



Courses, Workshops and Conferences 2017, January – June

	Course / Workshop Title	Location	Course Language	Days	Date
par	Introduction to hybrid programming in HPC (PATC course)	Garching	English	1	Jan 12, 2017
par	Introduction to parallel program. with MPI and OpenMP	Jülich	English	4	Jan 31-Feb 3, 2017
prf	Intel MIC Programming Workshop (PATC course)	Ostrava	English	3	Feb 7-8
c+w	High Performance Computing in atmosphere modelling and air related environmental hazards	Ostrava	English	3	Feb 9-10, 2017
cfp	Introduction to Computational Fluid Dynamics	Siegen	German	5	Feb 13-17, 2017
ing	Advanced C++, Focus on Software Engineering	Erlangen	English	3	Feb 15-17, 2017
par	Parallel Programming (MPI, OpenMP) and Tools	Dresden	German *)	5	Feb 20-24, 2017
ing	Programming with Fortran	Garching	English	3	Mar 1-3, 2017
par	Parallel Programming of High Performance Systems	Garching	English	5	Mar 6-10, 2017
par	OpenMP GPU Directives for Parallel Accelerated Supercomputers (PATC course)	Stuttgart	English	2	Mar 7-8, 2017
par	Parallel Programming with HPX	Stuttgart	English	2	Mar 9-10, 2017
dat	Introduction: descriptive and parametric statistic with R	Jülich	English	1	Mar 9, 2017
par	Parallelization with MPI and OpenMP	Frankfurt/M.	English	3	Mar 13-15, 2017
dat	Parallel I/O and Portable Data Formats (PATC course)	Jülich	English	3	Mar 13-15, 2017
ing	Advanced C++, Focus on Software Engineering	Stuttgart	German *)	4	Mar 14-17, 2017
ing	Fortran for Scientific Computing (PATC course)	Stuttgart	English	5	Mar 20-24, 2017
par	Iterative Linear Solvers and Parallelization	Stuttgart	German	5	Mar 27-31, 2017
prf	25th VI-HPS Tuning Workshop (PATC course)	Aachen	English	5	Mar 27-31, 2017
ing	Introduction to Python	Jülich	German	3	Apr 3-5, 2017
par	Advanced Topics in High Performance Computing (PATC course)	Garching	English	4	Apr 3-6, 2017
cfp	CFD with OpenFOAM®	Stuttgart	German *)	5	Apr 3-7, 2017
prf	Cray XC40 Workshop on Scaling and Node-Level Performance	Stuttgart	English	4	Apr 4-7, 2017
par	GPU Programming with CUDA (PATC course)	Jülich	English	3	Apr 24-26, 2017
prf	Node-Level Performance Engineering (PATC course)	Stuttgart	English	2	Apr 27-28, 2017
dat	CRAY & NVIDIA DLI: Deep Learning Workshop	Stuttgart	English	2	May 4-5, 2017
par	Introduction to the Programming and Usage of the Supercomputer Resources at Jülich	Jülich	English	2	May 22-23, 2017
clu	Cluster Workshop	Stuttgart	German	2	May 29-30, 2017
ing	Programming in C++	Jülich	English	4	May 29-Jun 1
vis	Scientific Visualization	Stuttgart	English	2	May 31-Jun 1
par	Introduction to hybrid programming in HPC	Stuttgart	English	1	Jun 12, 2017
ing	High-performance Computing with Python (PATC course)	Jülich	English	2	Jun 12-13, 2017
ing	High-performance scientific computing in C++	Jülich	English	2	Jun 20-21, 2017
prf	Intel MIC / Knights Landing Programming Workshop (PATC)	Garching	English	3	Jun 26-28, 2017
vis	Introduction to OpenGL	Jülich	German	½	Jun 27, 2017
vis	Usage of VTK for scientific-technical visualization	Jülich	German	½	Jun 27, 2017
vis	Introduction: ParaView for visualization of scientific data	Jülich	German *)	1	Jun 28, 2017
c+w	HPC for natural hazard assessment and disaster migration	Garching	English	3	Jun 28-30, 2017
vis	Introduction to Parallel In-Situ Visualization with Visit	Jülich	English	1	Jun 29, 2017
par	Introduction to UPC and Co-Array Fortran (PATC course)	Stuttgart	English	2	Jun 29-30, 2017



Courses, Workshops and Conferences 2017, July - December

	Course / Workshop Title	Location	Course Language	Days	Date
par	Efficient Parallel Programm. with GASPI (PATC course)	Stuttgart	English	2	Jul 3-4, 2017
dat	Using R at LRZ	Garching	English	1	Jul 4, 2017
par	Introduction to parallel programming with MPI and OpenMP	Jülich	English	4	Aug 15-18, 2017
cfp	CFD with OpenFOAM®	Stuttgart	German *)	5	Aug 28-Sep 1
dat	Deep Learning Workshop	Garching	English	1	Sep 14, 2017
cfp	Introduction to Computational Fluid Dynamics	Stuttgart	German	5	Sep 11-15, 2017
prf	Introduction to the Cray XC40 HPC System at HLRS	Stuttgart	English	1	Sep 19, 2017
prf	Cray XC40 Workshop on Scaling and Node-Level Performance	Stuttgart	English	3	Sep 20-22, 2017
dat	Introduction to Cluster Filesystems	Stuttgart	German	1	Sep 26, 2017
Ing	Advanced C++ with Focus on Software Engineering	Garching	English	3	Oct 4-6, 2017
c+w	High Performance Computing in Science and Engineering	Stuttgart	English	2	Oct 5-6, 2017
Ing	Porting code from Matlab to Python	Jülich	English	2	Oct 9-10, 2017
Ing	Introduction to Python	Jülich	German *)	3	Oct 9-11, 2017
par	Introduction to GPU programming using OpenACC	Jülich	English	2	Oct 16-17, 2017
par	Parallel Programming Workshop (MPI, OpenMP and advanced topics) (PATC course)	Stuttgart	English	5	Oct 16-20, 2017
Ing	C Language for Beginners	Garching	English	3	Oct 24-26, 2017
vis	Scientific Visualization	Stuttgart	English	2	Nov 6-7, 2017
Ing	C++ Language for Beginners	Garching	English	4	Nov 7-10, 2017
Ing	Software Development in Science	Jülich	English	1	Nov 20, 2017
Ing	Advanced C++, Focus on Software Engineering	Stuttgart	German *)	4	Nov 20-23, 2017
par	Vectorisation and Portable Programming Using OpenCL	Jülich	English	2	Nov 21-22, 2017
par	Introduction to the Programming and Usage of the Supercomputer Resources at Jülich	Jülich	English	2	Nov 23-24, 2017
par	Advanced Parallel Programming with MPI and OpenMP	Jülich	German *)	3	Nov 27-29, 2017
Ing	Fortran for Scientific Computing	Stuttgart	German *)	5	Nov 27 - Dec 1
prf	Node-Level Performance Engineering (PATC course)	Garching	English	2	Nov 30 - Dec 1
com	Molecular Modeling with Schrödinger-Suite	Garching	English	3	Dec 5-7, 2017

Legend:

*) Slides in English Status November 16, 2017

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

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.hlrz.de/training/>

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- <http://www.fz-juelich.de/ias/jsc/events>

- <http://www.gauss-centre.eu/training>

- <http://www.training.prace-ri.eu/>