AGENDA - Advanced School on HPC Computing with GPU Accelerators

Monday, 20 November 2023 09:30 to Friday, 24 November 2023 17:30

ONLINE EDITION

Day 1  
Morning: 9:30-12:30  
• Introduction to modern HPC Accelerated Cluster Architectures  
• GPU Architectures  
• Leonardo Architecture  
Afternoon: 14:30-17:30  
• Intro to OpenX offloading (the OpenMP/OpenACC approach)  
• Examples/Exercises

Day 2  
Morning: 9:30-12:30  
• More on OpenX offloading  
Afternoon: 14:30-17:30  
• Profiling MPI/GPU Applications  
• Examples/Exercises

Day 3  
Morning: 9:30-12:30  
• Introduction to CUDA C/Fortran  
Afternoon: 14:30-17:30  
• CUDA execution model  
• Examples/Exercises
Day 4
Morning: 9:30-12:30
- CUDA Asynchronous operations, streams, multi-GPU
- Examples/Exercises

Afternoon: 14:30-17:30
- CUDA memory accesses, shared-memory, Matrix Product Enhanced / Matrix Transpose
- Examples/Exercises

Day 5
Morning: 9:30-12:30
- GPU Computing with SYCL
- GPU Computing with KOKKOS
- Examples/Exercises

Afternoon: 14:30-17:30
- Accelerating python with GPU
- Final Remarks and Conclusions