

EDITORIAL NOTE

The present volume contains the selection of best papers presented at the Fourth International Workshop on Constructive Methods for Parallel Programming, CMPP 2004, which was held at the University of Sterling (Scotland, UK) on 14 July 2004, as a satellite event of MPC 2004, the Seventh International Conference on Mathematics of Program Construction.

CMPP's focus is on the combination of precision and practicality in the construction of parallel programs. Programming parallel computers effectively and correctly is a conceptually challenging task for all but the simplest of applications. Consequently, there is widespread research interest in formal models and practical methodologies to support this process.

In order to provide some degree of portability and durability, new approaches must abstract from the detailed characteristics of specific parallel systems, and still remain efficiently implementable by those systems. Most of the interest in parallel programming is motivated by the quest for improved performance when processing large applications; to gain credibility, constructive methods must be able to demonstrate their competitiveness in this respect. Similarly, they should convincingly enhance the applicability of the underlying technology by simplifying the expression of real programs for real problems.

The main issues addressed in the presented papers include:

- formalisms for the specification and cost prediction of parallelism,
- parallel and distributed applications using skeletons,
- high-level parallel constructs (skeletons, patterns) and issues relating to their efficient composition and implementation, and
- the impact of target architectures on program design and compilation.

Our sincere thanks go to the program committee members and all additional reviewers who assisted in evaluating the submissions. We are very grateful to Holger Bischof who, as the workshop secretary, was very active and helpful in managing the preparation of the workshop and of this publication. It is our pleasure to thank Jeremy Gibbons, Dexter Kozen, Kelly Patwell, Carron Shankland, and Elaine O'Hare for their help in organizing the event.

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