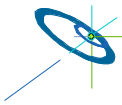
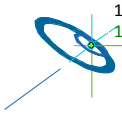
4-Day-Course — Mainz — 1st day

08:30			Registration
09:00	[1]		**Introduction**
09:15	[2]		**Parallel Architectures and Programming Models**
10:15			Coffee break
10:30	[3]		**Message Passing Interface (MPI), Introduction**
10:40	[3]	1	Overview
11:15			Coffee break
11:30	[3]	2	Process Model
12:10	[3]	2	Process Model (practical)
12:45			Lunch
13:45	[3]	2	Process Model (practical)
14:00	[3]	3	Messages and Point-to-point Communication
14:40	[3]	3	Messages and Point-to-point Communication (practical)
15:30			Coffee break
15:45	[3]	4	Nonblocking Communication
16:30	[3]	4	Nonblocking Communication (practical)
17:00			Coffee break
17:15	[16]		**Parallel Performance Analysis and profiling**
18:00			End



4-Day-Course — Mainz — 2nd day

08:30	[7]		**Shared Memory Parallelization with OpenMP**
08:30	[7]		Overview
09:00	[7]		Execution model
09:30	[7]		Execution model (practical)
09:50			Coffee break
10:05	[7]		Worksharing directives
10:55	[7]		Worksharing directives (practical)
11:20			Coffee break
11:35	[7]		Data environment
11:55	[7]		Data environment (practical)
12:05	[7]		Summary
12:25			Lunch
13:25	[7]		Pitfalls
14:35			Coffee break
14:50	[8a]		**Verifying an OpenMP Parallelization with the Intel Inspector XE**
15:25	[8a]		Verifying an OpenMP Parallelization with the Intel Inspector XE (practical)
15:50	[7]		Heat example
16:10	[7]		Heat example (homework)
16:10			Coffee break
16:25	[7a]		**OpenMP-4.0 and 4.5 Extensions**
17:10	[3]		**Message Passing Interface (MPI), continued**
17:10	[3]	7	Error Handling
17:25			Coffee break
17:30	[3]	5	The New Fortran Module mpi_f08
18:00			End



3-Day-Course — Mainz — 3rd day

08:30	[9]	**Access to the federal high-performance computing-centers**
09:00	[38]	**Parallelization of Explicit and Implicit Solvers**
10:15		Coffee break
10:30	[3]	**Message Passing Interface (MPI), continued**
10:30	[3]	6-(1) Collective Communication
11:15	[3]	6-(1) Collective Communication (practical)
11:30		Coffee break
11:45	[3]	8-(1) Groups & Communicators
12:05	[3]	8-(1) Groups & Communicators (practical)
12:30		Lunch
13:30	[3]	9-(1) Virtual Topologies
14:00	[3]	9-(1) Virtual Topologies (practical)
14:30		Coffee break
14:45	[3]	9-(2) Virtual Topologies, Neighborhood-communication
14:55	[3]	13-(1) Parallel File I/O - Basics
15:25	[3]	13-(1) Parallel File I/O - Basics (practical)
15:55		Coffee break
16:10	[3]	13-(2) Parallel File I/O - Fileviews
16:40	[3]	13-(2) Parallel File I/O - Fileviews (practical)
17:10	[3]	13-(3) Parallel File I/O - Access Methods
17:40	[3]	6-(2) Collective Communication, advanced topics
18:00		End

4-Day-Course — Mainz — 4th day

08:30	[3]	**Message Passing Interface (MPI), continued**
08:30	[3]	10 One-sided Communication
09:15	[3]	10 One-sided Communication (practical)
09:45		Coffee break
10:00	[3]	11-(1) Shared Memory One-sided Communication
10:45	[3]	11-(1) Shared Memory One-sided Communication (practical)
11:15		Coffee break
11:30	[3]	11-(2) Memory Models and Synchronization Rules
12:10	[3]	6-(2) Collective Communication, advanced topics (practical)
12:30		Lunch
13:30	[3]	12-(1) Derived Datatypes
14:05	[3]	12-(1) Derived Datatypes (practical)
15:00		Coffee break
15:15	[3]	14 MPI and Threads
15:30	[3]	15 Probe, Persistent Requests, Cancel (short tour)
15:35	[3]	16 Process Creation and Management (short tour)
15:40	[3]	17 Other MPI features
15:55	[3]	MPI-Summary
16:00	[3]	6-(2) Collective Communication, advanced topics (practical)
16:20		Summary, Q&A
16:30		End
--:--	[3]	18 Best practice (handout only)
--:--	[23]	Parallel programming models on hybrid systems / MPI+OpenMP (handout only)

see also login-slides