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Autore	Barbosa Helio J.C
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Sommario/riassunto	Ant Colony Optimization (ACO) is the best example of how studies aimed at understanding and modeling the behavior of ants and other social insects can provide inspiration for the development of computational algorithms for the solution of difficult mathematical problems. Introduced by Marco Dorigo in his PhD thesis (1992) and initially applied to the travelling salesman problem, the ACO field has experienced a tremendous growth, standing today as an important nature-inspired stochastic metaheuristic for hard optimization problems. This book presents state-of-the-art ACO methods and is divided into two parts: (I) Techniques, which includes parallel implementations, and (II) Applications, where recent contributions of ACO to diverse fields, such as traffic congestion and control, structural optimization, manufacturing, and genomics are presented.