

## 3-Day-Advanced-Course — JSC Jülich — 1<sup>st</sup> 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\_lbarrier)
- 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 — 2<sup>nd</sup> 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 break)
- :-- **Access to the federal high-performance computing-centers [9]** (handout only) **9**
- 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 — 3<sup>rd</sup> 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 **Instrumentation and profile measurement with Score-P** (talk+practical)

14:00 **Coffee**

14:20 **Profile analysis with Cube** (talk+practical)

15:10 **Coffee**

15:30 **Overview of advanced performance analysis topics and additional hands-on** (talk+practical)

16:30 **End**

*ACHTUNG: Drei verschiedene Busse zu den drei Zielen!*

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

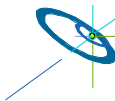
16:47 BUS 219 ab FZJ Seecasino → 16:50 Forschungszentrum Ruhrthalbahn (RTB)

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

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

Introduction  
[1] Slide 11 (3d)

Rolf Rabenseifner



1st day