



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 16,576 cores and a total compute power of 854 Teraflops ($8.54 \cdot 10^{14}$ floating point operations per second), which are used by 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 online due to current Corona pandemic situation.

The next courses in 2021 are

> April 19th, 9:30 am - 4:00 pm

Using the GWDG Scientific Compute Cluster – 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.

> April 20th - 21st, 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.

> April 27th, 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.

Information for registering for the courses at www.gwdg.de/courses.

If you have any further questions please contact support@gwdg.de.