

COURSES, WORKSHOPS AND CONFERENCES, January – June 2022

SUPERCOMPUTING AT THE LEADING EDGE

| | Course / Workshop Title | Location | Language | Days | Date |
|-----|--|-----------|-----------|------|------------------|
| clu | ONLINE: HPC-Cluster - Auslegung, Kosten & Nachhaltigkeit | Stuttgart | German | | Jan 10 - Feb 14 |
| cfp | ONLINE: Introduction to LRZ HPC Systems with Focus on CFD Workflows | Garching | English | 1 | Jan 19, 2022 |
| dat | ONLINE: Data analytics for engineering data using machine learning | Stuttgart | English | 2 | Jan 20-21, 2022 |
| com | ONLINE: Simulation - Grundlagen & Strukturmechanik | Stuttgart | German | | Jan 24 cancel. |
| dat | ONLINE: AI for Science Bootcamp | Garching | English | 2 | Feb 1-2, 2022 |
| prf | ONLINE: 41st VI-HPS Tuning Workshop | Jülich | English | 5 | Feb 7-11, 2022 |
| par | ONLINE Parallel Programming with MPI & OpenMP and Tools | Dresden | German | 5 | Feb 7-11, 2022 |
| par | ONLINE: OpenMP Programming Workshop (PRACE course) | Garching | English | 3 | Feb 8-10, 2022 |
| cfp | ONLINE: Introduction to Computational Fluid Dynamics | Stuttgart | German | 5 | Feb 14-18, 2022 |
| par | ONLINE: Introduction to parallel programming with MPI and OpenMP | Jülich | English | 5 | Feb 14-18, 2022 |
| ing | ONLINE: Fortran for Scientific Computing (PRACE course) | Stuttgart | English | 5 | Feb 21-25, 2022 |
| prf | ONLINE: Performance Optimierung - Kommunikation | Stuttgart | German | | Feb 21 - Mar 28 |
| cfp | ONLINE: Introduction to ANSYS CFX | Garching | English | 6 | Feb 21 - Mar 28 |
| par | ONLINE: Parallel I/O and Portable Data Formats (PRACE course) | Jülich | English | 2 | Feb 22-23, 2022 |
| ing | ONLINE: Programming with Fortran | Garching | English | 3 | Feb 23-25, 2022 |
| par | MOOC: One-Sided Communication and the MPI Shared Memory Interface | | English | | Feb 28 - Mar 27 |
| vis | ONLINE: Introduction to Unreal Engine for Science | Jülich | English | 2 | Mar 2-23, 2022 |
| ing | ONLINE: Einführung in Python | Jülich | German | 3 | Mar 7-9, 2022 |
| par | ONLINE: JUWELS Booster Tuning and Scaling Workshop | Jülich | English | 5 | Mar 7-11, 2022 |
| par | ONLINE: Parallel Programming of High Performance Systems | Erlangen | English | 3 | Mar 8-10, 2022 |
| ing | ONLINE: Modern C++ Software Design (Intermediate) | Stuttgart | German*) | 4 | Mar 8-11, 2022 |
| cfp | ONLINE: Introduction to LRZ HPC Systems with Focus on CFD Workflows | Garching | English | 1 | Mar 9, 2022 |
| par | ONLINE: N-Ways to GPU Programming Bootcamp | Garching | English | 2 | Mar 14-15, 2022 |
| par | ONLINE: Introduction to Scalable Deep Learning (PRACE course) | Jülich | English | 2.5 | Mar 14-18, 2022 |
| dat | ONLINE: Datenmanagement | Stuttgart | German | | Mar 14 - Apr 11 |
| vis | ONLINE: Einführung in ParaView zur Visualisierung von wissenschaftlichen Daten | Jülich | German | 1 | Mar 16-17, 2022 |
| com | ONLINE: ESM user forum | Jülich | English | 2 | Mar 16-17, 2022 |
| vis | ONLINE: Nutzung von VTK zur wissenschaftlich-technischen Visualisierung | Jülich | German | 1 | Mar 21, 2022 |
| par | ONLINE: Helmholtz GPU Hackathon 2022 | Jülich | English | 4 | Mar 21-31, 2022 |
| par | ON-SITE: Parallelization with MPI and OpenMP | Mainz | English | 4 | Mar 22-25, 2022 |
| par | ON-SITE: Iterative Solvers and Parallelization | Stuttgart | English | 5 | Mar 28 - Apr 1 |
| dat | ONLINE: Interactive High-Performance Computing with Jupyter (PRACE course) | Jülich | English | 3 | Apr 5-7, 2022 |
