

Message from the HCW Steering Committee Chair



These are the proceedings of the “23rd Heterogeneity in Computing Workshop,” also known as HCW 2014. A few years ago, the title of the workshop was changed from the original title of “Heterogeneous Computing Workshop” to reflect the breadth of the impact of heterogeneity, as well as to stress that the focus of the workshop is on the management and exploitation of heterogeneity. All of this is, of course, taken in the context of the parent conference, the International Parallel and Distributed Processing Symposium (IPDPS), and so explores heterogeneity in parallel and distributed computing systems.

Heterogeneity in parallel and distributed computing systems is an important research area with great practical impact for a large range of systems. A heterogeneous computing system may be a set of machines interconnected by a wide-area network and used to support the execution of jobs submitted by a large variety of users to process data that is distributed throughout the system. It may be a suite of high-performance machines tightly interconnected by a fast, dedicated network and used to process a set of production tasks, where the communicating subtasks of each task may execute on different machines in the suite. It also may be a special-purpose embedded system, such as a set of different types of processors working together to perform a particular application. A single multi-core chip may include a heterogeneous collection of processor types that should be used together to perform work in an optimal way. All of these types of heterogeneous computing systems, as well as others, are appropriate subjects for this workshop.

Many people contribute to the success of HCW each year. Dr. Shoukat Ali, Principle Scientist at Elastica, U.S.A., did a fantastic job as this year’s Technical Program Chair. Shoukat and his Program Committee have assembled an excellent program for the workshop this year. Prof. Uwe Schwiegelshohn, from the Robotics Research Institute, TU Dortmund University, Germany, was the General Chair. Uwe was responsible for the overall organization and administration of this year’s workshop, and he did an excellent job. Given his experience as the Program Chair of HCW 2013, he provided valuable guidance to Shoukat (as Shoukat will do for the next Technical Program Chair in his capacity as General Chair for HCW 2015). I thank Uwe, Shoukat, and the Program Committee for their efforts. I also thank the workshop Steering Committee for their oversight and assistance.

IEEE Computer Society and the US Office of Naval Research once again cosponsor the workshop. I thank the Office of Naval Research for their support of our keynote speaker and proceedings.

This workshop is held in conjunction with the International Parallel and Distributed Processing Symposium (IPDPS), which is a merger of the symposia formerly known as the International Parallel Processing Symposium (IPPS) and the Symposium on Parallel and Distributed Processing (SPDP). The Heterogeneity in Computing Workshop series is very appreciative of the cooperation and assistance we have received from the IPDPS/IPPS organizers for the entire workshop’s 23 years.

I hope you find the contents of these proceedings informative and interesting. I encourage you to look also at the proceedings of past and future HCWs.

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