

























## 3-Day-Course — Paderborn — 1st day

### Message Passing Interface (part 1)

- 8:30 **Registration**
- 9:00 **Introduction** [1] (talk)
- 9:15 **Parallel Architectures and Programming Models** [2] (talk) 
- 10:15 **Coffee**
- 10:30 **MPI – Introduction to the Message Passing Interface** [3] (talk)
- 10:40 **Chap. 1 MPI Overview** (talk)     
- 11:15 **Chap. 2 MPI Process model** (talk+practical)
- 12:30 **Lunch**
- 13:30 **Chap. 3 Messages and Point-to-Point Communication** (talk+practical)
- 15:00 **Coffee**
- 15:15 **Chap. 4 Non-Blocking Communication** (talk+practical)
- 16:30 **Coffee**
- 16:45 **Chap. 6-(1) Collective Communication** (talk+practical)
- 17:30 **Chap. 7 Error handling** (talk)
- 17:40 **Chap. 15 Probe, Cancel, Persistent Requests** (talk)
- 18:00 **Chap. 5 The new Fortran module mpi\_f08** (talk – only for Fortran participants)
- 18:30 **End**  
Introduction  
[1] Slide 9 (3days)

## 3-Day-Course — Paderborn — 2nd day

### Message Passing Interface (part 2) and OpenMP

- 8:30 **Chap. 8-(1) Groups & Communicators, Environment Management** (talk+pr.)     
- 9:15 **Chap. 9-(1) Virtual Topologies** [3, continued] (talk+practical)
- 10:15 **Coffee**
- 10:30 **Chap. 12-(1) Derived Datatypes** (talk / no practical)
- 11:15 **Short break**
- 11:20 **OpenMP – Overview and execution model** [7] (talk+practical 15min) 
- 12:15 **Lunch**
- 13:15 **OpenMP – Work sharing directives** (talk+practical 25 min) 
- 14:30 **Coffee**
- 14:45 **OpenMP – Data environment** (talk+practical 10min) 
- 15:30 **Short break**
- 15:40 **OpenMP – Summary and Pitfalls** (talk) 
- 17:00 **Coffee**
- 17:15 **OpenMP – Heat example** (talk+homework) 
- 17:30 **OpenMP- 4.0 and 4.5 Extensions** [7A] (talk)     
- 18:00 **Verifying an OpenMP Parallelization with the Intel Inspector XE** [--] (talk+pr.)   
- 18:30 **End**




[1] Slide 10 (3d)

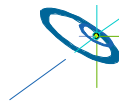
Rolf Rabenseifner

## 3-Day-Course — Paderborn — 3rd day

### Message Passing Interface (part 3)

  1-4  5-9  10-14  15-18

- 8:30 **Access to the federal high-performance computing-centers** [9] (talk) 
- 9:00 **Parallelization of Explicit and Implicit Solvers** [38a] (talk) 
- 10:45 **Coffee**
- 11:00 **Chap. 10 One-sided Communication** [3, continued] (talk+practical)
- 12:15 **Chap. 11-(1) Shared memory one-sided communication** (talk / no practical)
- 12:30 **Lunch**
- 13:30 **Parallel programming models on hybrid systems / MPI + OpenMP** [23] (talk)
- 15:00 **Summary of the MPI & OpenMP course / Q&A** (talk) 
- 15:30 **Coffee**
- 15:45 **Algorithmic differentiation with parallelism using OpenMP and MPI** (talk, PD Dr. Kshitij Kulshreshtha, Paderborn University, Institute for Mathematics)
- 17:00 **End**



Introduction  
[1] Slide 11 (3d)

Rolf Rabenseifner

see also login-slides 