| par | ONLINE: Hybrid programming in HPC - MPI+X | Vienna | English | 3 | Apr 5-7, 2022 |
| dat | ONLINE: AI for Science Bootcamp | Garching | English | 2 | Apr 7-8, 2022 |
| dat | ONLINE: Data Analytics, Big Data & AI Training Week | Garching | English | 4 | Apr 19-22, 2022 |
| par | ONLINE: GPU Programming with CUDA (PRACE course) | Jülich | English | 3 | Apr 25-29, 2022 |
| par | ONLINE: Paralleles Programmieren mit OpenMP | Stuttgart | German | | Apr 25 - May 09 |
| prf | ONLINE: Optimization of Node-level Performance and Scaling on Hawk | Stuttgart | English | 4 | Apr 26-29, 2022 |
| par | ONLINE: Shared memory parallelization with OpenMP @ VSC Vienna | Vienna | English | 2 | Apr 28-29, 2022 |
| vis | ONLINE: Visualisierung: Grundlagen & Anwendung | Stuttgart | German | | May 2 - May 30 |
| ing | ON-SITE: Modern C++ Software Design (Advanced) | Stuttgart | German*) | 4 | May 3-6, 2022 |
| cfp | ON-SITE: CFD with OpenFOAM® | Stuttgart | German*) | 5 | May, 2022, canc. |
| dat | ONLINE: Data analytics for engineering data using machine learning | Bonn | English | 2 | May 9-11, 2022 |
| ing | ONLINE: Fortran for Scientific Computing | Stuttgart | English | 5 | May 9-13, 2022 |
| ing | ONLINE: Programming in C++ | Jülich | English | 5 | May 9-13, 2022 |
| dat | ONLINE: Deep Learning and GPU Programming Workshop | Espoo | English | 4 | May 10-13, 2022 |
| cfp | ONLINE: Introduction to LRZ HPC Systems with Focus on CFD Workflows | Garching | English | 1 | May 11, 2022 |
| dat | ONLINE: Data Analysis and Plotting in Python with Pandas | Jülich | English | 0.5 | May 12, 2022 |
| dat | ONLINE: Deep Learning and GPU Programming Workshop @ LRZ | Garching | English | 4 | May 16-19, 2022 |
| par | ONLINE: Introduction to Supercomputing at JSC - Theory & Practice | Jülich | English | 3.5 | May 16-19, 2022 |
| clu | ONLINE: HPC-Cluster - Aufbau & Betrieb | Stuttgart | German | | May 16 - Jul 4 |
| par | ONLINE: Parallelization with MPI @ VSC Vienna | Vienna | English | 4 | May 17-20, 2022 |
| com | ONLINE: 33rd Workshop on Sustained Simulation Performance (WSSP) | Stuttgart | English | 2 | May 23-24, 2022 |
| dat | ONLINE: Data analytics for engineering data using machine learning | Stuttgart | English | 2 | May 23-25, 2022 |
| ing | ONLINE: High-performance scientific computing in C++ (PRACE course) | Jülich | English | 4 | Jun 7-10, 2022 |
| dat | ONLINE: Data analytics for engineering data using machine learning | Stuttgart | English | 2 | Jun 13-15, 2022 |
| com | ONLINE: Simulation: Grundlagen & CFD | Stuttgart | German | | Jun 13 - Jul 25 |
| par | ONLINE: Parallel Programming with MPI and OpenMP @ SURF | Amsterdam | English | 3 | Jun 13-14, 2022 |
| par | ONLINE: Efficient Parallel Programming with GASPI (PRACE course) | Stuttgart | English | 2 | Jun 20-21, 2022 |
| ing | ONLINE: High-performance computing with Python (PRACE course) | Jülich | English | 3 | Jun 20-24, 2022 |
| par | ONLINE: Introduction to MPI @ IT4I | Ostrava | English | 3 | Jun, 2022 (tbc) |
| ing | ON-SITE: Modern C++ Software Design (Intermediate) | Stuttgart | German *) | 4 | Jun 21-24, 2022 |
| par | ONLINE: Parallel Programming with HPX (PRACE course) | Stuttgart | English | 3 | Jun 22-24 can. |
| par | ONLINE: Hybrid Programming in HPC - MPI+X | Garching | English | 3 | Jun 22-24, 2022 |
| prf | ONLINE: HPC Code Optimisation Workshop (PRACE course) | Garching | English | 5 | Jun 27-29, 2022 |
| prf | ONLINE: Node-Level Performance Engineering (PRACE course) | Stuttgart | English | 4 | Jun 28 - Jul 1 |

