P2S2 2015 Foreword

In the past decade, high-end computing (HEC) architectures have become an important tool in all aspects of scientific discovery. Having ushered in an era where HEC-enabled simulation is considered a third pillar of science along with theory and experiment, HEC architectures have quickly become a credible direction of focused and long-term research. Rapid advances are taking place in different aspects of HEC architectures in an effort to improve performance. Recently, multi- and many-core systems (Intel, AMD), alternative architectures and accelerators (GPGPUs, Cell), high-speed network architectures (InfiniBand, Myrinet, iWARP), and integrated computing platforms (Blue Gene, Cray) have been introduced to aid in this effort.

These advances in the fundamental architecture of HEC architectures mean little, however, without appropriate software components that enable high-performance applications to take advantage of these architectures. System software plays a crucial role in exposing the raw performance of the underlying hardware in an efficient manner. Equally important are innovative, high-performance parallel programming models that enable scientists to express parallel algorithms so that they can execute efficiently on HEC architectures.

We continue the tradition of the past seven years and host the Eighth International Workshop on Parallel Programming Models and Systems Software for High-End Computing (P2S2), held in conjunction with the 44th International Conference on Parallel Processing (ICPP 2015) in Beijing, China, this year. The goal of this workshop is to bring together researchers and practitioners in parallel programming models and systems software for high-end computing architectures. The organization and execution of this year’s workshop were carried out by program chairs, a publicity chair, the Technical Program Committee, and the Steering Committee. We conducted a rigorous peer review process for selecting papers to be presented at the P2S2 2015 workshop, and each paper was reviewed by five reviewers (except for one paper that was determined to be out of scope) before the final decision was made with consideration of online discussions.

We also continue the tradition of organizing a journal special issue for P2S2 2015 workshop papers. The authors of P2S2 2015 workshop papers will receive an invitation to extend their studies to be considered for a Special Issue on Parallel Programming Models and Systems Software for High-End Computing in the Journal of Supercomputing, edited by P2S2 2015 program chairs. This special issue is dedicated to the papers accepted at the P2S2 2015 workshop, and the submission to this special issue is by invitation only. We hope these efforts can continue stimulating the community’s interests and collective efforts in tackling challenges in parallel programming models and systems software for high-end computing.

Yong Chen, Texas Tech University, USA
Pavan Balaji, Argonne National Laboratory, USA
Abhinav Vishnu, Pacific Northwest National Laboratory, USA
P2S2 2015 Program Co-Chairs
P2S2 2015 Program Committee

Steering Committee
William D. Gropp, University of Illinois, Urbana-Champaign
Vijay Saraswat, IBM Research

Program Co-Chairs
Yong Chen, Texas Tech University
Pavan Balaji, Argonne National Laboratory
Abhinav Vishnu, Pacific Northwest National Laboratory

Publicity Chair
Jialin Liu, Texas Tech University

Technical Program Committee
Ahmad Afsahi, Queen’s University
Patrick Bridges, University of New Mexico
Ron Brightwell, Sandia National Laboratories
Suren Byna, Lawrence Berkeley National Laboratory
Daniel Chavarria, Pacific Northwest National Laboratory
Zhihui Du, Tsinghua University
Zhiyi Huang, University of Otago
Christos Kartsaklis, Oak Ridge National Laboratory
Zhiling Lan, Illinois Institute of Technology
Jay Lofstead, Sandia National Laboratories
Xiaoyi Lu, The Ohio State University
Yin Lu, Texas Tech University
Huiwei Lu, Argonne National Laboratory
Miao Luo, The Ohio State University
Rui Mao, Shenzhen University
Chao Mei, Google
Scott Pakin, Los Alamos National Laboratories
Xuanhua Shi, Huazhong University of Science & Technology
Bronis de Supinski, Lawrence Livermore National Laboratory
Guangming Tan, Chinese Academy of Sciences
Lucas Wilson, Texas Advanced Computing Center
Yonghong Yan, Oakland University
Yunquan Zhang, Chinese Academy of Sciences
Ziliang Zong, Texas State University

External Reviewers
Matthew Dosanjh
Akshay Venkatesh
Xiaoxin Tang
Huan Feng
Xu Yang
Xiaolong Shen