

**JOURNAL OF HEURISTICS**  
**Special Issue on Advances in Metaheuristics for Multiobjective Optimization**

*Guest Editors*

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Real-world optimization problems have become increasingly complex, forcing the development of solution procedures whose efficiency is measured by their ability to find acceptable solutions within a reasonable amount of computer time. To complicate matters, many real-world situations lead to problems that have several conflicting objectives, which typically cannot be optimized with a unique solution. Hence, in multiobjective optimization, solution procedures are designed to search for a good approximation of the Pareto optimal set. Measuring the merit of a given approximation is itself a difficult problem and a number of metrics continue to be developed and tested.

Metaheuristic optimization stands out as a promising approach to deal with this difficult class of problems. Evolutionary algorithms have become one of the most prominent class of metaheuristics for tackling multiobjective optimization problems. However, other methodologies, such as scatter search, tabu search, ant colonies, simulated annealing and GRASP are gaining momentum.

Concerning the development of metaheuristics for multiobjective optimization, there are two areas of special interest: (1) parallel procedures and (2) hybrid implementations. We believe that focusing on these developments may result in significant advances toward the solution of complex multiobjective optimization problems found in practice. The main goal of this special issue is to report on research that produces state-of-the-art metaheuristic tools to solve non-trivial multiobjective problems in a wide spectrum of applications. Of particular interest are papers in the following topics:

- Numerical efficient metaheuristics for multiobjective optimization (either population-based or trajectory based procedures)
- Real-world, complex or novel applications of multiobjective optimization (e.g., telecommunications, bio-informatics, or large NP-hard problem instances.)
- New search operators to deal with hard multiobjective optimization problems
- Improved or new representations for hard multiobjective optimization problems
- Comparative studies on different metaheuristics for complex multiobjective problems
- Computational studies that demonstrate the efficiency of a metaheuristic over a wide set of multiobjective problems
- Computational studies that report on best known results for hard/interesting problems
- Parallel and distributed metaheuristics for multiobjective optimization
- Hybrid models of metaheuristic, constraint programming or mathematical programming techniques
- Theory, metrics and advances to create an efficient multiobjective algorithm

The proposed timeline for the special issue is as follows:

**Submission of papers: December 1st, 2005**

**Notification of first review: April 15th, 2006**

**Final manuscripts sent: July 1st, 2006**

Authors should submit their manuscripts to the *Journal of Heuristics Editorial Manager* <http://heur.edmgr.com>. Please, select “Special Issue - Multiobjective” as the article type.