CSCS
Centro Svizzero di Calcolo Scientifico
Swiss National Supercomputing Centre

Università
della
Svizzera
italiana

Summer School 2016
Effective High Performance Computing

July 17 - July 28, 2016

Hotel Serpiano, Ticino, Switzerland

The Summer School 2016 on Effective High Performance Computing will focus on the effective exploitation of HPC systems.

Traditional parallel programming approaches, based on the message-passing paradigm, are no longer sufficient to fulfil this task, and innovative solutions need to be addressed. During the two weeks of the school a number of such solutions will be presented. The MPI, OpenMP, CUDA, OpenACC programming models will be introduced, together with scientific libraries and efficient I/O solutions. Their effective combined usage, in order to achieve an ideal exploitation of large hybrid architectures, will be discussed and experimented with extensive practical and exercise lab sessions to help clarify and consolidate the theoretical material presented.

The following topics will be covered:
· Message passing programming model and the MPI standard
· Shared memory systems and the OpenMP programming model
· Scientific libraries
· Efficient data I/O
· GPU programming with CUDA and OpenACC
· Code optimization
· Scientific visualisation

The Summer School is dedicated to **Master** and **Ph.D. students**.

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

Deadline for application: **Monday, April 11, 2016**.