

JSC HPC Tunathon

(CPU+GPU Optimisation and Scaling Workshop)

Jülich Supercomputing Centre

Agenda

Monday

- 09:00 – 09:30 Welcome and Introduction to Workshop
- 09:30 – 10:00 Structured parallel performance engineering
- 10:00 – 12:00 *Introductory presentations of Scaler code-teams [10mins each]*
- 12:00 – 13:00 Lunch
- 13:00 – 15:00 ***Characterisation of multi-node CPU/GPU parallel execution*** with Performance Reports (APR) and Application Performance Snapshot (APS) ***and correctness validation*** with MUST/Archer, Inspector & CUDA MemCheck
- 15:00 – 17:00 Hands-on with own code, submission of overnight jobs

Tuesday

- 09:00 – 11:00 Review of overnight jobs & new large jobs; hands-on with own code
- 11:00 – 12:00 *Status presentations of Scaler code-teams [5mins each]*
- 12:00 – 13:00 Lunch
- 13:00 – 15:00 ***Single-core, multi-threading and node-level (including accelerator) execution performance analysis*** with MAQAO, Amplifier/Advisor & Nsight Compute ***and optimisation techniques for multicore CPUs and GPUs***
- 15:00 – 17:00 Hands-on with own code, submission of overnight jobs

Wednesday

- 09:00 – 11:00 Review of overnight jobs & new large jobs; hands-on with own code
- 11:00 – 12:00 *Status presentations of Scaler code-teams [5mins each]*
- 12:00 – 13:00 Lunch
- 13:00 – 15:00 ***Multi-node (including accelerator) execution performance analysis*** with Scalasca/Score-P & Vampir and Nsight Systems (& Paraver/Extrac?)
- 15:00 – 17:00 Hands-on with own code, submission of overnight jobs

Thursday

- 09:00 – 11:00 Review of overnight jobs & new large jobs; hands-on with own code
- 11:00 – 12:00 *Status presentations of Scaler code-teams [5mins each]*
- 12:00 – 13:00 Lunch
- 13:00 – 15:00 Code/job optimisation & scaling
- 15:00 – 17:00 Hands-on with own code, submission of overnight jobs

Friday

- 09:00 – 12:00 Review of overnight jobs & new large jobs; hands-on with own code; preparation of Scaler code-team final presentations
- 11:45 – 13:00 Lunch
- 13:00 – 15:00 *Final presentations of Scaler code-teams [10mins each]*
- 15:00 – 17:00 Wrap-up