

The First International Workshop on Characterizing Applications for Heterogeneous Exascale Systems

Tucson, Arizona, USA June 4th, 2011

Held in conjunction with

The 25th International Conference on Supercomputing (ICS 2011)



CALL FOR PAPERS

As we look forward to the exascale era, heterogeneous parallel machines with accelerators, such as GPUs, FPGAs, and upcoming on-chip accelerator cores, are expected to play a massive role in architecting the largest systems in the world. While there is significant interest in accelerator-based architectures, much of this interest is an artifact of the hype associated with them. However, without understanding the behavior of detailed kernels or even entire applications on these architectures, it is unclear how future systems would be designed based on these architectures.

For accelerator-based heterogeneous systems to truly be a successful High Performance Computing platform, it is important that we obtain a complete picture of HPC applications and learn the opportunities and challenges these architectures raise. This workshop aims at providing a platform where the characteristics of computational kernels and applications, and how different software stacks impact them, are presented to the research community to guide future accelerator-based HPC system designs.

TOPICS OF INTEREST

We solicit papers on all aspects of HPC application studies, especially those that involve accelerators such as GPUs, FPGAs, etc. The topics include (but are not limited to):

- ◆ Categorizing/characterizing of HPC applications and kernels with respect to patterns in computation structure, communication, cache accesses, memory, I/O, and file accesses.
- ◆ Evaluating the importance of individual kernels within an entire application.
- ◆ Modeling for applications running on accelerator-based heterogeneous HPC systems.
- ◆ Implication of workload characterization in heterogeneous design issues.
- ◆ Benchmarking of applications, kernels or software stacks and tools supporting applications.

SUBMISSION PROCEDURE

Submitted manuscripts are expected to be within 8 pages and should be formatted using the ACM SIG Proceedings alternate style (single-spaced, double-column format). All papers will be subjected to blind reviews. The submission site is <http://www.easychair.org/conferences/?conf=caches2011>.

The workshop proceedings will be published electronically with the ICS proceedings via the ACM Digital Library. Selected papers will be published in the Journal of High Performance Computing Applications (JHPCA) with a special issue titled “Applications for the Heterogeneous Computing Era”.

WORKSHOP CHAIRS

Jiayuan Meng Argonne National Laboratory, USA
Pavan Balaji Argonne National Laboratory, USA

PUBLICITY AND CYBER CHAIR

Gregory Damos Georgia Institute of Technology, USA

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IMPORTANT DATES

Submission deadline:

Extended to: Mar. 17th, 2011, 11:59 PDT

Author Notification: April 7th, 2011

Camera-ready deadline: April 21th, 2011

Please contact us at caches-chairs@mcs.anl.gov if you have any questions

<http://www.mcs.anl.gov/events/workshops/caches/2011>