# Debugging and Optimization of Scientific Applications

## 16th-19th March 2026

Lingua: Inglese
Docenti: Emerson, Molinari, Bellentani, Latini, Gorni, Monterubbiano

Agenda

| 16 March - Tuesday | | |
|---|---|---|
| 9.00  - 9.15 | Presentations | |
| 9.15  - 10.45 | HPC hardware | Emerson |
| 11.15 - 12.30 | Compilers and optimizations | Emerson |
| LUNCH | | |
| 14.00 - 15.00 | Compilers and optimization | Emerson |
| 15.00 - 16.00 | CINECA HPC enviroment | Molinari |
| 16.00 - 17.30 | Rooflines with Intel Advisor | Bellentani |

| 17 March - Wednesday | | |
|---|---|---|
| 9.00 – 11.30 | Debugging techniques | Latini |
| 11.45-12.30 | Debugging with Totalview | Latini |
| LUNCH | | |
| 14.00 - 15.30 | Debugging with Totalview | Latini |
| 16.00 - 18.00 | MPI profiling with Score-P/Scalasca | Bellentani |

| 18 March - Thursday | | |
|---|---|---|
| 9.00 – 11.00 | Profiling Python | Gorni |
| 11.30 – 12.30 | Introduction to GPU hardware | Orlandini |
| LUNCH | | |
| 14.00 - 15.30 | Debugging GPU codes | Orlandini |
| 16.00 - 18.00 | GPU kernel profiling with NVIDIA Nsight Compute | Orlandini |

| 19 March - Friday | | |
|---|---|---|
| 9.00 - 10.30 | Optimizing heterogenous codes | Bellentani |
| 11.00 - 12.30 | Async and multi-GPU optimizations | Bellentani |
| LUNCH | | |
| 14.00 - 16.00 | Energy monitoring | Monterubbiano |

Utenze: a08tra41 ad a08tra64

- Primo accesso su G100 per cambio password