3-Day-Advanced-Course — JSC Jülich — 1ˢᵗ day

Advanced Message Passing Interface (MPI, part 1)

8:30   BUS 220 ab Jülich, Neues Rathaus → 8:53 FZJ (Zugangsberechtig. abholen, anschl. zu Fuß zum JSC)
9:00   **Registration**
9:20   **Introduction** [1] (talk)   (only in the handout: **Chap. 1-3 Overview** / **process model** / **pt-to-pt messages**)
9:45   **Chap. 4 Refresh – Non-Blocking Communication** [3] (talk)
10:30 **Chap. 6-(2) Nonblocking Collective Communication** (talk+example w. MPI_Ibarrier)
11:00 Coffee
11:30 **Chap. 8 Groups & Communicators, Environment Management** (talk+practical)
12:45 Lunch
13:45 **Chap. 9-(1) Virtual Topologies** (talk+practical)
14:45 Coffee
15:15 **Chap. 9-(2) Neighborhood Collective Communication** (talk+practical)
15:45 **Chap. 10 One-sided Communication** (talk+practical)
17:00 Short coffee break
17:20 **Chap. 7 Error handling** (talk)
17:30 **Chap. 15 Probe, Persistent Requests, Cancel** (talk)
17:40 **Chap. 16+17 Process Creation and Management / Other MPI features** (talk)
18:00 Optional: **Chap. 12-(1) Refresh – Derived Datatypes – Part 1** (talk)
18:30 End   (only in the handout: **Chap. 13 Parallel I/O**)
18:35   BUS 220 ab FZJ Seecasino → 18:57 Jülich, Neues Rathaus
19:30 Social Event: **Restaurant Pinocchio,** Kleine Kö (Kölnstr.),
       dies ist die Passage mit Eingang gegenüber vom Weihnachtsmarkt

3-Day-Advanced-Course — JSC Jülich — 2ⁿᵈ day

Advanced Message Passing Interface (MPI, part 2)

8:30   BUS 220 ab Jülich, Neues Rathaus → 8:58 FZJ Seecasino
9:10   **Chap. 11-(1) Shared memory one–sided communication** (talk+practical)
10:45 Coffee
11:15 **Chap. 11-(2) Memory models and synchronization rules** (talk+practical)
12:45 Lunch
13:45 **Chap. 12-(2) Derived Datatypes – Part 2 – Resizing, long counts…** (talk+pr.)
14:45 **Chap. 14 MPI and Threads** (talk)
15:00 Coffee → **Compute Systems at FZJ** (talk during coffee breakl)
--:-- **Access to the federal high-performance computing-centers** [9] (handout only)
15:20 **Parallel programming models on hybrid systems / MPI + OpenMP** [23] (talk)
17:00 Short coffee break
17:20 **Chap. 18 Best practice** (talk)
17:50 **Chap. 5 The new Fortran module mpi_f08** (talk – mainly for the Fortran users)
18:20 **MPI, Summary, Q&A**
18:30 End

18:35   BUS 220 ab FZJ Seecasino → 18:57 Jülich, Neues Rathaus
19:05 **Direkt zum Weihnachtsmarkt** (gegenüber von Kleine Kö (Kölnstr.))
19:45 Nächtlich Besichtigung der **Zitadelle**, incl. Schloss-Innenhof [Torschluss 22.15]
20:30 **Abendessen**: Im „**Liebevoll**" (Restaurant im Stadthotel)

3-Day-Advanced-Course — JSC Jülich — 3rd day

Advanced OpenMP, Parallel Tools

   8:30 BUS 220 ab Jülich, Neues Rathaus → 8:58 FZJ Seecasino

   9:10 **OpenMP- 4.0 and 4.5 Extensions** [7a] (talk)

10:45 Coffee

11:15 **Verifying an OpenMP parallelization with the Intel Inspector XE** [8a] (talk+pra.)

12:00 Lunch

13:00 **MPI+OpenMP profiling with Scalasca/Score-P** (talk+practical)

14:00 Coffee

14:20 **MPI+OpenMP event trace analysis and visualisation with Scalasca & Vampir** (talk+practical)

15:10 Coffee

15:30 **Verifying MPI+OpenMP execution conformance with MUST** (talk+practical)

16:30 End

ACHTUNG: Drei verschiedene Busse zu den drei Zielen!

16:35 BUS 219 ab FZJ Seecasino → 16:38 Forschungszentrum Ruhrtalbahn (RTB)

16:47 BUS 220 ab FZJ Seecasino → 16:53 Jülich Bahnhof/ZOB (Ruhrtalbahn RTB)

16:47 BUS SB20 ab FZJ Seecasino → 17:34 Aachen Bushof

Introduction   Rolf Rabenseifner
[1] Slide 11 (3d)