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Feature Issue on Adaptation of Discrete Metaheuristics for Continuous Optimization

Guest editors: Zbigniew Michalewicz and Patrick Siarry.

Most metaheuristics have been created for solving discrete combinatorial optimization problems. Practical applications in engineering, however, usually require techniques which handle continuous variables, or miscellaneous continuous and discrete variables. As a consequence, a large research effort has focused on fitting several well-known metaheuristics, like Simulated Annealing (SA), Tabu Search (TS), Genetic Algorithms (GA), Ant Colony Optimization (ACO), to the continuous cases. The goal of this special issue is to collect state-of-the art research papers that discuss recent developments in that area and to highlight some general ideas that proved fruitful for transforming discrete domains of application into continuous ones. Therefore, we invite original, high quality papers related, but not limited to the following topics:

- Methodological developments aimed at adapting some metaheuristics (especially SA, TS, GA, ACO, GRASP, variable neighbourhood search, guided local search, scatter search, path relinking, .) to continuous or discrete/continuous variable problems.
- Theoretical and experimental studies on metaheuristics adapted to continuous optimization, e.g., convergence analysis, performance evaluation methodology, test-case generators, constraint handling, etc.
- Software implementations and algorithms for metaheuristics adapted to continuous optimization.
- Real-life applications of discrete metaheuristics adapted to continuous optimization.
- Performance comparisons of discrete metaheuristics (adapted to continuous optimization) with that of competitive approaches, e.g., Particle Swarm Optimization (PSO), Estimation of Distribution Algorithms (EDA), Evolutionary Strategies (ES), specifically created for continuous optimization.

Important dates

Deadline for submissions: June 30th, 2005.

Date of completion of the reviewing process: December 31st, 2005.

Submission process

We encourage authors to send submissions via email in an electronic form (PDF, Postscript, Ms Word) to zbyszek@cs.adelaide.edu.au and siarry@univ-paris12.fr

Alternatively four hard copies must be sent by mail to:

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