**BARC 2016**

**January 29, 2016**

**Final Program**

Program Schedule (Talks are 20 minutes, lightning talks are 5 minutes)

**8:30-8:45 - welcome**

**8:45-9:30 – Keynote - ThunderX: 96-core Dual-Socket Server System, Shubu Mukherjee, Cavium, Inc**

**9:30-10:00 - Lightning session**

* Kurt Keville and Arun Thomas. RISC-V Intro and Update, MIT and BAE Systems
* Xiang Gong, Rafael Ubal and David Kaeli. Multi2C: an open GPU compiler backed by LLVM, Northeastern University
* Masab Ahmad and Omer Khan. Tradeoffs in Secure Accelerator Designs, University of Connecticut
* Mahsa Bayati, Jaydeep Bardhan and Miriam Leeser. Novel Parallel Approach for Protein Coordinate Conversion, Northeastern University
* Schuyler Eldridge, Thomas Unger, Marcia Sahaya Louis, Amos Waterland, Margo Seltzer, Jonathan Appavoo and Ajay Joshi. Neural Networks as Function Primitives: Software/Hardware Support with X-FILES/DANA, Boston University and Harvard University

**10:00-10:20 - break**

**10:20-12:00 – Performance, Energy, and Thermal Issues (5 talks)**

* Fulya Kaplan and Ayse Coskun. Adaptive Sprinting for Systems with Phase Change Based Cooling, Boston University
* Karthik Sangaiah, Baris Taskin and Mark Hempstead. Fast Multicore Simulation and Performance Analysis of HPC Applications with SynchroTrace, Drexel University and Tufts University
* Trevor Gale, Spencer Hance, Yash Ukidave, Charu Kalra, Kaushal Sanghai and David Kaeli. Memory Characterization of Embedded Applications, Northeastern University and Analog Devices
* Mustafa Cavus and Resit Sendag. A Sequential Prefetcher with Adaptive Distance, University of Rhode Island
* Onur Sahin, Paul Varghese and Ayse Coskun. Just Enough is More: Achieving Sustainable Performance in Mobile Devices under Thermal Limitations, Boston University

**12:00-1:30 - Lunch and Posters**

* Ivan Judson and Kurt Keville. Future Programming Models for Reconfigurable Hardware, Microsoft and MIT
* John Joseph, Umesh Gupta and Kurt Keville. An Evaluation of CUDA Unified Memory Access on NVIDIA Tegra X1, Boston University, IIT Bombay and MIT
* Xiang Gong, Rafael Ubal and David Kaeli. Multi2C: an open GPU compiler backed by LLVM, Northeastern University
* Mahsa Bayati, Jaydeep Bardhan and Miriam Leeser. Novel Parallel Approach for Protein Coordinate Conversion, Northeastern University
* Xin Fang, Stratis Ioannidis and Miriam Leeser. FPGA Implementation of Generator and Evaluator for Garbled Circuits, Northeastern University
* Masab Ahmad and Omer Khan. Tradeoffs in Secure Accelerator Designs, University of Connecticut
* Parnian Mokri and Mark Hempstead. Stockpile of Accelerators: A Methodology to increase Accelerators' Coverage
* Benjamin Drozdenko, Matthew Zimmermann, Miriam Leeser and Kaushik Chowdhury. High-Level Hardware-Software Codesign of an 802.11a Transceiver System using Zynq SoC

**1:30-2:50 - Security and Reliability (4 talks)**

* Dimitra Papagiannopoulou, Andrea Marongiu, Tali Moreshet, Maurice Herlihy, Luca Benini and Iris Bahar. A HTM-based mechanism for error-resilient and energy-efficient operation, Brown University, ETH Zurich and Boston University
* Zhen Jiang, Yunsi Fei and David Kaeli. Correlation Timing Attack on a GPU, Northeastern University
* David Werner, Kyle Juretus and Isuru Daulagala. The Vulnerability of Specialized Architectures to Temperature Side-Channel Information, Tufts University and Drexel University
* Masab Ahmad and Omer Khan. OGAPI Oblivious Graph Processing in Multicores, University of Connecticut

**2:50-3:10 - break**

**3:10-4:30 - Accelerators, Multi-core, and GPUs (4 talks)**

* Brandon Reagen, Paul Whatmough, Robert Adolf, Gu Yeon Wei and David Brooks. Minerva: A Framework for Optimizing Deep Neural Network Hardware Accelerators, Harvard University
* Carter McCardwell and David Kaeli. CLIP: An IP-based GPU compute clustering framework, Northeastern University
* Peilong Li and Yan Luo. P4GPU: Mapping a P4 Program onto a CPU-GPU Heterogeneous Architecture for Acceleration, University of Massachusetts Lowell
* Qingchuan Shi and Omer Khan. A Case for Deploying Multicores in Cyber-physical Embedded Systems, University of Connecticut

**4:30 - Closing**