MESSAGE FROM THE WORKSHOP CHAIR

Welcome to Proceedings of the EduHPC 2014: Workshop on Education for High-Performance Computing at SC-14! This workshop followed the excellent participation at the inaugural EduHPDC workshop last year in Denver, Colorado at SC-13. The EduHPC workshop was devoted to the development and assessment of educational resources for undergraduate education in Parallel and Distributed Computing (PDC) and High Performance Computing (HPC). Both PDC and HPC now permeate the world of computing to a degree that makes it imperative for even entry-level computer professionals to incorporate these computing modalities into their computing toolkits, no matter what aspect of computing they work on. This workshop focused on the state of the art in HPC and PDC education. The emphasis was undergraduate education, but fundamental issues related to graduate education were also welcome. The workshop was coordinated by the CDER Center for PDC Education and highlighted the NSF/TCPP curriculum initiative on PDC (http://www.cs.gsu.edu/~tcpp/curriculum).

This workshop invited unpublished manuscripts from academia, industry, and government laboratories. Topics of interest included needs and approaches for augmenting undergraduate and graduate education in Computer Science and Engineering, Computational Science, and Domain Science and Engineering, and computational curricula and courses for STEM and business disciplines with PDC and high performance computing (HPC) components.

The workshop was particularly dedicated to bringing together stakeholders from industry (both hardware/software vendors and employers), government labs, funding agencies, and academia in the context of SC-14, so that each could hear the challenges faced by the others, learn the various approaches to these challenges, and generally have opportunities to exchange ideas and brainstorm solutions. Topics of interest included, but were not limited to:

1. Pedagogical issues in incorporating PDC and HPC into undergraduate and graduate education, especially in core courses
2. Novel ways of teaching PDC and HPC topics
3. Experience with incorporating PDC and HPC topics into core CS/CE courses
4. Pedagogical tools, programming environments, infrastructures, languages, and projects for PDC and HPC
5. Employers’ experiences with and expectation of the level of PDC and HPC proficiency among new graduates.

In addition to the contributed papers, instructors who received an NSF/TCPP Early Adopter grant in the past for curriculum enhancement for inclusion of PDC topics were encouraged to submit a 2-page extended abstract toward lightning talks.

We received 18 submissions from 10 countries. All manuscripts were reviewed by our excellent program committee resulting in at least three reviews for each submission and four for most. My sincere thanks go to the program committee members for their hard work! The program committee met via teleconference and selected nine papers. In addition, we also had nine lightning talks based on the experience reports and evaluations presented by the early adopters of the NSF/TCPP PDC curriculum.

Travel and registration for all the early adopters to the workshop were supported by Intel. We thank NSF for their continued support for the NSF/TCPP PDC curriculum initiative, the early adopter competitions (stipend, travel), and the EduPar and EduHPC workshop series. We also thank Intel for their support.
for the initiative, particularly for the international early adopter institutions, and nVIDIA for contributing GPU cards to many of the early adopters.

Special thanks are due to Almadena Chtchelkanova, Anshul Gupta, Arnold Rosenberg, Alan Sussman and Charles Weems who form the backbone of all the underlying CDER activities including the EduHPC workshop.

Visit the EduHPC-14 website at http://www.cs.gsu.edu/~tcpp/curriculum/?q=edupdhp where you will also find the updated technical program and the complete online proceedings. These include papers and presentation slides of the regular papers and for lightning talks.

Sushil K Prasad
Georgia State University
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