

# iVEC OpenCL Summer School at the WASP presents



January - February 2009

Computing has reached a point where the interaction of hardware and software capabilities will change radically. In answer to the demand to improve overall performance and provide better power efficiency, future-computing systems will include general and specialized processors and are focussed on creating heterogeneous multicore computer systems. The increasing availability of heterogeneous parallel systems will, in turn, produce a demand for programmers proficient in developing cross-platform and cross-device software.

The overall goal of the school is to provide students with a reference frame for developing complex parallel programs. The intent is to broaden the students' appreciation for and interest in the field of heterogeneous computer science while also strengthening them technically.

Over the summer, seminars and workshops will be held to explore the coming paradigm shift in computing. Focus will be given to the OpenCL (Open Computing Language) programming standard as a way to improve workload specific processing performance for computing applications. OpenCL is under development by the Khronos Group as an open, royalty-free standard for parallel programming of heterogeneous systems. It provides a common hardware abstraction layer to expose the computational capabilities of systems that include a diverse mix of multicore CPUs, GPUs and other parallel processors such as DSPs and the Cell, for use in accelerating a variety of compute-intensive applications.

Students will be provided a personal storage disk with a programming environment that supports OpenCL. Access will be provided to the WASP teaching lab at UWA, which houses computers suitable for developing OpenCL programs. Those wanting to continue in OpenCL developments will be encouraged to apply to the Apple University Consortium WWDC scholarship program. This is Nationally competitive program that provides a financial subsidy to attend WWDC in San Francisco, USA in Jun 2009.

All students are expected to have previous experience in the C programming language and have a strong interest in computer programming and hardware. See [www.wasp.uwa.edu.au/OpenCL](http://www.wasp.uwa.edu.au/OpenCL) for further information and online application. Application deadline is 19 December 2008.