Introduction to FDD3260 High-Performance Computing for Computational Scientists

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KTH FDD3260: High-Performance Computing for Computational Scientists

- Ph.D. Course Associated with PDC Summer School
- ONLY for current Ph.D. Students
  - If you are an MS student, you can't obtain credits for this course – you only get the certificate of attendance
- 5 Credits / Points
  - Corresponding to 4 weeks of works
- Only Pass or Fail – no grade
- To pass the course, you need to complete a group project course
  - Submission of a project report (max 10 pages) by email
- If you are a KTH Ph.D. student, your credits will be reported to LADOK after completion.
- If you are not a KTH Ph.D. student, I will prepare a certificate of completion for the Ph.D. course.
  - You are responsible for submitting it to your education administration

FDD3260 Course Project Topic

- The project topic is up to you, but it must be performance analysis, **performance optimization wi**th OpenMP or MPI, or **GPU porting** of an HPC code of your choice.
  - Fortran, C/C++, Python, Julia, … are OK
  - Try to focus on parallelization analysis and optimization
- Ideally, you want to do something relevant to your research.
  - For example, I am using performance analysis and profilers of the X code for my research.
  - I parallelize with OpenMP or other threading framework the X code
  - I port the X code to use the code

Important Information

- Group of 1-4 people
- Typically: 2-3 weeks of implementation + 1 week to prepare the report
- Submission of a project report with a link to the project GitHub repository, if any.
- Report (maximum ten pages)
- It includes an introduction, background, methodology, result, related work, and conclusion sections.
- Submission to markidis@kth.se and mansande@kth.se
- Deadline: October 16, 2024
  - After this date, we will not grade the reports

Questions?