

# Fourth International Workshop on Integration of AI and OR techniques in Constraint Programming for Combinatorial Optimisation Problems

Proceedings

## CP-AI-OR'02

Le Croisic, France  
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## Foreword

The integration of techniques from AI and OR has given birth to a new family of algorithms for tackling complex and large scale combinatorial problems. The value of this integration has been shown in applications such as hoist scheduling, rostering, dynamic scheduling, vehicle routing, network design, ...

At the programming/modelling level, most constraint languages embed OR techniques to reason about collections of constraints, so-called global constraints. A few 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.

The purpose of the CP-AI-OR workshop is to bring researchers from the communities of the various optimization techniques to learn about new progress in hybrid optimization techniques and to exchange ideas and methodologies.

This year's edition is the fourth one, and we are very happy to see that the interest in CP-AI-OR is still growing. For CPAIOR'02, 27 papers were selected out of 35 submissions, more than 80 participants are attending the workshop coming from 17 countries.

We are honoured to welcome three renowned invited speakers this year, namely, Robert Bixby, Edward Tsang and Jean Charles Régim. Their work span across different areas of combinatorial optimization techniques, linear and integer programming, local search and constraint satisfaction, and constrained optimization with global constraints. The three of them are representative of those researchers who build bridges between different approaches and improve the state of the art. We warmly thank them for taking the time to come to the workshop and sharing with us their vision of the cross interest of optimization methods.

One major innovation of this year's edition is the organization of a School on Optimization by Michela Milano just before the workshop. The school is a two day Advanced Course on Integration of AI and OR techniques for combinatorial Optimization. Leading experts in the field give invited lectures on different aspects of the integration.

We wish to record a special thank to Catherine de Charette from École des Mines de Nantes for all her effort in handling the local organization of this workshop. The success of this CPAIOR edition, with all its innovations should be credited to her great dedication.

Nantes, March 2002

**Narendra Jussien, François Laburthe**  
Workshop Organizers

## **Workshop Organizers**

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## **Additional Referees**

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