

Workshop on Heuristic Problem Solving

Held within the Twelfth International Conference on Computer Aided Systems Theory

eurocast 2009¹

February 15-20, 2009

Museo Elder de la Ciencia y la Tecnología, Las Palmas de Gran Canaria, Canary Islands, Spain

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Scope:

Heuristic algorithms have been successfully used to attack complex real-world problems. For a large set of domains they are able to calculate approximate solutions in affordable time. However, heuristic algorithms tend to be very domain specific and suffer from a high problem dependency. In order to overcome this insufficiency various different heuristic optimization strategies are generalized resulting in metaheuristic algorithms.

Nowadays metaheuristics enter more and more fields of applications ranging from telecommunications to bioinformatics including of course also other more traditional academic fields as for example continuous or combinatorial optimization. The drastic improvement of computational power and the successful implementation of advanced parallel and grid computing concepts enable efficient solving of problems that have been previously unsolved for a long period of time.

Other important issues arise from the consequences of the No-Free-Lunch theorem. It is suggested to extend the power of basic algorithms by analyzing the topology and features of the search space leading to the design of self-adaptive algorithms. Hybridization, local search and specialized operators are in this context some of the major approaches leading to even more efficient algorithms in terms of computational effort and solution quality.

All these developments enable the research community to tackle previously unsolvable problems in various challenging and often interdisciplinary applications.

Topics:

Suggested topics for papers include but are not limited to:

- New algorithmic developments
- Theory and applications of Genetic Algorithms
- Theory and applications of Genetic Programming
- Other metaheuristics like Simulated Annealing, Tabu Search, Ant Colony Optimization, Particle Swarm Optimization, Scatter Search, ...
- Mathematical programming based approaches
- Hybrid approaches
- Parallel metaheuristics
- Machine learning and simulation
- Data driven modelling and prediction
- Simulation based heuristic optimization
- Application of simulation based soft computing
- Applications in combinatorial optimization
- Applications in bio- and medical informatics
- Applications in networks and telecommunications



Paper Submission:

An extended two pages abstract, including references in English with indication of the workshop of the intended contribution must be sent (via webpage or by e-mail) before October, 31, 2008 to the Organizing Committee Chairman (e-mail address: aquesada@dis.ulpgc.es). For the extended abstract please follow the instructions for LNCS Authors given at the Springer Online web site². Authors will be notified of acceptance by December 1, 2008. Accepted Extended Abstracts will be published in a pre-Conference volume with ISBN. It is anticipated that the final selected full papers will be published in line with prior Eurocast meetings (Springer Lecture Notes in Computer Science No 410, No 585, No 763, No 1030, No 1333, No 1798, No 2178, No 2809, No 3643 and 4739). Full final papers for publication will be required before April 30, 2009.

Important Dates:

- Submission Deadline (Extended Abstract): October 31, 2008
- Acceptance Notification: December 1, 2008
- Camera-Ready Paper Deadline: April 30, 2009

¹ <http://www.iuctc.ulpgc.es/spain/eurocast2009/index.html>

² <http://www.springer.com/computer/lncs?SGWID=0-164-2-72376-0>