Advances in GPU Computing

October 27, 2011

Final Program

Co-sponsored by Northeastern University, AMD, Analog Devices, HP, Microway and Qualcomm

8:30 Welcome: Melvin Bernstein, Vice-Provost of Research, Northeastern University

8:40-9:20 Keynote: *"Fusion System Architecture: Hardware and Software Directions"*
Phil Rogers, Corporate Fellow - AMD

9:20-10:45 Session 1: High Performance Applications

- *"GPU Computing for 21st Century Materials Science"* Alain Karma, Northeastern Univ.
- *"Applications of GPU Computing in Medical Imaging"* Daniel Ginsburg, Upsample Software
- *"Implementation of Explicit Complex Variable Support in OpenCL for use in the Hardware Accelerated Modeling of Gravitational Waves"* Justin McKennon, UMASS Dartmouth

10:45-11:00 Break

11:00-12:30 Session 2: High Performance Invited Talks

- *"Developing Portable, High Performance Kernels with Microway's OpenCL Tools and Services"* Michael Fried, GPGPU Unit Manager – Microway
- *"GPUs: a disruptive technology goes mainstream"* Glenn Lupton, Technical Lead of the Accelerator Team, Hewlett Packard

12:30-2:15 Lunch and Poster Session

2:15-3:30 Session 3: Embedded Systems Invited Talks

- *"Heterogeneous GPU Computing for Embedded Applications"* Robert Peloquin, Senior Applications Engineer, Analog Devices
- *"Embedded GPU Computing at AMD"* Richard Jaenicke, Director of Embedded Client Computing, AMD

3:30-3:45 Break

3:45-5:30 Session 4: Tools and Techniques

- *"Optimizing GPU Applications Written in a High-Level Language"* John Cavazos, Univ. of Delaware
- *"How do you know your GPU or Manycore program is Correct?"* Miriam Leeser, Northeastern Univ.
- *"Accurate Simulation of a GPU Microarchitecture"* Rafael Ubal, Northeastern Univ.
- *"The Theano Project"* James Bergstra, Harvard University