

Acclerated Computing with OpenCL

Compute everywhere with OpenCL

Syllabus

Supercomputers make use of accelerators from a variety of different hardware vendors, using devices such as multi-core CPU's, GPU's and even FPGA's. OpenCL is a way for your HPC application to make effective use of heterogeneous computing devices, and to avoid time-consuming code refactoring when moving to new HPC infrastructure. Over 4.5 days of training we cover everything required to be effective with OpenCL.

1. Days 1-4 (6 hours per day)
    - Introduction to OpenCL - how it works
    - How to build and run applications with OpenCL and MPI
    - Matrix multiplication with OpenCL - fully explained line by line
    - How to debug OpenCL applications and kernels
    - Measure performance with OpenCL Events and open source tools
    - Memory management with OpenCL
    - Coarse and fine-grained shared memory
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    - Strategies for building fast OpenCL kernels
    - Optimise IO performance with asynchronous operations
11. Day 5 (3 hours)
    - Programming challenge - choose your own adventure in working with OpenCL
    - - or -
    - Bring your own code and receive feedback and assistance

Experience level

Advanced, requires knowledge of C/C++.

Course delivery and logistics

All of our workshops are taught by example from instructors that really care about you and your staff, with close attention paid to maximising educational value. Each day of training is approximately 6 hours of engagement plus breaks, and some workshops may span over multiple days. With regard to logistics we have a number of options available including:

- On premises, where we come and teach the course using your facilities (additional cost).
- Online via video conferencing (available worldwide).

In order to keep the educational quality high we keep class sizes in the range of 1-16 participants. A workshop can be repeated for as many times as necessary to cover your training needs. This workshop may be combined with our other course offerings to create a tailored "boot camp" experience spanning several days.

Ready to commit?

So great to go on this journey with you! Click on the links below to enrol in a course or send us an email. We will be in touch soon to discuss logistics!

Enrol in Course | Email Pelagos