| | Course / Workshop Title | Location | Language | Days | Date |
|-----|---|-----------|-----------|------|----------------------|
| dat | ON-SITE: Deep Learning and Acceleration with OpenACC on Nvidia GPUs | Stuttgart | English | 3 | Jul 12-14, 2022 |
| dat | ONLINE: Deep Learning Week | Garching | English | | Jul 25-29, 2022 |
| par | ONLINE: Introduction to parallel programming with MPI and OpenMP | Jülich | English | 5 | Aug 8-12, 2022 |
| cfp | ONLINE: Introduction to LRZ HPC Systems with Focus on CFD Workflows | Garching | English | 1 | Aug 10, 2022 |
| par | Four-day course in parallel programming with MPI/OpenMP @ ETH | Zürich | English | 5 | Aug 17-25, 2022 |
| par | ON-SITE: Iterative Solvers and Parallelization | Garching | English | 5 | Aug 29 - Sep 2 (tbc) |
| cfp | ON-SITE: Introduction to Computational Fluid Dynamics | Stuttgart | German | 5 | Sep 12-16, 2022 |
| dat | ONLINE: Datenanalyse mit HPC | Stuttgart | German | | Sep 12 - Oct 24 |
| prf | ONLINE: Performance Optimierung - Node Level | Stuttgart | German | | Sep 19 - Oct 24 |
| ing | ON-SITE: Julia for High Performance Computing (PRACE course) | Stuttgart | English | 4 | Sep 20 - 23, 2022 |
| ing | ONLINE: Introduction to C++ | Garching | English | 3 | Sep 21-23, 2022 |
| dat | ONLINE: Machine Learning with AMD Instinct™ GPUs and ROCm™ Software | Stuttgart | English | 2 | Sep 26-27, 2022 |
| par | ONLINE: AMD Instinct™ GPU Training | Stuttgart | English | 2 | Sep 29-30, 2022 |
| vis | ON-SITE: Scientific Visualization | Stuttgart | English | 2 | Sep 29-30, 2022 |
| ing | Einführung in Python | Jülich | German | 1 | Oct 1, 2022 |
| c+w | ON-SITE: High Performance Computing in Science and Engineering | Stuttgart | English | 2 | Oct 4-5, 2022 |
| ing | ON-SITE: Porting code from Matlab to Python | Jülich | English | 2 | Oct 6-7, 2022 |
| par | ON-SITE: Par. Programming Workshop (MPI, OpenMP & adv. topics) (PRACE course) | Stuttgart | English | 5 | Oct 10-14, 2022 |
| cfp | ON-SITE: CFD with OpenFOAM® | Stuttgart | German*) | 5 | Oct 17-21, 2022 |
| par | ONLINE: ChEESA Advanced Training on HPC for Computational Seismology | Stuttgart | English | 3 | Oct, 2022 (post.) |
| par | ONLINE: Advanced MPI @ IT4I | Ostrava | English | 3 | Oct, 2022 (tbc) |
| dat | ONLINE: NVIDIA/HLRS SciML GPU Bootcamp | Stuttgart | English | 1,5 | Oct 24-25, 2022 |
| par | ONLINE: Introduction to oneAPI, SYCL2020 and OpenMP offloading | Stuttgart | English | 1.5 | Oct 26-28, 2022 |
| par | ON-SITE: Directive-based GPU programming with OpenACC | Jülich | English | 1.5 | Oct 26-28, 2022 |
| par | ONLINE: Introduction to oneAPI, SYCL2020 and OpenMP offloading | Stuttgart | English | 2 | Oct 26-28, 2022 |
| dat | ONLINE: Data Analytics, Big Data & AI Training Week | Garching | English | 4 | Oct, 2022 (tbc) |
| ing | ONLINE: Modern C++ Software Design | Garching | English | 3 | Oct, 2022 (tbc) |
| cfp | ONLINE: Introduction to ANSYS Fluent | Garching | English | 7 | Oct 27 - Dec 8 |
