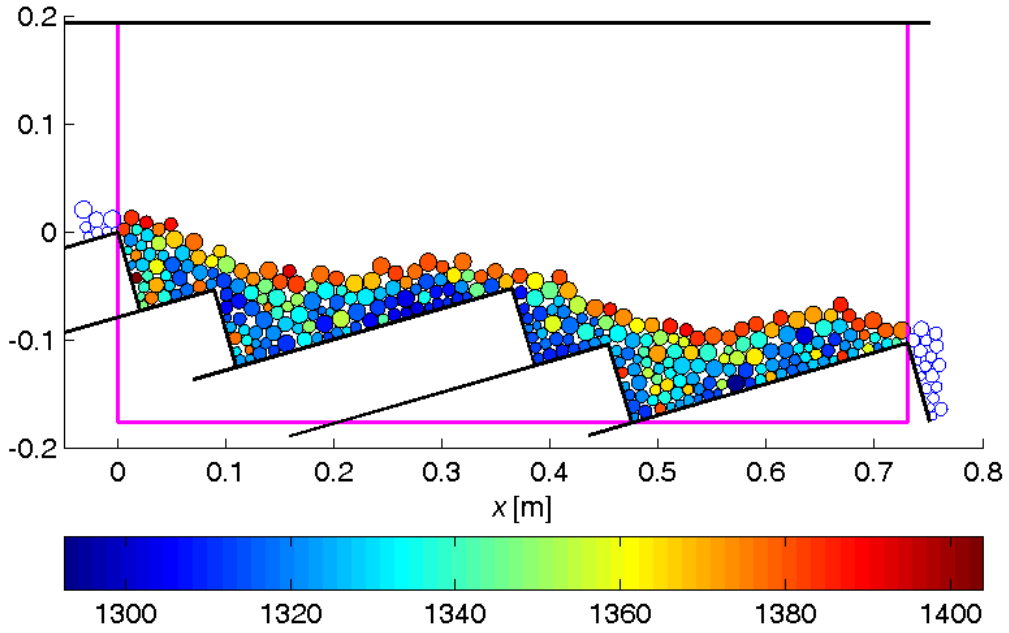
Lab description

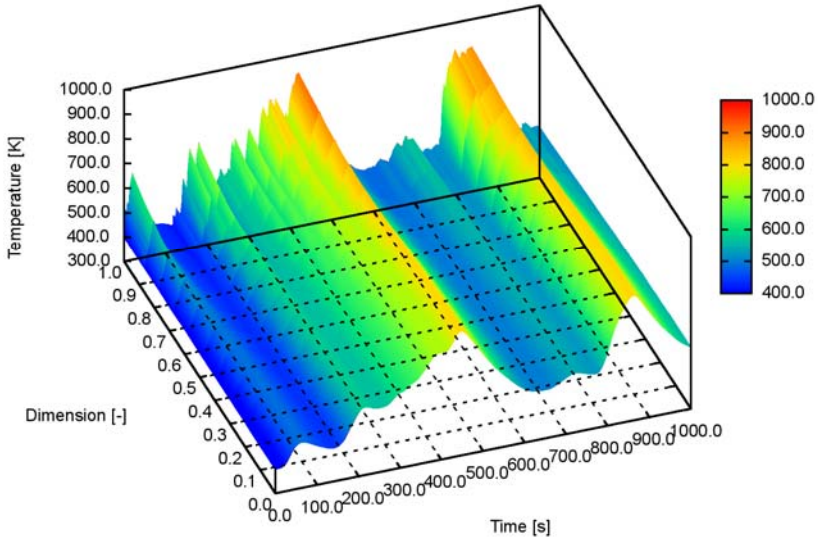
Basic facilities, equipment, devices etc:

- 2 computer clusters
- PCs, laptops etc.

Projects

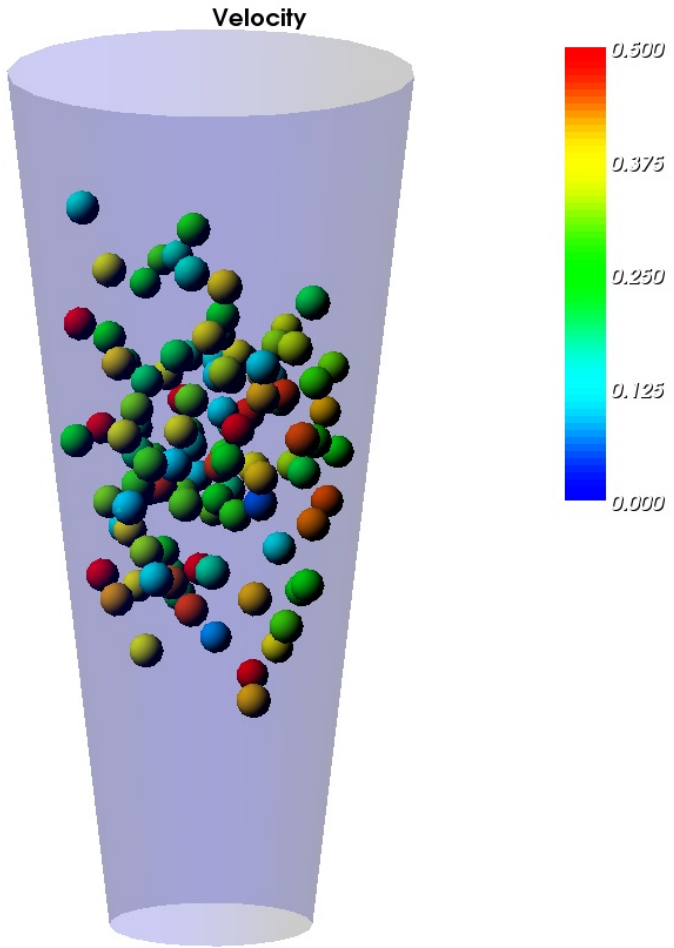
#1 Project
Title: **Thermal Conversion of Solids**
Duration: 4 years
Funding organization: Public/industrial funding
People involved and their function: *PhD student*
Most interesting results:





