

Courses, Workshops and Conferences 2018, August – Dec.



| | Course / Workshop Title | Location | Course Language | Days | Date |
|-----|--|-----------|-----------------|------|-----------------|
| par | Introduction to parallel programming with MPI and OpenMP | Jülich | English | 5 | Aug 13-17, 2018 |
| par | Parallel Programming with MPI / OpenMP | Zürich | English | 4 | Aug 20-23, 2018 |
| prf | Intel KNL Many-Core - usage and profiling | Jülich | English | 3.5 | Sep 3-6, 2018 |
| c+w | EnvirolInfo 2018 Conference | Garching | English | 2 | Sep 5-7, 2018 |
| par | Iterative Linear Solvers and Parallelization | Garching | German | 5 | Sep 10-14, 2018 |
| cfp | Introduction to Computational Fluid Dynamics | Stuttgart | German | 5 | Sep 10-14, 2018 |
| dat | Fundamentals of Deep Learning for Computer Vision | Garching | English | 1 | Sep 12, 2018 |
| dat | Fundamentals of Deep Learning for Multiple Data Types | Garching | English | 1 | Sep 13, 2018 |
| c+w | 12 th International Parallel Tools Workshop | Stuttgart | English | 2 | Sep 17-18, 2018 |
| Ing | Advanced Fortran Topics (PRACE course) | Garching | English | 5 | Sep 17-21, 2018 |
| c+w | Extreme Data Workshop | Jülich | English | 2 | Sep 18-19, 2018 |
| dat | Advanced Deep Learning Workshop for Multi-GPU | Stuttgart | English | 1 | Sep 19, 2018 |
| par | Training for Maxeler Dataflow Architectures | Jülich | English | 2 | Sep 20-21, 2018 |
| cfp | CFD with OpenFOAM® | Siegen | German *) | 5 | Sep 24-28, 2018 |
| c+w | CECAM tutorial: Atomistic MC Simulation of Bio-molecular Systems | Jülich | English | 5 | Sep 24-28, 2018 |
| c+w | High Performance Computing in Science and Engineering | Stuttgart | English | 2 | Oct 4-5, 2018 |
| dat | High Performance Computing in AI | Garching | English | 1 | Oct 5, 2018 |
| dat | Intro. to LRZ Supercomputing & Machine Learning Infrastructure | Garching | English | 1 | Oct 8, 2018 |
| Ing | Porting code from Matlab to Python | Jülich | English | 2 | Oct 8-9, 2018 |
| Ing | Using Python at LRZ | Garching | English | 1 | Oct 9, 2018 |
| dat | Using R at LRZ | Garching | English | 1 | Oct 9, 2018 |
| Ing | C Language for Beginners | Garching | English | 3 | Oct 9-11, 2018 |
| Ing | Introduction to Python | Jülich | German *) | 3 | Oct 15-17, 2018 |
| par | Parallel Programming Workshop (MPI, OpenMP and advanced topics) (PRACE course) | Stuttgart | English | 5 | Oct 15-19, 2018 |
| Ing | Advanced C++ with Focus on Software Engineering | Garching | English | 3 | Oct 23-25, 2018 |
| vis | Scientific Visualization | Stuttgart | English | 2 | Oct 25-26, 2018 |
| par | Introduction to GPU programming using OpenACC | Jülich | English | 2 | Oct 29-30, 2018 |
| prf | Cray XC40 Workshop on Scaling and Node-Level Performance | Stuttgart | English | 5 | Nov 5-9, 2018 |
| dat | Intel AI Workshop | Garching | English | 1 | Nov 6, 2018 |
| Ing | C++ Language for Beginners | Garching | English | 4 | Nov 6-9, 2018 |
| com | Workshop - HPC mit COMSOL Multiphysics am LRZ | Garching | German | 1 | Nov 15, 2018 |
| Ing | Software Development in Science | Jülich | English | 2 | Nov 19-20, 2018 |
| Ing | Advanced C++ with Focus on Software Engineering | Stuttgart | German *) | 4 | Nov 19-22, 2018 |
| par | Intro. to Progr. and Usage of Supercomputer Resources at Jülich | Jülich | English | 2 | Nov 22-23, 2018 |
| par | Advanced Parallel Programming with MPI and OpenMP | Jülich | English | 3 | Nov 26-28, 2018 |
| dat | Machine Learning with R at LRZ | Garching | English | 1 | Nov 27, 2018 |
| Ing | Fortran for Scientific Computing | Stuttgart | German *) | 5 | Dec 3-7, 2018 |
| Ing | Introduction to C | Jülich | German *) | 7 | Dec 3-12, 2018 |

Legend:

*) Slides in English Status November 15, 2018

Parallel Programming **par**

- Message Passing Interface - MPI
- OpenMP Shared Memory Parallelization
- Partitioned Global Address Space (PGAS) Languages, e.g., UPC, Co-Array Fortran, GASPI
- Iterative Solver and Parallelization
- GPUs and Accelerators, e.g., CUDA, OpenACC, OpenMP-4.0, OpenCL
- High performance parallelism, e.g., HPX

Computational Fluid Dynamics **cfp**

- Introduction to Computational Fluid Dynamics
- CFD with OpenFOAM®

Scientific Visualization **vis**

- Compute Cluster - Usage and Administration **clu**

Performance Optimization and Debugging **prf**

- Node-Level Performance Engineering
- Tools courses, e.g. VI-HPS tuning courses
- Workshops on optimization at scale
- System specific optimization courses (Intel MIC, Cray, NEC)

Data in HPC **dat**

- Cluster Filesystems
- Parallel Input/Output, e.g., with MPI-I/O, HDF, XDF5
- Data analysis (e.g. statistics with R), Deep Learning

Programming Languages for Scientific Computing **Ing**

- Fortran
- Python
- C++
- C

Training for special communities **com**

Scientific Conferences and Workshops **c+w**

PATC courses: GCS is a PRACE Advanced Training Centre (PATC). Some of the courses are sponsored by the PATC program.

