5. OpenFOAM-Stammtisch
05.11.2009 – University of Stuttgart

A. Warm-Up

· Welcome (Ivana Buntic-Ogor, University of Stuttgart, IHS)

B. Technical Session (talks & discussion)

· New Features and Applications (Prof. Hrvoje Jasak, Wikki Ltd.) - review of the work in progress, problems and future plans

· NUMAP-FOAM 2009 An Overview (Kathrin Kissling, Univesity of Stuttgart, IMVT and Julia Springer, Ulm University) - presentation of aim, general information and activities of OpenFOAM Summer School

· ENGRID: Open-source Mesh Generation (Dr. Oliver Gloth, enGits GmbH) - presentation of mesh generation tool Engrid with live demo

· Open Plenum – due to time limitation it was moved to final summary and discussion

C. BoF Session (interactive workshop and discussion)

· At the beginning Ms. Kissling presented the proposal of "imposing" some structure for BoF Multiphase Flow Group in form of an agenda:

1. Introduction of the new concept of the Special Interest Group Multiphase Flow
    1. Responsibilities:
        1. Free Surface Flow
        2. Two-Fluid-Method
        3. Particle based methods
    2. Wiki
2. Technical work:
    1. Testcases: what needs to be validated? Phenomenology versus Numerics? Who is interested? What validation basis is available right now? Which testcases are already on the harddisks
    2. To be added
3. Questions/Troubleshooting
4. Feedback

Groups:

· Multiphase Flow:

- work according to proposed agenda. Subgroups:
    * Free surface (interface capturing, interface tracking)
    * Particle based methods (particle-particle interaction, particle-wall interaction)
    * Two/multi fluid method (polydispersity, turbulence)
- OpenFOAM comparison cases
- further organisation of the group

· Engrid:

- discussed topics: application, geometry import, geometry fix with Blender, interface/script, output of STL, polyhedral mesh output

· Turbomachinery:

- mixing plane (might be available in December 2009)
- discussed: overlapping GGI, non orthogonality, problem with checkMesh in 1.5

- Beginners:
  - One tutorial problem was analized and executed
- Problem solvers:
  - LES tube simulation - comparison with measurements
  - implementation of transformation Cartesian coord. ↔ cylindrical coord.

D. Open Plenum and Final discussion

- Participants interested in using OpenFOAM at HLRS infrastructure received information abouts installation at NEC Nehalem Cluster, HLRS Grid Cluster (BW Grid) and NEC Cacau Cluster. Contact persons for further details: Mr. Martin Winter (HLRS) or Ms. Buntic-Ogor (IHS, University of Stuttgart).
- Participants are informed that “Stammtisch Mailing-List” is available at https://lists.sourceforge.net/lists/listinfo/openfoam-extend-stammtisch
- Participants list will be sent per email
- Stammtisch presentations and protocol will be available online
- Next meeting: Perhaps February 2010. Possible organizers Hochschule Mannheim (Herr Göbel)

Reporter: Jakob Simader and Ivana Buntic-Ogor