



## H518: CUDA FORTRAN for Material Scientists

**Venue:** Denardo Info-Lab at Adriatico Guest House

**Description:** "CUDA FORTRAN for Material Scientists" is an event organized in collaboration with NVIDIA aiming to teach and advocate the usage of CUDA FORTRAN in scientific codes, in particular in the field of material science. NVIDIA worked with The Portland Group (PGI) to develop a CUDA Fortran Compiler that provides Fortran language support for NVIDIA's CUDA-enabled GPUs. The compiler is freely available in the "Community Edition" on [PGI website](#).

The workshop is organized by few lectures to introduce the audience to GPU and CUDA FORTRAN WHILE the main focus is hands-on and lab demonstrations about how to use CUDA FORTRAN with a large FORTRAN codes. People are encouraged to engage actively during the event and to bring their own codes to work on them with lab instructors. No prior knowledge of GPU computing is required.

The workshop is scheduled from Monday February 27th to Wednesday March 1st (3 days) in ICTP (Trieste, Italy), from 9:30am to 5:00pm. Registration is mandatory, please ask if free seats are available by contacting Filippo Spiga ([spiga.filippo@gmail.com](mailto:spiga.filippo@gmail.com))

**Agenda:** two internationally recognized experts in GPU computing such as Massimiliano Fatica and Everett Phillips from NVIDIA together with the collaboration of Filippo Spiga, Head of Research Software Engineering at University of Cambridge, will alternate during both lectures and the hands-on. The agenda is meant to be the same among all the three-days Workshop.

09:30 - 11:00 - CUDA FORTRAN for Material Scientists

11:00 - 11:30 - coffee break

11:30 - 13:00 - CUDA FORTRAN for Material Scientists: hands-on

13:00 - 14:00 - Lunch

14:00 - 15:30 - Walk-through Quantum ESPRESSO GPU code and code examples

15:30 - 16:00 - coffee break

16:00 - 17:00 - Open-Lab: interactions with trainers

**Organizer:** Filippo Spiga (University of Cambridge)

**Local Organizer:** Ivan Girotto (ICTP)

**Co-Sponsors:**



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