

Generic Autotuning Technology for GPU Applications

Workshop program, version March 4, 2022.

Day 1

- 09:30 – 10:00 Zoom room open
- 10:00 – 10:15 Welcome by Lorentz Center
- 10:15 – 11:30 Welcome by the organizers & round of introductions
- 11:30 – 12:00 Coffee break
- 12:00 – 12:30 Presentation: Ben van Werkhoven - Kernel Tuner
- 12:30 – 14:00 Lunch break
- 14:00 – 14:30 Presentation: Jiri Filipovic - Kernel Tuning Toolkit (KTT)
- 14:30 – 15:00 Presentation: Ari Rasch - Auto-Tuning Framework (ATF)
- 15:00 – 15:30 Invited Talk: Luigi Nardi - Practical Design Space Exploration and Its Applications
- 15:30 – 16:00 Coffee break
- 16:00 – 17:30 Plenary discussion to identify open problems & to refine workshop topics
- 17:30 Drinks (on-site only)

Day 2

- 09:00 – 09:30 Invited talk: Mary Hall - Tuning Code: Past, Present and Future
- 09:30 – 10:00 Invited talk: Anne Elster - ML and Benchmarks for Autotuning: Experiences and Challenges
- 10:00 – 10:30 Invited talk: Cosmin Oancea - Dataset Sensitive Autotuning of Multi-versioned Code Based on Monotonic Properties
- 10:30 – 11:00 Coffee break
- 11:00 – 12:30 Summary, sharpening, and selection of open problems, forming of group
- 12:30 – 14:00 Lunch break
- 14:00 – 15:30 Parallel work in groups
- 15:30 – 16:00 Coffee break
- 16:00 – 16:30 Short plenary presentations of work plans of each group
- 16:30 – 17:30 Parallel work in groups

Day 3

- 09:00 – 09:30 Invited talk: Richard Vuduc - Feedback-directed control for autotuning
- 09:30 – 10:30 Parallel work in groups
- 10:30 – 11:00 Coffee break
- 11:00 – 12:30 Parallel work in groups
- 12:30 – 14:00 Lunch break
- 14:00 – 15:30 Parallel work in groups
- 15:30 – 16:00 Coffee break
- 16:00 – 16:45 Plenary discussion and short progress update by work groups
- 17:30 – 18:30 Workshop social event: boat trip
- 18:30 Workshop dinner

Day 4

- 09:00 – 09:30 Invited talk: Chiel van Heerwaarden - (Auto)-tuning of the RTE+RRTMGP radiation model to speed up weather and climate models
- 09:30 – 10:30 Parallel work in groups
- 10:30 – 11:00 Coffee break
- 11:00 – 12:30 Parallel work in groups
- 12:30 – 14:00 Lunch break
- 14:00 – 15:30 Parallel work in groups, making workshop follow-up plans
- 15:30 – 16:00 Coffee break
- 16:00 – 17:30 Parallel work groups finalize their results and follow-up plans

Day 5

- 09:00 – 10:30 Detailed reports on the results by the work groups
- 10:30 – 11:00 Coffee break
- 11:00 – 12:30 Workshop wrap-up, presentation of follow-up plans
- 12:30 – 14:00 Lunch break (optional)