Preface

Combinatorial optimization is the discipline of decision making dealing with discrete alternatives. The field is at the interface between discrete mathematics, computing science, operational research, and recently also machine learning, and includes a diversity of algorithms and hybrid methods. Stochastic local search (metaheuristics), evolutionary, and other nature-inspired algorithms are a family of methods able to provide robust, high quality solutions to problems of a realistic size in reasonable time. These methods are also relatively simple to design and implement, and offer high flexibility. Many challenging applications in science, industry, and commerce can be formulated as optimization problems. A growing number of them have been successfully solved using the sort of computational methods mentioned above, which are the main content of these proceedings.

EvoCOP was held for the first time in 2001, as the first workshop specifically devoted to evolutionary computation in combinatorial optimization. In 2004 it became a conference, and since then it runs annually. This volume contains the proceedings of EvoCOP 2015, the 15th European Conference on Evolutionary Computation in Combinatorial Optimization, which was held in Copenhagen, Denmark, during April 8–10, 2015. EvoCOP is one of the four events of Evostar 2015. The other three are EuroGP (18th European Conference on Genetic Programming), EvoMUSART (4th International Conference on Evolutionary and Biologically Inspired Music, Sound, Art, and Design), and EvoApplications (18th European Conference on the Applications of Evolutionary Computation, formerly known as EvoWorkshops).

Previous EvoCOP proceedings were published by Springer in the series Lecture Notes in Computer Science (LNCS Volumes 2037, 2279, 2611, 3004, 3448, 3906, 4446, 4972, 5482, 6022, 6622, 7245, 7832, 8600). The table in the next page reports the statistics for each conference.

This year, 19 out of 46 papers were accepted after our rigorous double-blind process, resulting in a 41.3 % acceptance rate, the tighter since 2010. We would like to thank the quality and timeliness of our PC members work, especially since this year's time frame overlapped with the Christmas break. Decisions considered both the reviewers report and evaluation of the Program Chairs. The number of submissions this year shows an increase and we hope this will be maintained as a future trend. The 19 accepted papers covered methodology, applications, and theoretical studies. The methods included evolutionary and memetic (hybrid) algorithms, iterated local search, variable neighborhood search, ant colony optimization, artificial immune systems, hyper-heuristics, and other adaptive approaches. The applications included both traditional domains, such as graph coloring, knapsack, vehicle routing, job-shop scheduling, the p-median, and the orienteering problems; and new(er) domains such as designing deep recurrent neural networks, detecting network community structure, lock scheduling of ships, cloud resource management, the firefighter problem, and AI planning. The theoretical studies involved approximation ratio, runtime, and black-box complexity analyses. The consideration of

multiple objectives, dynamic, and noisy environments was also present in a number of articles. This makes the EvoCOP proceedings an important source for current research trends in combinatorial optimization.

EvoCOP	Submitted	Accepted	Acceptance (%)
2015	46	19	41.3
2014	42	20	47.6
2013	50	23	46.0
2012	48	22	45.8
2011	42	22	52.4
2010	69	24	34.8
2009	53	21	39.6
2008	69	24	34.8
2007	81	21	25.9
2006	77	24	31.2
2005	66	24	36.4
2004	86	23	26.7
2003	39	19	48.7
2002	32	18	56.3
2001	31	23	74.2

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