| prf | HYBRID: Optimization of Node-level Performance and Scaling on Hawk | Stuttgart | English | 2 | Nov 7-11, 2022 |
| par | ONLINE: Paralleles Programmieren mit MPI | Stuttgart | German | | Nov 7 - 30 |
| par | ONLINE: Shared memory parallelization with OpenMP @ VSC Vienna | Vienna | English | 2 | Nov 10-11, 2022 |
| par | ONLINE: Introduction to GPU Programming using CUDA | Stuttgart | English | 3 | Nov 14-17, 2022 |
| com | ON-SITE: Software Development in Science | Jülich | English | 2.5 | Nov 15-17, 2022 |
| par | ONLINE: Introduction to Supercomputing at JSC - Theory & Practice | Jülich | English | 3.5 | Nov 21-24, 2022 |
| dat | ONLINE: Data analytics for engineering data using machine learning | Stuttgart | English | 2 | Nov 21-23, 2022 |
| ing | ONLINE: Modern C++ Software Design (Advanced) | Stuttgart | German *) | 4 | Nov 22-25, 2022 |
| par | ONLINE: Parallelization with MPI | Vienna | English | 2 | Nov 22-25, 2022 |
| ing | ONLINE: Advanced Fortran Topics (PRACE course) | Garching | English | 4 | Nov 21-24, 2022 |
| par | ONLINE: Parallelization with MPI @ VSC Vienna | Vienna | English | 4 | Nov, 2022 (tbc) |
| par | ONLINE: Advanced Parallel Programming with MPI and OpenMP | Jülich | English | 3 | Nov 28-30, 2022 |
| prf | From zero to hero, Part I: Understanding and fixing on-core performance bottlenecks | Jülich | English | 2 | Jun 1, 2022 |
| prf | From zero to hero, Part II: Understanding and fixing intra-node performance bottlenecks | Jülich | English | 2 | Jun 1, 2022 |
| com | ONLINE: Molecular Modeling with Schrödinger Suite | Garching | English | 2 | Dec, 2022 (tbc) |
| prf | ONLINE: Node-Level Performance Engineering | Garching | English | 2 | Dec, 2022 (tbc) |
| prf | ONLINE: Introduction to NEC SX-Aurora TSUBASA vector platform | Stuttgart | English | 2 | Dec 1-2, 2022 |
| ing | ONLINE: Fortran for Scientific Computing (PRACE course) | Stuttgart | German *) | 5 | Dec 5-9, 2022 |
| dat | ONLINE: From Machine Learning to Deep Learning: a concise introduction | Stuttgart | English | 3 | Dec 12-16, 2023 |
| par | ONLINE: Hybrid Programming in HPC - MPI+X | Vienna | English | 3 | Dec 13-15, 2022 |
| cfp | ONLINE: Introduction to LRZ HPC Systems with Focus on CFD Workflows | Garching | English | 1 | Dec 14, 2022 |
| c+w | | | | | |

Legend:

*) Slides in English

- Parallel Programming par**
 - Message Passing Interface - MPI
 - OpenMP Shared Memory Parallelization
 - Partitioned Global Address Space (PGAS) Languages, e.g.,
 - 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**
- 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
 - Optimization and scaling courses and workshops
- 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**
- Training for special communities com**
- Scientific Conferences and Workshops c+w**

PRACE courses: GCS is a PRACE Training Centre. Some of the courses are sponsored by the PRACE training programme.

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

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