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Ant Colony Optimization and Swarm Intelligence

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Preface

The series of biannual international conferences "ANTS – International Conference on Ant Colony Optimization and Swarm Intelligence", now in its sixth edition, was started ten years ago, with the organization of ANTS'98. As some readers might recall, the first edition of ANTS was titled "ANTS'98 – From Ant Colonies to Artificial Ants: First International Workshop on Ant Colony Optimization." In fact, at that time the focus was mainly on ant colony optimization (ACO), the first swarm intelligence algorithm to go beyond a pure scientific interest and to enter the realm of real-world applications.

Interestingly, in the ten years after the first edition there has been a growing interest not only for ACO, but for a number of other studies that belong more generally to the area of swarm intelligence. The rapid growth of the swarm intelligence field is attested by a number of indicators. First, the number of submissions and participants to the ANTS conferences has steadily increased over the years. Second, a number of international conferences in computational intelligence and related disciplines organize workshops on subjects such as swarm intelligence, ant algorithms, ant colony optimization, and particle swarm optimization. Third, IEEE started organizing, in 2003, the IEEE Swarm Intelligence Symposium (in order to maintain unity in this growing field, we are currently establishing a cooperation agreement between IEEE SIS and ANTS so as to have IEEE SIS in odd years and ANTS in even years). Last, the *Swarm Intelligence*[1] journal was born.

Continuing a tradition started in 2002 with the third edition of ANTS, in 2008 the proceedings of the conference are also published in the Springer LNCS series.

The current edition of the proceedings contains 17 full-length papers and 24 short papers. These were selected out of 91 submissions, which means that 45% of the submitted papers were accepted for publication. In addition to this, 10 submissions were accepted as extended abstracts: these represent potentially interesting research that is still in its initial stage.

All the contributions to the proceedings were presented at the conference in the form of poster presentations. This choice was intended to promote discussion among the participants. Additionally, there were a few oral presentation, chosen among the full-length papers.

Finally, we would like to thank all the people who helped in organizing ANTS 2008. We are very grateful to the authors who submitted their works; to the members of the international Program Committee and to the additional referees for their detailed reviews; to the people of IRIDIA for their enthusiasm in helping with organizational matters; to the Université Libre de Bruxelles for providing rooms and logistic support; and, more generally, to all those contributing

[1] See http://www.springer.com/11721

to the organization of the conference. We would like to also thank our sponsors: the IEEE Computational Intelligence Society for technical co-sponsorship, the company AntOptima, the Belgian Fund for Scientific Research–FNRS, and the French community of Belgium, for their financial support.

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