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   Nota di contenuto   A Comparison Between ACO Algorithms for the Set Covering Problem -- A Comparison Between ACO Algorithms for the Set Covering Problem -- A VLSI Multiplication-and-Add Scheme Based on Swarm Intelligence Approaches -- ACO for Continuous and Mixed-Variable Optimization -- An Ant Approach to Membership Overlay Design -- An Ant Colony Optimisation Algorithm for the Set Packing Problem -- An Empirical Analysis of Multiple Objective Ant Colony Optimization

Algorithms for the Bi-criteria TSP -- An External Memory Implementation in Ant Colony Optimization -- BeeHive: An Efficient Fault-Tolerant Routing Algorithm Inspired by Honey Bee Behavior -- Competition Controlled Pheromone Update for Ant Colony Optimization -- Cooperative Transport of Objects of Different Shapes and Sizes -- Deception in Ant Colony Optimization -- Evolution of Direct Communication for a Swarm-bot Performing Hole Avoidance -- Gathering Multiple Robotic A(ge)nts with Limited Sensing Capabilities -- Improvements on Ant Routing for Sensor Networks -- Integrating ACO and Constraint Propagation -- Logistic Constraints on 3D Termite Construction -- Modeling Ant Behavior Under a Variable Environment -- Multi-type Ant Colony: The Edge Disjoint Paths Problem -- On the Design of ACO for the Biobjective Quadratic Assignment Problem -- Reasons of ACO's Success in TSP -- S-ACO: An Ant-Based Approach to Combinatorial Optimization Under Uncertainty -- Time-Scattered Heuristic for the Hardware Implementation of Population-Based ACO -- Short Papers -- Ad Hoc Networking with Swarm Intelligence -- An Ant Colony Heuristic for the Design of Two-Edge Connected Flow Networks -- An Experimental Analysis of Loop-Free Algorithms for Scale-Free Networks -- An Experimental Study of the Ant Colony System for the Period Vehicle Routing Problem -- An Extension of Ant Colony System to Continuous Optimization Problems -- Ant Algorithms for Urban Waste Collection Routing -- Ants Can Play Music -- Backtracking Ant System for the Traveling Salesman Problem -- Colored Ants for Distributed Simulations -- Dynamic Routing in Mobile Wireless Networks Using ABC-AdHoc -- Fuzzy Ant Based Clustering -- How to Use Ants for Hierarchical Clustering -- Inversing Mechanical Parameters of Concrete Gravity Dams Using Ant Colony Optimization -- Large Pheromones: A Case Study with Multi-agent Physical A* -- Near Parameter Free Ant Colony Optimisation -- Particle Swarm Optimization Algorithm for Permutation Flowshop Sequencing Problem -- Search Bias in Constructive Metaheuristics and Implications for Ant Colony Optimisation -- Task Oriented Functional Self-organization of Mobile Agents Team: Memory Optimization Based on Correlation Feature -- Towards a Real Micro Robotic Swarm -- Posters -- A Hybrid Ant Colony System Approach for the Capacitated Vehicle Routing Problem -- A Swarm-Based Approach for Selection of Signal Plans in Urban Scenarios -- Ant Colony Behaviour as Routing Mechanism to Provide Quality of Service -- Applying Ant Colony Optimization to the Capacitated Arc Routing Problem -- Dynamic Optimization Through Continuous Interacting Ant Colony -- Dynamic Routing in Traffic Networks Using AntNet -- First Competitive Ant Colony Scheme for the CARP -- Hypothesis Corroboration in Semantic Spaces with Swarming Agents -- Mesh-Partitioning with the Multiple Ant-Colony Algorithm.

Sommario/riassunto	1 With its fourth edition, the ANTS series of workshops has changed its name. The original "ANTS–From Ant Colonies to Artificial Ants: International Workshop on Ant Algorithms" has become "ANTS – International Workshop on Ant Colony Optimization and Swarm Intelligence". This change is mainly due to the following reasons. First, the term "ant algorithms" was slower in spreading in the research community than the term "swarm intelligence", while at the same time research inso-called swarm robotics was the subject of increasing activity: it was therefore an obvious choice to substitute the term ant algorithms with the more accepted and used term swarm intelligence. Second, although swarm intelligence research has undoubtedly produced a 2 number of interesting and promising research directions , we think it is fair to say that its most successful strand is the one known as "ant colony optimization".Ant colony optimization, first

introduced in the early 1990s as a novel tool for the approximate solution of discrete optimization problems,has recently seen an explosion in the number of its applications, both to academic and real-world problems, and is currently being extended to the realm of continuous optimization (a few papers on this subject being published in these proceedings). It is therefore a reasonable choice to have the term ant colony optimization as part of the workshop name.