

# GPUs, OpenCL and Scientific Computing

**Robert Strzodka (MPII),  
Dominik Göddeke (TUDo), Dominik Behr (AMD)**

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# This is about ...

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- **The CPU = Central Processing Unit**
- **The GPU = Graphics Processing Unit**
- **GPGPU = General Purpose computations on GPUs**
- **OpenCL = Open Computing Language**
- **Use of GPUs for Scientific Computing**

# Schedule

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- **Session A: GPU basics, 10:30 – 12:00**
  - Why GPUs?
  - Programming environments and ready-to-use GPU libraries
  - GPU architecture
- **Session B: General OpenCL introduction, 12:15 – 13:00**
  - OpenCL history, concepts and goals
  - Hands-on examples
- **Lunch, 13:00 – 14:00**

# Schedule

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- **Session C: OpenCL in detail, 14:00 – 15:30**
  - OpenCL API
  - OpenCL language
  - Hands-on examples
- **Session D: Scientific computing, 16:00 – 17:30**
  - Aspects of scientific computing on GPUs
  - Computing on GPU clusters
- **Session E: OpenCL and GPUs, 18:00 – 19:00**
  - OpenCL optimization for AMD GPUs
  - Final Q&A