









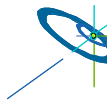


## 3-Day-Course — 1st day

### Message Passing Interface (MPI-1, part 1)















- 8:30 Registration
- 9:00 Introduction [1] (talk) 
- 9:10 Parallel Architectures and Programming Models [2] (talk) 
- 10:10 Coffee
- 10:25 MPI – Introduction to the Message Passing Interface [3+3a] (talk) 
- 10:25 Chap. 1 MPI Overview (talk) 
- 10:45 Chap. 2 MPI Process model (talk+practical) 
- 12:00 Lunch
- 13:00 Chap. 3 Messages and Point-to-Point Communication (talk+practical) 
- 14:15 Coffee
- 14:30 Chap. 4 Non-Blocking Communication (talk+practical) 
- 15:45 Coffee
- 16:00 Chap. 5 Derived Datatypes (talk+practical) 
- 17:00 Parallel debugging [5] (talk)  
- 17:50 End

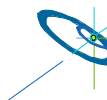


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## 3-Day-Course — 2nd day

### Message Passing Interface (MPI-1, part 2) and OpenMP

- 8:30 Access to the federal high-performance computing-centers [9] (talk)   
- 9:00 Chap. 6 Virtual Topologies [3, continued] (talk+practical) 
- 10:10 Coffee
- 10:25 Chap. 7 Collective Communication (talk+practical) 
- 11:00 Coffee
- 11:15 Chap. 8 Other MPI features (talk) 
- 11:40 Heat conduction program, a parallelization example with MPI [6] (talk)   
- 12:00 Lunch
- 13:00 OpenMP – Overview and execution model [7+7a] (talk+practical) 
- 14:00 Coffee
- 14:15 OpenMP – Work sharing directives (talk+practical) 
- 15:15 OpenMP – Data environment (talk+practical) 
- 16:00 Coffee
- 16:15 OpenMP – Summary and Pitfalls (talk) 
- 17:15 Verifying an OpenMP parallelization with the Intel Thread Checker [8a] (talk) 
- 18:15 End




















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## 3-Day-Course — 3rd day

### MPI-2, PETSc and Performance Analysis

- 8:30 **MPI-2 overview** [10] (talk) 
- 8:50 **MPI-2 one-sided communication** [12] (talk) 
- 9:20 **Parallel file I/O (basics)** [11] (talk+practical) 
- 10:15 **Coffee**
- 10:30 **Parallel file I/O (fileviews)** (talk+practical) 
- 11:30 **Parallel file I/O (access methods)** (talk) 
- 12:00 **Lunch**
- 13:00 **Parallel programming models on hybrid systems / MPI+OpenMP** [23] (talk)
- 14:00 **Coffee**      
- 14:15 **PETSc Tutorial** [41] (talk)   
- 15:00 **Laplace-Example with PETSc** [42a+C] (talk+practical)  
- 15:45 **Parallel performance analysis and profiling** [16] (talk+practical) 
- 16:30 **End**



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1st  
day