Mark Wallace (Ed.)

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Principles and Practice of Constraint Programming – CP 2004

10th International Conference, CP 2004
Toronto, Canada, September/October 2004
Proceedings

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Principles and Practice of Constraint Programming – CP 2004

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Preface

The 10th International Conference on the Principles and Practice of Constraint Programming (CP 2003) was held in Toronto, Canada, during September 27 – October 1, 2004. Information about the conference can be found on the Web at `http://ai.uwaterloo.ca/~cp2004/`

Constraint programming (CP) is about problem modelling, problem solving, programming, optimization, software engineering, databases, visualization, user interfaces, and anything to do with satisfying complex constraints. It reaches into mathematics, operations research, artificial intelligence, algorithms, complexity, modelling and programming languages, and many aspects of computer science. Moreover, CP is never far from applications, and its successful use in industry and government goes hand in hand with the success of the CP research community.

Constraint programming continues to be an exciting, flourishing and growing research field, as the annual CP conference proceedings amply witness. This year, from 158 submissions, we chose 46 to be published in full in the proceedings. Instead of selecting one overall best paper, we picked out four "distinguished" papers – though we were tempted to select at least 12 such papers. In addition we included 16 short papers in the proceedings – these were presented as posters at CP 2004.

This volume includes summaries of the four invited talks of CP 2004. Two speakers from industry were invited. However these were no ordinary industrial representatives, but two of the leading researchers in the CP community: Helmut Simonis of Parc Technologies, until its recent takeover by Cisco Systems; and Jean François Puget, Director of Optimization Technology at ILOG. The other two invited speakers are also big movers and shakers in the research community. We were delighted to welcome Bart Selman, previously at AT&T and now at Cornell, and Andreas Podelski, previously at Microsoft Research and now at the University of the Saarland.

A doctoral program was again organized to expose students to CP 2004, and 22 doctoral presentations are summarized as 1-page papers in the proceedings. Michela Milano brought to the doctoral program all the energy, tact, and organization that the CP community has come to recognise in her.

Finally, nine applications of CP were demonstrated at CP 2004, and 1-page descriptions of these demos have been included here.

The day before CP 2004, nine workshops were held, each with their own proceedings. Four tutorials were presented during the conference: "Modelling Problems in Constraint Programming" by Jean-Charles Regin; "Online Stochastic Optimisation" by Pascal Van Hentenryck and Russell Bent; "Symmetry Breaking in Constraint Programming" by Ian Gent and Jean-François Puget; and "Distributed Constraints – Algorithms, Performance, Communication" by Am-

non Meisels. Barry O'Sullivan brought this excellent program together with his unique combination of charm and competence.

For conference publicity I'm very grateful for the hard work of Gilles Pesant, who took it on at the same time as moving his family across to Europe. He managed both with consummate efficiency.

Many thanks to the program committee, who reviewed and discussed all the submissions, and got nothing for their efforts but a free lunch. Nevertheless PC members took an enormous amount of trouble and the PC meeting was intense but also a lot of fun.

In preparing the proceedings, I'm grateful to Neil Yorke-Smith for generously volunteering to manage all the copyright forms, and Sevim Zongur who aided me in time of need.

Peter Van Beek and Fahiem Bacchus were nothing short of marvellous. I dread to think how much time and trouble they spent on budgeting, planning, booking, covering up for me and making it all work.

Finally heartfelt thanks to the many sponsors who make it possible for the conference to invite speakers, fund students and continue successfully for year after year. We are very grateful to IISI, Cornell; AAAI; Parc Technologies; ILOG; SICS; CoLogNET; Microsoft Research; NICTA, Australia; 4C, Cork; Dash Optimization; and the CPOC.

September 2004 Mark Wallace

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Full Papers

Short Papers

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