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Languages and Compilers for Parallel Computing

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Henry G. Dietz
University of Kentucky
Electrical and Computer Engineering Department
Lexington, KY 40506-0046, USA
E-mail: hankd@engr.uky.edu

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Preface

This volume contains (revised versions) of papers presented at the 14th Workshop on Languages and Compilers for Parallel Computing. Parallel computing used to be nearly synonymous with supercomputing research, but as parallel processing technologies have become common features of commodity processors and systems, the focus of this workshop also has shifted. For example, this workshop marks the first time that compiler technology for power management has been recognized as a key aspect of parallel computing. Another pattern visible in the research presented is the continuing shift in emphasis from simply finding potential parallelism to being able to use parallelism efficiently enough to achieve good speedup. The scope of languages and compilers for parallel computing has thus grown to encompass all relevant aspects of systems, ranging from abstract models to runtime support environments.

As in previous years, key researchers were invited to participate. Every paper submitted was reviewed in depth and quantitatively graded on originality, significance, correctness, presentation, relevance, need to revise the write-up, and overall how appropriate it would be to accept the paper. Any concerns raised were discussed by the program committee. In summary, the papers included here represent leading-edge work from North America, Europe, and Asia.

The workshop was hosted by the University of Kentucky. However, the workshop was not held at the host institution; instead, it was held in Kentucky's Cumberland Falls state park. It is a beautiful and quiet place for people to think together. The environment produced not only an increase in attendance over previous years, but also an increase in interactions between attendees, including a very lively panel discussion. Many of the papers in this volume benefited from revisions inspired by discussions at the workshop.

As General/Program Chair for LCPC 2001, I created a permanent website (www.lcpcworkshop.org) for the workshop series, recruited both the University of Kentucky and Advanced Micro Devices (AMD) as sponsors, and made all the arrangements for the workshop, its CD-ROM proceedings, and this publication. Throughout the process of creating and holding this workshop, the Founders' Committee (Utpal Banerjee, David Gelernter, Alex Nicolau, and especially David Padua) ensured that the best traditions of the workshop series continued. The Program Committee members (Larry Carter, Siddhartha Chatterjee, Jeanne Ferrante, Manish Gupta, Sam Midkiff, Jose Moreira, Jan Prins, Bill Pugh, and Chau-Wen Tseng) served in their primary function of ensuring that the papers were of high quality, also contributing many insights as to how to make the workshop really work.

November 2002 Henry Dietz

LCPC Organization

The 14th workshop on Languages and Compilers for Parallel Computing, LCPC 2001, was organized and hosted by the Electrical and Computer Engineering Department of the University of Kentucky, Lexington, KY, USA.

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Sponsoring Institutions

Electrical and Computer Engineering Department, University of Kentucky, Lexington, KY, USA.
Advanced Micro Devices (AMD), Sunnyvale, California

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