GPGPU-3
March 14, 2010
Final Program

8:30 Welcome

8:40-9:30 Invited talk: "Toward Exascale Computational Science with Heterogeneous Processing,"
Dr. Jeffrey Vetter, Oak Ridge National Laboratory and Georgia Institute of Technology

9:30-10:20  Session 1: Applications
- “Parallel Multiclass Classification using SVMs on GPUs,” Sergio Herrero-Lopez and John Williams, MIT
- “Cortical Architectures on a GPGPU,” Andrew Nere and Mikko Lipasti, University of Wisconsin

10:20-10:40 Break

10:40-12:30  Session 2: Tools
- “Compiling Python to a Hybrid Execution Environment,” Rahul Garg, McGill University and Jose Nelson Amaral, University of Alberta
- “Modeling GPU-CPU Workloads and Systems,” Andrew Kerr, Gregory Diamos and Sudhakar Yalamanchili, Georgia Tech
- “Implementing the PGI Accelerator Model,” Michael Wolfe, The Portland Group

12:20-1:45 Lunch

1:45-2:35 Invited talk: "GPGPU role within a 500 TFLOPS Heterogeneous cluster," Dr. Richard Linderman, AFRL/RI

2:35-3:25  Session 3: Libraries
- “The Scalable Heterogeneous Computing (SHOC) Benchmark Suite,” Anthony Danalis, University of Tennesee and ORNL, Gabriel Marin, Collin McCurdy, Jeremy S. Meredith, Philip C. Roth, Kyle Spafford, Vinod Tipparaju and Jeffrey S. Vetter, Oak Ridge National Lab
- “Accelerating MATLAB Image Processing Toolbox Functions on GPUs,” Jingfei Kong, Martin Dimitrov, Janaka Liyanage, Lin Cao, Jacob Staples, University of Central Florida, Yi Yang and Huiyang Zhou, North Carolina State University, Mike Mantor, AMD

3:25-3:45 Break

3:45-5:25  Session 4: Novel Applications
- “Best-effort Semantic Document Search on GPUs,” Surendra Byna, Srimat Chakradhar, and Srihari Cadambi, NEC Labs, Jiayuan Meng, University of Virginia, Anand Raghu Nathan, Purdue University
- “Accelerating SQL Database Operations on a GPU with CUDA,” Peter Bakkum and Kevin Skadron, University of Virginia
- “Accelerating the Local Outlier Factor Algorithm on a GPU for Intrusion Detection Systems,” Malak Alshawabkeh, Byunghyun Jang and David Kaeli, Northeastern University
- “Iterative Induced Dipoles Computation for Molecular Mechanics on GPUs,” Frederico Pratas and Leonel Sousa, INESC-ID/IST, Ricardo A. Mata, Universität Göttingen