For further information and/or registration please visit our web page/s:

- <http://www.hirs.de/training/>
- <http://www.gauss-centre.eu/training>
- <http://www.lrz.de/services/compute/courses/>
- <http://hpc-calendar.gauss-allianz.de/>
- <http://www.fz-juelich.de/ias/jsc/events>
- <http://www.training.prace-ri.eu/>

Courses, Workshops and Conferences

2019, January – July



| | Course / Workshop Title | Location | Course Language | Days | Date |
|-----|---|-----------|-----------------|------|-----------------|
| dat | Deep Learning Workshops | Garching | English | 1 | 2019 (tba) |
| par | Introduction to hybrid programming in HPC (PRACE course) | Garching | English | 2 | Jan 28-29, 2019 |
| par | Parallel Programming (MPI, OpenMP) and Tools | Dresden | German *) | 5 | Feb 4-8, 2019 |
| cfp | Introduction to Computational Fluid Dynamics | Siegen | German | 5 | Feb 18-22, 2019 |
| prf | Node-Level Performance Engineering (PRACE course) | Garching | English | 2 | Feb 20-21, 2019 |
| dat | Parallel and Scalable Machine Learning (PRACE course) | Jülich | English | 3 | Feb 25-27, 2019 |
| par | Parallel Programming of High Performance Systems | Garching | English | 5 | Feb 25 - Mar 1 |
| ing | Introduction to Python | Jülich | German *) | 3 | Mar 1, 2019 |
| ing | Programming with Fortran | Garching | English | 3 | Mar 6-8, 2019 |
| cfp | CFD with OpenFOAM® | Stuttgart | German *) | 5 | Mar 11-15, 2019 |
| vis | Introduction to ParaView for the visualization of scientific data | Jülich | German *) | 1 | Mar 14, 2019 |
| par | Advanced Topics in High Performance Computing (PRACE course) | Garching | English | 4 | Mar 18-21, 2019 |
| par | Introduction to parallel programming with MPI and OpenMP | Jülich | English | 5 | Mar 18-22, 2019 |
| par | Iterative Linear Solvers and Parallelization | Stuttgart | English | 5 | Mar 25-29, 2019 |
| par | GPU Programming with CUDA (PRACE course) | Jülich | English | 3 | Apr 1-3, 2019 |
| ing | Fortran for Scientific Computing (PRACE course) | Stuttgart | English | 5 | Apr 1-5, 2019 |
| par | Parallelization with MPI and OpenMP | Frankfurt | English | 3 | Apr 8-10, 2019 |
| cfp | Introduction to ANSYS Fluid Dynamics (CFX, Fluent) on LRZ HPC Systems | Garching | English | 5 | Apr 8-12, 2019 |
| dat | Interactive High-Performance Computing (PRACE course) | Jülich | English | 2 | Apr 9-10, 2019 |
| ing | Programming in C++ | Jülich | English | 4 | May 6-9, 2019 |
| prf | Cray XC40 Workshop on Scaling and Node-Level Performance | Stuttgart | English | 5 | May 6-10, 2019 |
| prf | From zero to hero, Part I: Understanding and fixing on-core performance bottlenecks | Jülich | English | 2 | May 14-15, 2019 |
| ing | Advanced C++, Focus on Software Engineering | Stuttgart | German *) | 4 | May 14-17, 2019 |
| vis | Usage of VTK for scientific-technical visualization | Jülich | English | 1 | May 20, 2019 |
| vis | Scientific Visualization | Stuttgart | English | 2 | May 20-21, 2019 |
| par | Introduction to Programming and Usage of Supercomputer Resources at Jülich | Jülich | English | 2 | May 20-21, 2019 |
| dat | Introduction to Deep Learning Models | Jülich | English | 3 | May 21-23, 2019 |
| par | OpenMP GPU Directives for Parallel Accel. Supercomp. (PRACE c.) | Stuttgart | English | 2 | May 22-23, 2019 |
| ing | High-performance scientific computing in C++ (PRACE course) | Jülich | English | 3 | May 27-29, 2019 |
| par | Introduction to hybrid programming in HPC | Vienna | English | 2 | Jun 2019 (tba) |
| ing | Fortran Modernization Workshop | Stuttgart | English | 2 | Jun 2019 (tba) |
| par | Introduction to hybrid programming in HPC | Stuttgart | English | 1 | Jun 2019 (tba) |
| par | HPC code optimization workshop (PRACE course) | Garching | English | 2 | Jun 2019 (tbc) |
| par | Intel Manycore Programming Workshop (PRACE course) | Garching | English | 3 | Jun 2019 (tbc) |
| ing | High-performance computing with Python (PRACE course) | Jülich | English | 3 | Jun 17-19, 2019 |
| prf | VI-HPS Tuning Workshop (PRACE course) | Jülich | English | 5 | Jun 24-28, 2019 |
| clu | Cluster Workshop | Stuttgart | German | 2 | Jun 25-26, 2019 |
| prf | Node-Level Performance Engineering (PRACE course) | Stuttgart | English | 2 | Jun 27-28, 2019 |
| par | Concepts of GASPI and Interoperability with other communication APIs (PRACE course) | Stuttgart | English | 2 | Jul 1-2, 2019 |
| ing | Advanced C++, Focus on Software Engineering | Stuttgart | German *) | 4 | Jul 9-12, 2019 |