Programming Models, Languages and Compilers for Manycore and Heterogeneous Architectures (PLC) May 25th, 2015

DESCRIPTION OF WORKSHOP

Three essential pillars to successful parallel computing - Productivity, Portability, Performance. Creating software for heterogeneous systems can be quite complex especially when the low-level details need to be managed and abstracted from the programmer. Emerging standards are providing an incremental development to target heterogeneous architectures, be it NVIDIA, ARM, Intel or AMD. We all know software is an expensive investment. Portability is necessary, ensuring long lifetime of the software and thus reducing the maintenance cost. Other challenges include locality and memory issues, load balancing, and hiding latency with concurrency and so on. This workshop aims to brainstorm ways to make programming heterogeneous systems less challenging and more interesting. We believe that this workshop will provide a forum for the presentation and discussions of research on all aspects of heterogeneous systems programming models, compiler optimizations, language extensions, and software tools for such systems.

We solicited papers from areas including multicore processors, heterogeneous systems, accelerators, programming models and runtime, debuggers and performance analysis, compiler optimizations and tuning heterogeneous systems, locality optimizations, benchmarks and so on.

MESSAGE FROM CHAIR
Sunita Chandrasekaran, University of Houston

On behalf of the organizers, I would like to welcome you all to Hyderabad, India to attend the 3rd Workshop on Programming Models, Languages and Compilers for Manycore and Heterogeneous Architectures (PLC) 2015. High Performance Computing (HPC) has become a key technology to enable many technological advances. Hardware is emerging very rapidly, however the software is still catching up. This workshop will address some of the challenges in programming models for heterogeneous systems or even multicore embedded systems, compilation and runtime techniques for current and emerging systems, and so on.

We would like to thank authors spanning different countries for submitting quality work to PLC 2015. We are fortunate to have renowned expert(s) giving insightful keynote and invited talk on latest trends in High Performance Computing. We hope that you will find this year’s workshop and conference both enjoyable and productive.

I would like to thank all people in the committee that helped put together a strong workshop program.

We hope you all will enjoy the conference, and will have a good time in India!!
ORGANIZATION/STEERING COMMITTEE

- Guang R. Gao, University of Delaware, US
- Xinmin Tian, Intel, US
- Wenguang Chen, Tsinghua University, China
- Michael Wong, IBM, Canada

PROGRAM COMMITTEE

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- Seeyong Lee, Oak Ridge National Laboratory, US
- Yin Lu, Texas Tech University, US
- Kishore Kothapalli, IIIT, Hyderabad, India

PLENARY TALK
Speaker: Prof. P. Sadayappan
Department of Computer Science and Engineering
Ohio State University

INVITED TALK
Speaker: Prof. Torsten Hoefler,
Assistant Professor, ETH Zürich, Switzerland