GCS
Gauss Centre for Supercomputing

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
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
cfd	Introduction to Computational Fluid Dynamics	Siegen	German	5	Feb 13-17
lng	Advanced C++, Focus on Software Engineering	Erlangen	English	3	Feb 15-17
par	Parallel Programming (MPI, OpenMP) and Tools	Dresden	German *)	5	Feb 20-24
lng	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 and OpenACC 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
dat	Parallel I/O and Portable Data Formats **(PATC course)**	Jülich	English	3	Mar 13-15
lng	Advanced C++, Focus on Software Engineering	Stuttgart	German *)	4	Mar 14-17
lng	Fortran for Scientific Computing **(PATC course)**	Stuttgart	English	5	Mar 20-24
par	Iterative Linear Solvers and Parallelization	Stuttgart	German	5	Mar 27-31
prf	25th VI-HPS Tuning Workshop **(PATC course)**	Aachen	English	5	Mar 27-31
lng	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
cfd	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
par	GPU Programming with CUDA **(PATC course)**	Jülich	English	3	Apr 24-26
prf	Node-Level Performance Engineering **(PATC course)**	Stuttgart	English	2	Apr 27-28
dat	CRAY & NVIDIA DLI: Deep Learning Workshop	Stuttgart	English	2	May 4-5
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
lng	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
lng	High-performance Computing with Python **(PATC course)**	Jülich	English	2	Jun 12-13, 2017
lng	High-performance scientific computing in C++	Jülich	English	2	Jun 20-21
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

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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
prf	NEC SX-ACE - Vectorization and Optimization	Stuttgart	English	2	not yet fixed
par	Introduction to parallel programming with MPI and OpenMP	Jülich	English	4	Aug 15-18, 2017
cfd	CFD with OpenFOAM®	Stuttgart	German *)	5	Aug 28-Sep 1
par	Iterative Linear Solvers and Parallelization	Garching	German	5	Sep 4-8, 2017
lng	Advanced Fortran Topics **(PATC course)**	Garching	English	5	Sep 11-15, 2017
cfd	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
dat	Introduction to Cluster Filesystems	Stuttgart	German	1	Sep 26, 2017
c+w	High Performance Computing in Science and Engineering	Stuttgart	English	2	Oct 5-6, 2017
lng	Porting code from Matlab to Python	Jülich	English	2	Oct 9-10, 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
vis	Scientific Visualization	Stuttgart	English	2	Nov 6-7, 2017
lng	Software Development in Science	Jülich	English	1	Nov 20, 2017
lng	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
lng	Fortran for Scientific Computing	Stuttgart	German *)	5	Nov 27 - Dec 1

Legend:

*) Slides in English   Status August 7, 2017

Parallel Programming `par`
- Message Passing Interface - MPI   ■ Hybrid, e.g., MPI+X
- 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 `cfd`
- 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 `lng`
- Fortran   ■ Python
- C++   ■ C

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.hlrs.de/training/
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- http://www.fz-juelich.de/ias/jsc/events   - http://www.training.prace-ri.eu/