



Call for Papers:

Thematic Issue on

“Decision support systems in preliminary design”

- Interactive Decision support techniques -

Topics

Preliminary design, design space exploration, optimization, genetic algorithms, simulated annealing, particle swarm optimization, artificial intelligence, constraint programming, decision support, knowledge base, inventive problems solving, design heuristics

Proposal

Many applications of the engineering design are facing with the development of decision support systems. This challenging issue is especially prominent in the preliminary phases of design. Mechanical engineering, Energy engineering, Process engineering, Material engineering and Design for Manufacturing are all concerned with the development of decision support systems. Preliminary design is interested in the search for innovative concepts as well as in the optimization of systems, parts or materials. This global optimization process is concerned with the optimization of shapes, geometries, structures, dimensions, material combinations, etc. Recent progresses have been performed in the development of tools supporting decision making in the search for innovative concepts or in the development of numerical methods suitable for the optimization of complex mechanical systems in the early phases of their design.

This special issue focuses on advances in design heuristics, numerical methods inspired by nature (genetic algorithms, simulated annealing, particle swarms, etc.), Monte Carlo or stochastic methods and Constraint Programming for design applications. Some approaches are “qualitative” in the sense that they provide reasoning mechanisms to optimize concepts; other approaches are “quantitative” being more numerically oriented to carry out the translation of concepts into quantified design variables or decision variables.

Online Submission

Manuscripts should conform to the standard format of the International Journal on Interactive Design and Manufacturing as indicated in the editor web site: www.ijidem.estia.fr.

Electronic submissions must be in Word or Pdf format and should be prepared according to the journal guidelines. The submissions should be performed through the journal automatic system.

Important Dates

Manuscript submission	1st April 2008
Notification of Acceptance	20 May 2008
Final Decision	30 June 2008

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