



CSCS

Centro Svizzero di Calcolo Scientifico
Swiss National Supercomputing Centre

Università
della
Svizzera
italiana

Summer University 2022

Effective High-Performance Computing & Data Analytics

July 11 - 25, 2022

The **Swiss National Supercomputing Centre** and **Università della Svizzera italiana** are pleased to announce this year's **Summer University on Effective High-Performance Computing and Data Analytics**, which will be composed of two sections – **online from July 11 to 21, 2022**, and **on-site from July 23 to 25, 2022**.

This summer school will focus on the effective exploitation of state-of-the-art hybrid High-Performance Computing (HPC) systems with a special focus on Data Analytics.

The **digital portion** of this annual program will last two weeks (weekends excluded) and will be held **from July 11 to 21**. The **in-person portion** of the program is a three-day event **from July 23 to 25** taking place at the **Vallemaggia Campus** that we offer to students of the CSCS-USI Summer University as an additional option to participate in engaging and interactive sessions, create collaborations and share some entertaining moments together surrounded by nature. The in-person event will include keynote presentations from invited speakers and hands-on exercises supported by mentors.

The following topics will be covered:

- GPU and ARM architectures
- GPU programming (CUDA and OpenACC)
- Performance optimization and scientific libraries (Kokkos)
- Interactive supercomputing (JupyterLab)
- Python HPC libraries (Numpy/SciPy/Dask/Numba)
- Introduction to Machine Learning and GPU optimized frameworks (Rapids)
- Deep Learning on HPC platforms

The content of the course is tailored for **3rd year Bachelor's students, Master's students, Ph.D students, and early stage Postdocs** interested in both learning parallel programming models, and having hands-on experience using HPC systems.

BSc and MSc students will be able to earn **six ECT credit points** and PhD students will be able to earn **four ECTS credit points** for this course from Università della Svizzera italiana (subject to online exam).

For additional information, application and fees: www.cscs.ch/events

Deadline for application: **Sunday, April 24, 2022**

