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Dual Sequence Simulated Annealing with Round-Robin Approach for University Course Timetabling -- Heuristic and Exact Methods for the Discrete (r/p)-Centroid Problem -- On the Benefit of Sub-optimality within the Divide-and-Evolve Scheme -- A Real-Integer-Discrete-Coded Differential Evolution Algorithm: A Preliminary Study -- Fitness Distance Correlation and Search Space Analysis for Permutation Based Problems -- A Genetic Algorithm to Minimize Chromatic Entropy -- Evolutionary Approaches to the Three-dimensional Multi-pipe Routing Problem: A Comparative Study Using Direct Encodings -- A Tabu Search Heuristic for Point Coverage, Sink Location, and Data Routing in Wireless Sensor Networks -- Ant Colony Optimization for Tree Decompositions -- Iterated Local Search with Path Relinking for Solving Parallel Machines Scheduling Problem with Resource-Assignable Sequence Dependent Setup Times -- Enhancing a Tabu Algorithm for Approximate Graph Matching by Using Similarity Measures -- Characterizing Fault-Tolerance of Genetic Algorithms in Desktop Grid Systems -- The Office-Space-Allocation Problem in Strongly Hierarchized Organizations -- A Study of Memetic Search with Multi-parent Combination for UBQP -- Bicriteria Scheduling Problem on the Two-Machine Flowshop Using Simulated Annealing -- A Memetic Algorithm for Workforce Distribution in Dynamic Multi-Skill Call Centres -- Geometric Generalization of the Nelder-Mead Algorithm -- Guided Ejection Search for the Pickup and Delivery Problem with Time Windows -- An Evolutionary Algorithm Guided by Preferences Elicited According to the ELECTRE TRI Method Principles -- Multilevel Variable Neighborhood Search for Periodic Routing Problems -- Enhancing Genetic Algorithms by a Trie-Based Complete Solution Archive -- A New Primal-Dual Genetic Algorithm: Case Study for the Winner Determination Problem -- Local Search Algorithms on Graphics Processing Units. A Case Study: The Permutation Perceptron Problem -- Efficient Cycle Search for the Minimum Routing Cost Spanning Tree Problem.

Sommario/riassunto

Metaheuristics continue to demonstrate their effectiveness for an ever-broadening range of difficult combinatorial optimization problems appearing in a wide variety of industrial, economic, and scientific domains. Prominent examples of metaheuristics are evolutionary algorithms, tabu search, simulated annealing, scatter search, memetic algorithms, variable neighborhood search, iterated local search, greedy randomized adaptive search procedures, ant colony optimization and estimation of distribution algorithms. Problems solved successfully include scheduling, timetabling, network design, transportation and distribution, vehicle routing, the travelling salesman problem, packing and cutting, satisfiability and general mixed integer programming. EvoCOP began in 2001 and has been held annually since then. It is the first event specifically dedicated to the application of evolutionary computation and related methods to combinatorial optimization problems. Originally held as a workshop, EvoCOP became a conference in 2004. The event gave researchers an excellent opportunity to present their latest research and to discuss current developments and applications. Following the general trend of hybrid metaheuristics and diminishing boundaries between the different classes of metaheuristics, EvoCOP has broadened its scope in recent years and invited submissions on any kind of metaheuristic for combinatorial optimization.