CALL FOR PAPERS

Computers and Operation Research

Special Volume on
Hierarchical Optimization and Its Application in Engineering

(First submission date January 1st, 2011 / Deadline for submissions, December 31st, 2011)

Guest Editors: Georgios K.D. Saharidis, Antonio J. Conejo and Steven Gabriel

Hierarchical Optimazation has been successfully used in a variety of applications involving process synthesis and design, scheduling and planning problems, project selection, timing and sequencing problems, energy management problems, markets, as well as scenario-based, multistage stochastic programming problems. Although there have been successful efforts in both theoretical and applied domains, there is still a number of outstanding questions regarding: (a) the applicability of hierarchical optimization for large-scale applications, (b) the robustness and efficiency of solutions procedures, and (c) analysis of convergence properties of the methods.

In this special volume of ***Computers and Operation Research*** we invite contributions in both theoretical development and applications of hierarchical optimization in areas of engineering and applied science. We expect this special volume to be a collection of high quality research contributions and advances in mathematical programming and multi-level optimization methods. The review process will be the same as that used by the journal. Topics suitable for this special volume include, but are not limited to, the following:

- Applications
  - Transportation and supply chain networks
  - Energy networks
  - Financial and portfolio management
  - Analysis of the vulnerability, security, and fragility of engineering networks
  - Game theory applications (e.g., Nash-Cournot, Generalized Nash, Stackelberg)
  - Robust optimization in engineering design
  - Network expansion problems and investment decision-making
- Solutions Methods
  - Bi-level optimization
  - Decomposition methods
  - Approximation methods for non-convex problems
  - Solution methods for mixed-integer bi-level optimization
  - Heuristic meta-heuristic algorithms
- Theoretical Analysis
  - Bi-level modeling and equilibrium problems (MCP, MPEC, MPCC, EPEC)
  - Bi-level optimization vs. bi-objective optimization
  - Reformulation techniques for hierarchical optimization
  - Multi-objective bi-level optimization programming
  - Stochastic hierarchical optimization
  - Hierarchical optimization and complementarity problems

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To submit your manuscript to the **Computers and Operation Research** special issue on Hierarchical Optimization and Its Application in Engineering, please click on the url: http://www.ees.elsevier.com/cor/ and follow the instructions found there. When submitting to the Special Volume, select the article type "***Hierarchical_Opt_Apl_Eng***". The first submission date is **January 1st, 2011** and the deadline for submissions is **December 31st, 2011.**

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