

# The Eighth International Workshop on Symmetry in Constraint Satisfaction Problems (SymCon'08)

In conjunction with CP'2008. September 14-18, 2008, Sydney, Australia

## Preface

Symmetries frequently occur in Constraint Satisfaction Problems (CSPs). When undetected, search redundantly explores symmetric parts of the search space, which causes thrashing. The idea of exploiting symmetry to prevent this misbehavior in search was discussed by Glaisher as far back as 1874. In recent years, new techniques to detect and/or break symmetry have been proposed. However, the characterization, automatic detection, and exploitation of symmetry and its various forms (e.g., local, dynamic, and weak) still present many challenges. The International Workshop on Symmetry in Constraint Satisfaction Problems (SymCon) has been organized since 2001 during the International Conference on Principles and Practice of Constraint Programming (CP). The workshop provides an opportunity for researchers to present advances in the theory and discuss applications and case studies that exhibit some form of symmetry.

Following the success of the previous years, the 8<sup>th</sup> SymCon is held during CP'2008 on September 14-18, 2008 in Sydney, Australia. This year, the program includes eight accepted papers, presented as technical talks. SymCon'08 also features an invited talk by Prof. Karem Sakallah. The invited talk focuses on fast symmetry discover using sparsity of symmetries. The accepted papers investigate a range of problems related to symmetry detection in CSP models (and instances), and symmetry breaking in local and backtrack search. Static and dynamic symmetry breaking and its effect in meta-heuristic search is also studied. Finally, the usefulness of these techniques is demonstrated for the Multiple Knapsack problem.

## Acknowledgments

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