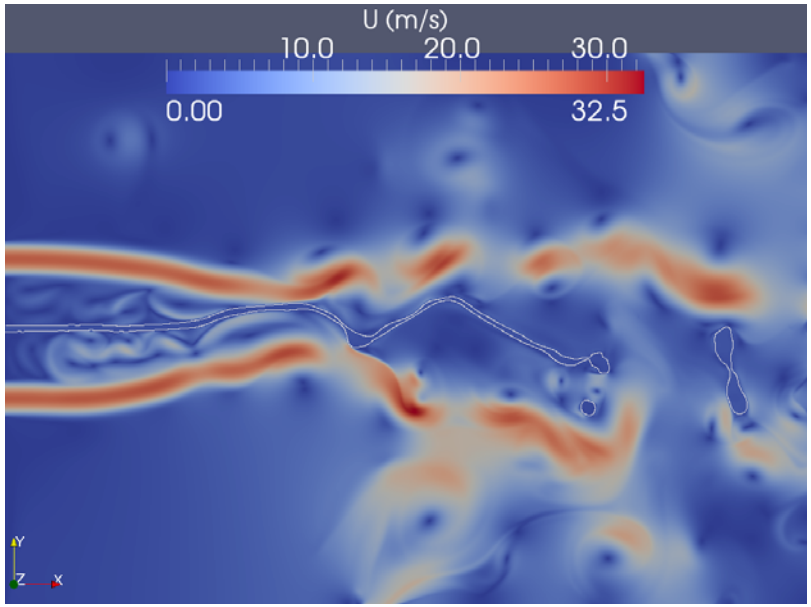
Projects

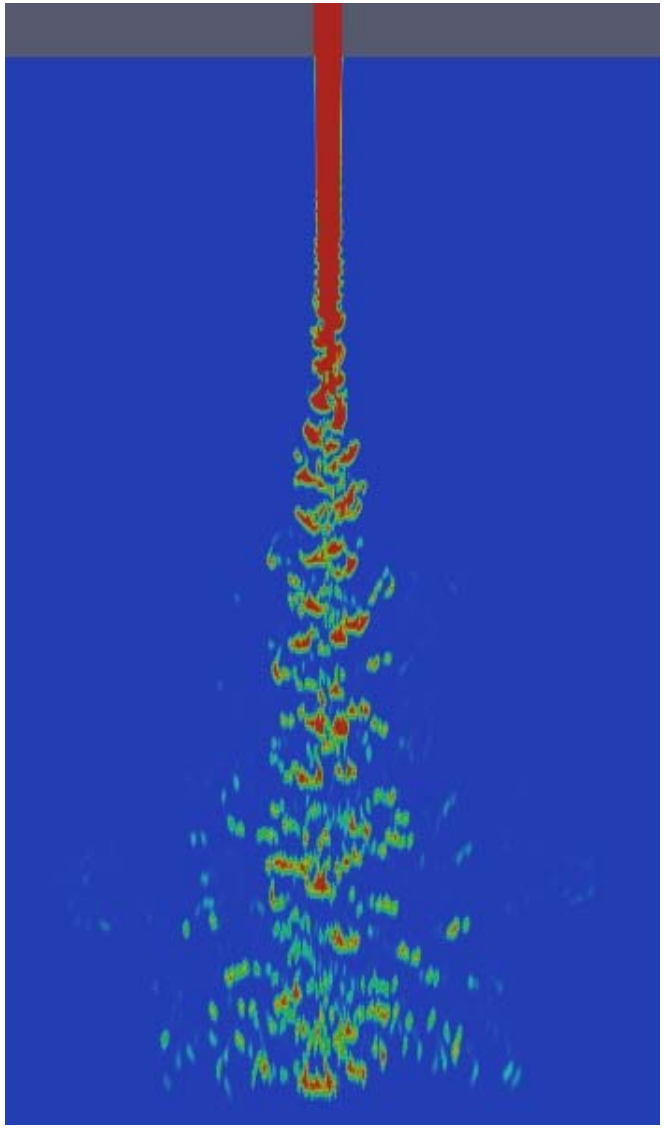
#2 Project
Title: **Fluidised Bed**
Duration: 4 years
Funding organization: Public/industrial funding
People involved and their function: *PhD student*
Most interesting results:



Projects

#3 Project
Title: **Instability of a Liquid Sheet and Jet**
Duration: 4 years
Funding organization: Public/industrial funding
People involved and their function: *PhD student*
Most interesting results:





Projects

#4 Project
Title: **Enhanced Design for High Performance Parallel Execution**
Duration: 2 years
Funding organization: Public/industrial funding
People involved and their function: *Post-doc*
Most interesting results:

Topics for Research Proposal

1. Offer for potential applications of the XDEM concept
2. Processes on a micro-scale e.g. sub-grid scales and up-scaling to meso-/macro-scales
3. Parallelisation for HPC

Thank you for your attention!