High performance parallel systems

Lecture 1 - Introduction
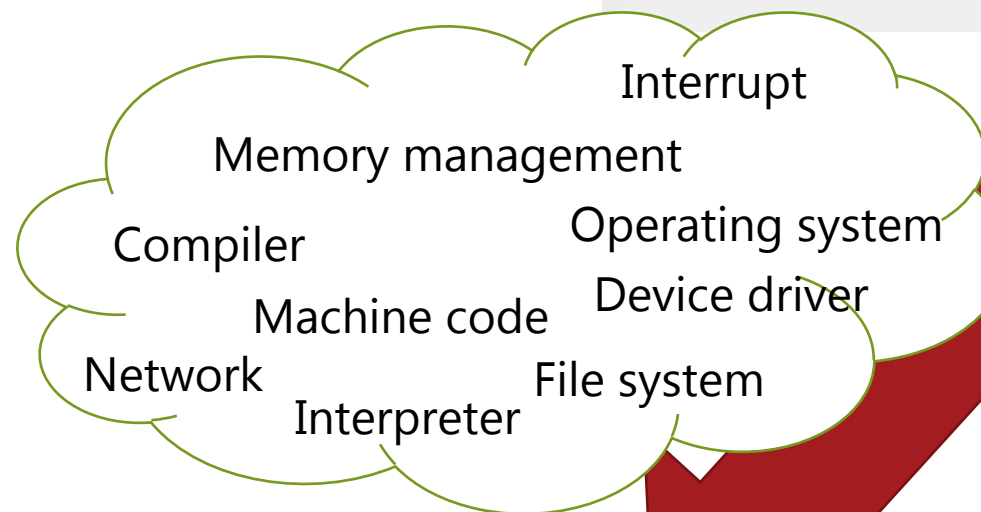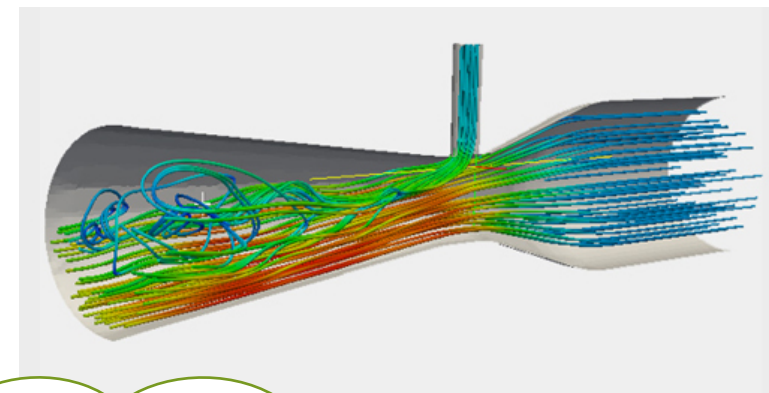
Kenneth Skovhede & Troels Henriksen

Brief course introduction

Image from: https://www.simscale.com/product/cfd/

Interrupt

Memory management

Compiler

Operating system

Device driver

Machine code

Network

File system

Interpreter

People teaching the course

Lecturers
- Kenneth Skovhede, NBI
- Troels Henriksen, DIKU

Teaching Assistants
- Georgios Garidis
- Laurent Lindpointner
- Albert Alonso de la Fuente
- (Tor Skovsgaard)

Flipped classroom

We use pre-recorded videos instead of lectures

- We use the allocated timeslots for lab sessions
- The labs will be used to try practical things with assistance
- We will discuss solutions and problems

Teaching materials

Course outline
- Overview of all activities

Course website
- https://github.com/diku-dk/hpps-e2020-pub

In stock from Nov. 19th

Books
- Computer Systems – A Programmers Perspective (3rd intl. edition)
- Modern C (2nd edition, 2. rev)

Free PDF

Other materials (look at website)
- Lecture notes
- Exercises
- General stuff

Absalon
- Used for assignment uploads

Communication

Absalon discussion forum

Discord

https://github.com/diku-dk/hpps-e2020-pub#discord

Types of activities

Reading

- You can choose to read before or after watching the videos
- Provides in-depth information about the topic

Videos

- Should be watched before attending the labs
- Provides high-level explanations and elaboration of focus topics

Labs

- Practical hand-on experience with the material from reading and video
- Feel free to use this to ask questions!
- Helps with assignments and exam

Exercises

- Theoretical exercises (da: regneopgaver)
- Experience with exam-like questions

When, what, where?

Labs
- Tuesday – online only
- Thursday – Lille UP1 + online

Zoom link: https://ucph-ku.zoom.us/j/63242906073

Exercises
- Thursday
  - Group 1 – DatØK: **1-0-14**
  - Group 2 – DatØK: **1-0-34**
  - Group 3 – ML: **A111**
  - Group 4 – ML: **1-0-30**

Study group
- Fridays

For today only: second hour is a lab-session!

Assignments

- **4 assignments**
  - appx 1.5 week pr. Assignment
  - Hand-in via Absalon

- **Graded 0-4 points**
  - No re-submissions

- **Need 8 points to qualify for exam**

Exam

Exam is a 4-hour written exam

- All aids allowed (no internet...)
- Focus on theoretical questions
- Tests skills from assignments and exercises

Lab session for today

For the following lab sessions, look at the website

https://github.com/diku-dk/hpps-e2020-pub

Today, we will focus on getting things set up, testing the compiler etc.