

GPGPU-7

March 1, 2014

Salt Lake City, Utah

7:45-8:05 Breakfast

8:05-8:10 Welcome: John Cavazos and Dave Kaeli

8:10-9:00 Keynote: “The Heterogeneous System Architecture: It's (not) all about the GPU” - Paul Blinzer, AMD Fellow

9:00-10:00 Optimization I

- “Efficient Instrumentation of GPGPU Applications Using Information Flow Analysis and Symbolic Execution” - Naila Farooqui, Karsten Schwan and Sudhakar Yalamanchili, Georgia Tech
- “Performance Evaluation and Optimization Mechanisms for Inter-operable Graphics and Computation on GPUs” - Yash Ukidave, Xiang Gong and David Kaeli, Northeastern U.

10:00-10:30 Break

10:30-12:00 Memory

- “Application-aware Memory System for Fair and Efficient Execution of Concurrent GPGPU Applications” - Adwait Jog, Evgeny Bolotin, Zvika Guz, Mike Parker, Stephen W. Keckler, Mahmut T. Kandemir and Chita R. Das, Penn State University, NVIDIA and Intel Corp.
- “KMA: A Dynamic Memory Manager for OpenCL” - Roy Splet, Lee Howes, Ben Gaster and Ana Lucia Varbanescu, Delft U. of Technology, Qualcomm and U. of Amsterdam
- “ad-heap: an Efficient Heap Data Structure for Asymmetric Multicore Processors” - Weifeng Liu and Brian Vinter, U. of Copenhagen

12:30-1:30 Lunch

1:30-3:00 Applications and Frameworks

- “A CPU–GPU Hybrid Implementation and Model-Driven Scheduling of the Fast Multipole Method” - Jee Choi, Aparna Chandramowlishwaran, Kamesh Madduri and Richard Vuduc, Georgia Tech, MIT and Penn. State
- “GLZSS: LZSS Lossless Data Compression Can Be Faster” - Yuan Zu and Bei Hua, U. of Science and Technology of China
- “ParallelJS: An Execution Framework of JavaScript on Heterogeneous Systems” - Jin Wang, Norman Rubin and Sudhakar Yalamanchili, Georgia Tech and NVIDIA

3:00-3:30 Break

3:30-4:30 Optimizations II

- “Exploiting GPU Hardware Saturation for Fast Compiler Optimization” - Alberto Magni, Christophe Dubach and Michael O’Boyle, U. of Edinburgh
- “APR: A Novel Parallel Repacking Algorithm for Efficient GPGPU Parallel Code Transformation” - Yulong Yu, Xubin He, He Guo, Sihui Zhong, Yuxin Wang, Xin Chen and Weijun Xiao, Dalian U. of Technology and Virginia Commonwealth U.

4:30-5:30 Power

- “Measuring GPU Power with the K20 Built-in Sensor” - Martin Burtscher, Ivan Zecena and Ziliang Zong, Texas State U.
- “Power Modeling for Heterogeneous Processors” - Tahir Diop, Natalie Enright Jerger and Jason Anderson, U. of Toronto