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## Preface

### Volume 30, Issue 3

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#### Abstract

One of the main areas of research in logic programming is the design and implementation of sequential and parallel (constraint) logic programming systems. This research goes broadly from the design and specification of novel implementation technology to its actual evaluation in real life situations. A series of workshops on Implementations of Logic Programming Systems, previously held in Budapest (1993), Ithaca (1994), Portland (1995), Bonn (1996), Port Jefferson (1997), Manchester (1998) and Las Cruces (1999) provided a forum for ongoing research on the design and implementation of sequential and parallel (constraint) logic programming systems.

This volume contains a collection of papers presented at the Workshop on Parallelism and Implementation Technology for (Constraint) Logic Programming, held in Las Cruces on December 1st, 1999, in conjunction with ICLP'99. The workshop was sponsored and organised by COMPU-LOG AMERICAS. The workshop also received support from the Association for Logic Programming and from the Department of Computer Science, New Mexico State University.

Papers from both academia and industry were invited. Preference was given to the analysis and description of implemented systems (or currently under implementation) and their associated techniques, problems found in their development or design, and steps taken towards the solution of these problems.

Topics included, but were not limited to:

- standard and non-standard sequential implementation schemes (e.g., generalization/modification of WAM, translation to C, etc.);
- implementation of parallel logic programming systems;
- balance between compile-time effort and run-time machinery;
- techniques for the implementation of different declarative programming paradigms based on, or extending, logic programming (e.g., constraint logic programming, concurrent constraint languages, equational-logic languages);
- performance evaluation of sequential and parallel logic programming systems, both through benchmarking and using real world applications;
- other implementation-related issues, such as memory management, register allocation, use of global optimisations, etc.

We were very fortunate to have so many interesting research papers, ranging over widely different subjects and giving a broad coverage of current research in sequential and parallel imple-

mentation of logic programming systems. Papers on sequential logic programming systems, focus on varied topics: constraint evaluation, support for extensions to logic programming, and abstract machines for performance evaluation. Papers on parallel logic programming systems also focus on diverse topics ranging from distributed implementations, garbage collection, to optimisations for exploiting and-or parallelism.

The editors would like to thank all authors that chose to submit their work to this book, and also for their cooperation in making this document possible. We would also like to thank all referees involved in assessing the papers in this special volume.

This volume will be published as volume 30, Issue 3 in the series Electronic Notes in Theoretical Computer Science (ENTCS). This series is published electronically through the facilities of Elsevier Science B.V. and its auspices. The volumes in the ENTCS series can be accessed at the URL <http://www.elsevier.nl/locate/entcs>

*March 14, 2000*

*Horst Reichel*

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