



# Using the Parallel Processing Power of the GWDG Scientific Compute Cluster

## Upcoming Introductory and Parallel Programming Courses

GWDG operates a scientific compute cluster with currently 17,048 cores and a total compute power of 369 Teraflops ( $3.69 \cdot 10^{14}$  floating point operations per second), which can be used by all scientists of the institutes of GWDG's supporting organisations, University of Göttingen and Max Planck Society.

In order to facilitate the access to and the efficient use of these computing resources, GWDG offers introductory and parallel programming courses, held at GWDG's site 'Am Faßberg' (1st and 3rd course) and 'Geiststraße' (2nd course).

The next courses in 2018 are

> **October 22nd, 9:30 am - 4:00 pm**

### **Using the GWDG Scientific Compute Clusters – An Introduction**

This course explains all steps for accessing GWDG's clusters, to compile and install software, and to work with the batch system for the execution of application jobs. The course is intended for new or inexperienced users of the clusters.

> **October 23rd - 24th, 9:15 am - 5:00 pm**

### **Parallel Programming with MPI (Including MPI for Python)**

This course introduces the message passing interface (MPI) for programming parallel applica-

tions in FORTRAN, C, and in Python. All concepts will be illustrated with hands on exercises. Examples of parallel applications will be presented and analysed.

> **November 6th, 9:15 am - 5:00 pm**

### **Programming with CUDA – An Introduction**

Graphic processors (GPUs) are increasingly used as computational accelerators for highly parallel applications. This course introduces hardware and parallelization concepts for GPUs and the CUDA programming environment for C and Fortran, including the language elements for controlling the processor parallelism and for accessing the various levels of memory.

These three courses are repeated regularly. Other courses on parallel computing, dealing with more specialized topics can be arranged on demand. The possible subjects include parallel programming for shared memory systems and using extensions of C or Fortran with high level parallel constructs.

More Information about the courses held regularly or on demand at [www.gwdg.de/scientific-computing-courses](http://www.gwdg.de/scientific-computing-courses).

Information for registering for the courses at [www.gwdg.de/courses](http://www.gwdg.de/courses).

If you have any further questions please contact [support@gwdg.de](mailto:support@gwdg.de).