



Lugano, 28 July 2023

**CSCS-USI Summer University 2023**  
**on**  
**Effective High-Performance Computing & Data Analytics**

Confirmation of Participation

**Summer University 2023**  
**23-28 July 2023**

We confirm that Nicola Zomer (Università di Padova) was selected for participation in the CSCS-USI Summer University 2023. Nicola Zomer participated in 28-hours of lessons and hands-on exercises on the topic of Effective High-performance Computing and Data Analytics organized by the Swiss National Supercomputing Centre (CSCS) and the Università della Svizzera italiana (USI) from 23 through 28 July 2023. The program also included a keynote presentation by a lecturer from industry, and a guided visit of the Swiss National Supercomputing Centre. The guided visit is not included in the 28-hours of lessons mentioned above.

**Topics covered by the program:**

- **GPU architectures**
- **GPU programming (CUDA)**
  - Programming model
  - Memory management
  - Performance optimization and scientific libraries
  - Parallel algorithms
- **GPU-accelerated computing with Python**
  - NumPy-like libraries for both CPU and GPU computing
  - Just-in-time compilation for Python code
  - Distributed workloads on HPC clusters

**Total number of hours:** 28h

Nicola Zomer successfully passed the exam, earning 6 ECTS credit points with a grade of:

**PASS**

for this course from the Università della Svizzera italiana.

Best regards,

Prof. Dr. Olaf Schenk