CALL FOR PAPERS

International Conference on Integration of AI and OR Techniques in Constraint Programming for Combinatorial Optimisation Problems

CP-AI-OR'04

April 20-22, 2004, Nice, France

http://www-sop.inria.fr/coprin/cpaior04/

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This new conference follows the series of CP-AI-OR International Workshops on Integration of AI and OR Techniques in Constraint Programming for Combinatorial Optimisation Problems held in Ferrara (1999), Paderborn (2000), Ashford (2001), Le Croisic (2002), and Montreal (2003).

The success of the previous workshops has demonstrated that CP-AI-OR is becoming a major forum for exchanging ideas and methodologies from both fields. The aim of this new conference is to bring together interested researchers from AI and OR, and to give them the opportunity to show how the integration of techniques from AI and OR can lead to interesting results on large scale and complex problems. We explicitly welcome new ideas and methods for integrating OR and AI techniques that have arisen from real-world applications.

The integration of techniques from Artificial Intelligence and Operations Research has provided effective algorithms for tackling complex and large scale combinatorial problems with significant improvements in terms of efficiency, scalability and optimality. The benefit of this integration has been shown in applications such as hoist scheduling, rostering, dynamic scheduling and vehicle routing. At the programming/modelling level, most constraint languages embed OR techniques to reason about collections of constraints, so-called global constraints. Some languages also provide support for hybridization allowing the programmer to build new integrated algorithms. The resulting multi-paradigm programming framework combines the flexibility and modelling facilities of Constraint Programming with the special purpose and efficient methods from Operations Research.

CP-AI-OR is intended primarily as a forum to focus on the integration of the approaches of CP, AI, and OR technologies. A secondary aim is to provide an opportunity for researchers in one area to learn about techniques in others. Therefore, papers that actively combine, integrate or contrast approaches from more than one of the areas and papers describing scientific advances in a single area are solicited.

The programm committee invites submissions that include but are not limited to the following topics:

- Integration of constraint relaxation methods, eg: Constraint propagation, Cutting planes, Reduced costs, Global constraints, Graph algorithms, Dynamic programming, Lagrangean and convex relaxations.
- Integration of search and solving methods, eg: Branch and bound, Intelligent backtracking, Incomplete search, Randomized search, Column generation and other decomposition methods, Local search, Meta-heuristics.
- Forms of integration, eg: Static/dynamic problem decomposition, Linking variables and constraints in different solvers, Transformations between models and solvers, Methods using information derived by other solving methods, Collaboration between concurrent methods, models and solvers.
- Problems, modelling, and applications.

The 2004 conference is organized by by INRIA (french national institute for research in computer science and control). It will take place in Nice, France on April 20-22.

Important Dates for Authors
(the deadlines are strict due to publisher constraints)

Deadline for paper submissions	January 9,	2004
Notification of acceptance	February 1,	2004
Final paper due	February 14,	2004
CP-AI-OR'04	April 20-22,	2004

The length of standard technical paper is 15 pages. However, CPAIOR is interested in promoting a wide variety of opportunities for fruitful exchange among the CP, OR and AI communities. Researchers are thus invited to submit late-breaking results in the form of short papers (up to 6 pages). Short papers should present interesting recent results or novel thought-provoking ideas that are not quite ready for a regular full-length paper. A presentation will be scheduled in the conference program for the accepted short papers. They will also be published in the Conference Proceedings.

All Papers are to be submitted electronically by following the instructions at the URL http://www-sop.inria.fr/coprin/cpaior04/submit.html

The publication of the proceedings in the Springer Lecture Notes in Computer Science series (http://www.springer.de/comp/lncs/index.html) is planned.

Authors are requested to prepare their papers by following the Springer instructions (http://www.springer.de/comp/lncs/authors.html).

Before the conference, a master class for PhD students, researchers and practitioners will be organized by Andrea Lodi and Michela Milano (University of Bologna). The topic of the master class will be "Graph Theory and Constraint Programming". Speakers will be announced soon.

Conference Organizers and Program Chairs

Jean-Charles Regin, ILOG Sophia Antipolis

Michel Rueher, Univ. of Nice-Sophia Antipolis

Program Committee

Abderrahmane Aggoun, Cosytec, France
Philippe Baptiste, Ecole Polytechnique, France
Roman Bartak, Charles University, Czech Republic
Chris Beck, Cork Constraint Computation Center, Ireland
Mats Carlsson, SICS, Sweden
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Michael Trick, Carnegie Mellon University, USA
Pascal van Hentenryck, Brown University, USA
Mark Wallace, IC-Parc, UK

Master Class Organizers

Andrea Lodi, Univ. of Bologna

Michela Milano, Univ. of Bologna

Local Arrangements

Claude Michel, Univ. of Nice-Sophia Antipolis

Dany Sergeant (secretary), INRIA Sophia Antipolis

Conference Site

The conference will take place in the heart of ☼ Nice ☼, at the Westminster Hotel (http://www.westminster-nice.com) located on the Promenades des Anglais facing the sea.