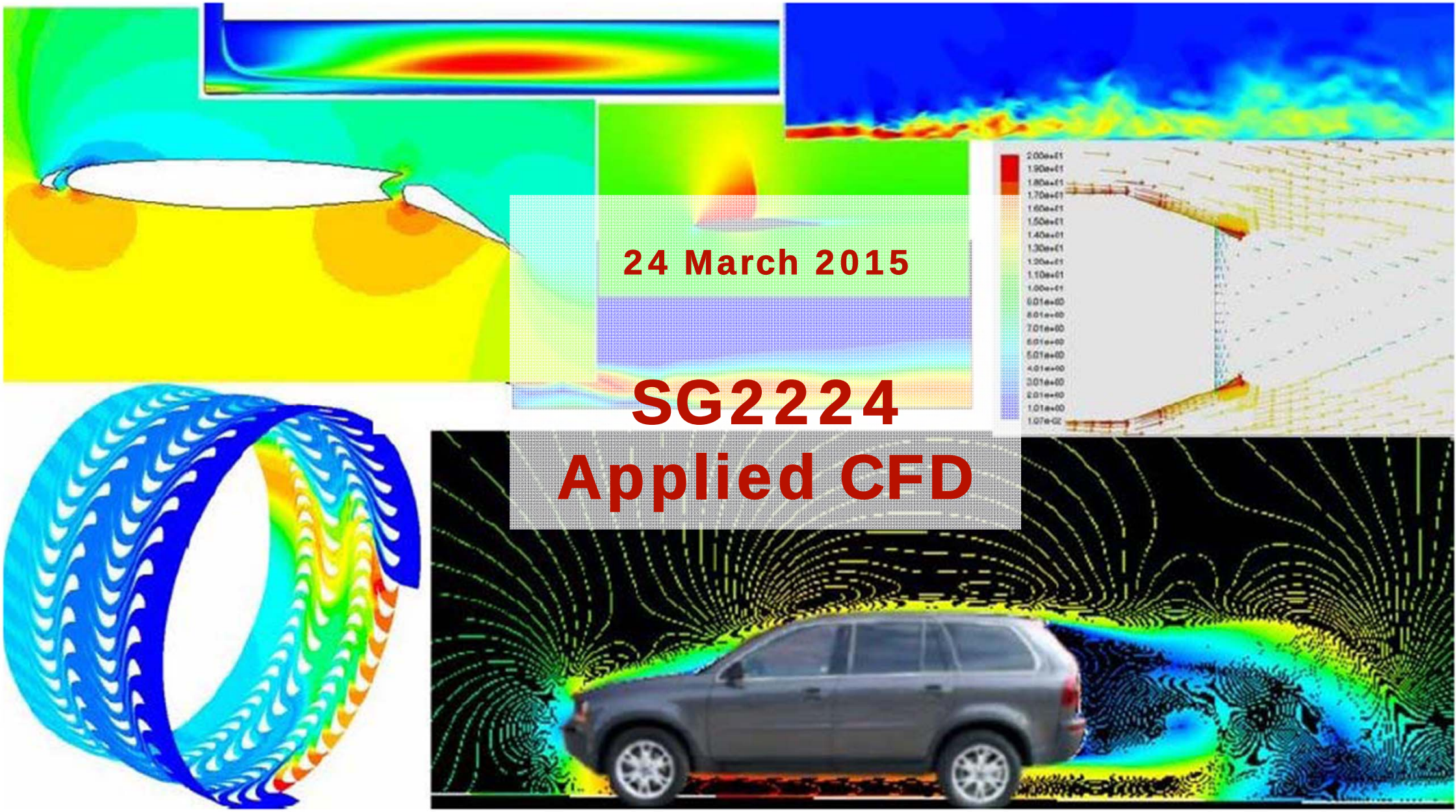


24 March 2015

SG2224
Applied CFD

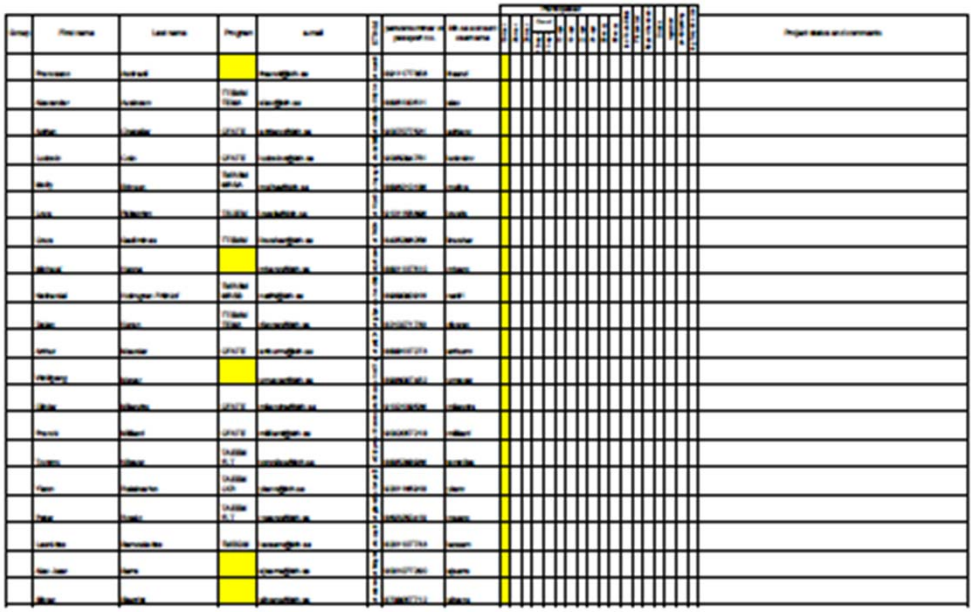
Course content

- Project
- Lectures
  - Modelling and simplifications
  - Turbulence
  - Grid
  - Quality and trust
  - Physical modelling
- Individual task
- Fluent tutorial
  - One day (20 or 21 April) in half class, experts from Fluent
- Information from other CFD vendors (tbd)
- Examination
  - Based on the project – no individual measure

List of students

- Check your data – add and correct
- Checkmark “participated 24-mar”

- If you are not on the list
  - Fill in your data
  - Contact me at the break



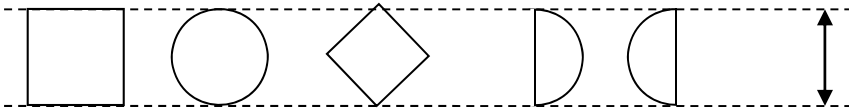
ANSYS/Fluent tutorial 20/21 April

- 2 experts from ANSYS/Fluent Sweden give tutorial on:
  - Geometry builder
  - Mesher
  - Fluent

- Tutorial not mandatory but highly recommended
- Good opportunity to get Fluent tutorial “for free”

- Registration to the tutorial
  - Registration mandatory !!!
  - Through ANSYS webpage, link at KTH social (not open yet)
  - More information will come

Individual task



- Objective
  - Drag coefficient for a 2D object
- Aim with the individual task
  - Understand the process (geometry-grid-solution)
  - Understand the tools
  - Detailed step-by-step instruction available on web
  - Basis for the project work
- Time plan
  - Before 20/21 April: Try to do the task based on the detailed instruction
  - Before 26 April: Complete the task – upload results, feedback 28 April

Projects

