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Preface

The 17th International Workshop on Languages and Compilers for High Performance Computing was hosted by Purdue University in September 2004 on Purdue campus in West Lafayette, Indiana, USA. The workshop is an annual international forum for leading research groups to present their current research activities and the latest results, covering languages, compiler techniques, runtime environments, and compiler-related performance evaluation for parallel and high-performance computing. Eighty-six researchers from Canada, France, Japan, Korea, P. R. China, Spain, Taiwan and the United States attended the workshop.

A new feature of LCPC 2004 was its mini-workshop on Research-Compiler Infrastructures. Representatives from four projects, namely Cetus, LLVM, ORC and Trimaran, gave a 90-minute long presentation each. In addition, 29 research papers were presented at the workshop. These papers were reviewed by the program committee. External reviewers were used as needed. The authors received additional comments during the workshop. The revisions after the workshop are now assembled into these final proceedings.

A panel session was organized by Samuel Midkiff on the question of “What is Good Compiler Research – Theory, Practice or Complexity?” The workshop also had the honor and pleasure to have two keynote speakers, Peter Kogge of the University of Notre Dame and David Kuck of Intel Inc., both pioneers in high performance computing. Peter Kogge gave a presentation titled “Architectures and Execution Models: How New Technologies May Affect How Languages Play on Future HPC Systems”. David Kuck presented Intel’s vision and roadmap for parallel and distributed solutions.

The workshop was sponsored by the National Science Foundation and by International Business Machines Corporation. Their generous contribution is greatly appreciated. We wish to acknowledge Purdue’s Office for Continuing Education and Conferences, Thomas L. Robertson in particular, for their assistance in organizing the workshop. Eighteen graduate students affiliated with Purdue’s Advanced Computer Systems Laboratory (ACSL) volunteered their time to assist in the workshop’s operations. Our special thanks go to the LCPC 2004 program committee and the nameless external reviewers for their efforts in reviewing the submissions. Advice and suggestions from both the steering committee and the program committee have helped the smooth preparation of the workshop. Finally, we wish to thank all the authors and participants for their contribution and lively discussions which made the workshop a success.

May 2005

Rudolf Eigenmann, Zhiyuan Li, Samuel P. Midkiff
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