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Hybrid Metaheuristics

10th International Workshop, HM 2016
Plymouth, UK, June 8–10, 2016
Proceedings

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Preface

The HM workshops are intended to be an international forum for researchers in the area of design, analysis, and experimental evaluation of metaheuristics and their integration with techniques typical of other fields. Metaheuristics, such as simulated annealing, evolutionary algorithms, tabu search, ant colony optimization, scatter search, and iterated local search, are considered state-of-the-art methods for many problems. In recent years, however, it has become evident that the concentration on a sole metaheuristic is rather restrictive. A skilled combination of concepts from different optimization techniques can provide a more efficient behavior and a higher flexibility when dealing with real-world and large-scale problems. Hybrid metaheuristics are such techniques for optimization that combine different metaheuristics or integrate AI/OR techniques into metaheuristics.

The first edition of HM was held in 2004 and, since then, the event has been held regularly. HM 2016 was already the tenth edition of the Workshop on Hybrid Metaheuristics. The preceding workshops were held in Hamburg (2014), Ischia Island (HM 2013), Vienna (HM 2010), Udine (HM 2009), Malaga (HM 2008), Dortmund (HM 2007), Gran Canaria (HM 2006), Barcelona (HM 2005), and Valencia (HM 2004). Except for its first edition, the accepted papers of previous HM workshops were published by Springer in the series *Lecture Notes in Computer Science* (LNCS 3636, LNCS 4030, LNCS 4771, LNCS 5296, LNCS 5818, LNCS 6373, LNCS 7919, LNCS 8457).

HM 2016 continued to be the only three-day event entirely dedicated to the integration of metaheuristics and classic techniques typical of other fields, with the primary aim of providing researchers and scholars with a wide forum for discussing new ideas and new research directions. In addition to learning more about their own research area, the workshop has served to make researchers aware of how their research might contribute and become really fruitful also in other research areas.

As always, this edition confirmed that hybrid metaheuristics are indeed robust and effective, and that several research areas can be put together. Slowly but surely, this process has been promoting productive dialogue among researchers with different expertise and eroding barriers between research areas.

HM 2016 received an overall of 43 submissions from different countries, between regular manuscripts and abstracts, with a total of 16 works accepted (15 full papers and one extended abstract) on the basis of reviews by the Program Committee members and evaluations by the program chairs. There was one additional abstract for oral presentation only. In keeping with the tradition, we had a double-blind peer review process, with four to five expert referees per manuscript, so that not only the originality and overall quality of the papers could be properly evaluated, but also constructive suggestions for improvement could be provided. In light of this, a special thanks is addressed to each member of the Program Committee and external reviewers for devoting their valuable time.

The present selection of manuscripts is of interest to all the researchers working on integrating metaheuristics with other areas for solving both optimization and constraint satisfaction problems. It also represents a sample of current research demonstrating how metaheuristics can be integrated with integer linear programming and other operational research techniques for tackling difficult and relevant problems.

HM 2016 was held in Plymouth, UK, during June 8–10, 2016, and was enriched by three excellent plenary speakers: Carlos A. Coello, Jin- Kao Hao, and Helena Ramalhinho Lourenço. We would like to express our gratitude to them all for having accepted our invitation, and for their participation, which greatly enhanced the quality of the workshop.

Finally, we would like to express our gratitude to everyone that helped us in any way for the success of HM 2016, beginning of course with all the authors who supported the workshop by sending their excellent contributions; and all those who participated in these three days entirely dedicated to science. A special thanks is also addressed to the publicity chair, Antonio Masegosa, for his great job and his valuable support for the success of HM 2016. Without these components, we would not have been able to organize a successful scientific congress.

June 2016

Maria J. Blesa
Christian Blum
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