- Groups and choice of project
  - Until 30 March: Form groups of 3 students
  - 30 March: Introduction of projects – group chose 3 projects
  - 16 April: I have distributed the projects on the groups
- Time plan
  - 16 April: Group formed and project assigned
  - 20 or 21 April: Fluent tutorial
  - After tutorial, project work can start
  - 22 May: Project workshop: Presentation and report uploaded
- Aim with the project
  - Problem definition, modelling level and approximations
  - CFD analysis: Meshing, computation, analyze
  - Quality: Refined analysis, parameter study, etc.

PDC account

- Running on Ferlin
  - 512 nodes, 4096 cores and 8.2 TB of main memory
  - Can be used for Fluent runs in this course
  - 16 April: PDC information how-to

- Account
  - KTH – Social - Registration, PDC account
  - As soon as possible (not yet open…)
  - Let me know (email) if problems with account

Info

- Access to computer labs (Bure, Drottning Kristinas väg 30, 3tr)
  - Access card (all students), problems: contact ”card reception”.
  - All KTH/IT computer rooms can be used, e.g. Fylke, Teknikringen 14
- Bilda (bilda.kth.se)
  - Project communication
  - Upload individual task and project
  - Make sure you have access – login
- Literature
  - Lecture notes
- Course info:
  - KTH Social (under construction)
- ANSYS/Fluent software
  - In all KTH/IT student computers (e.g. Bure, Fylke, …)
  - Available for installation (laptop) and use at KTH through progdist
  - Version 15.0 will be used