

CALL FOR PAPERS
(Deadline for submissions, November 2010)

Emergent Nature Inspired Algorithms for Multi-Objective Optimization

Special Issue of Computers & Operations Research

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Brief description of the topic: Many real-world decision-making situations possess both a discrete or combinatorial structure and involve the simultaneous consideration of conflicting objectives. Problems of this kind are in general of large size and contains several objectives to be “optimized”.

Although Multiple Objective Optimization is a well-established field of research, one branch, namely inspired nature metaheuristics is currently experienced a tremendous. Over the last few years, developments of new methodologies, methods, and techniques to deal with multi-objective large size problems in particular those with a combinatorial structure and the strong improvement on computing technologies (during and after the 80s) made possible to solve very hard problems with the help of inspired nature based metaheuristics. Today real-world applications of large scale multiple objective discrete models are feasible

Objectives: This special volume of Computers & Operations Research is intended to collect in one volume high quality papers on all aspects of the emergent field of nature based inspired metaheuristics. These papers will represent recent developments and outline leading research in the field. We invite contributors to submit their research papers in the following categories.

- Local search, tabu search, simulated annealing, VNS, ILS, ...
- Evolutionary algorithms, swarm optimization, scatter search, ...
- Emergent nature inspired algorithms: quantum computing, artificial immune systems, bee colony, DNA computing, ...

- Parallel algorithms and hybrid methods with metaheuristics, machine learning, game theory, mathematical programming, constraint programming, co-evolutionary, ...
- Application to: logistics and transportation, telecommunications, scheduling, data mining, engineering design, bioinformatics, ...
- Theory of metaheuristics, landscape analysis, convergence, problem difficulty, very large neighbourhoods, ...
- Application to multi-objective optimization
- Application in dynamic optimization, problems with uncertainty, ...
- State of the art surveys

Papers will be subject to a very stringent evaluation process based on an international refereeing procedure in order to ensure contributions are of top international standard.

Deadline for submissions: 15 January 2011

Date of completion: May 2011

Author submissions: Authors should submit their paper via the Computers and Operations Research online submission and editorial system at: <http://www.ees.elsevier.com/cor> and select "Special Issue: Emergent Nature Inspired Algorithms" as the "Article Type".

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