

# Preface

These post-proceedings include a selection of the best papers presented at the International Conference on Swarm Intelligence-Based Optimization, ICSIBO 2014, held in Mulhouse (France). ICSIBO 2014 is a continuation of the conferences OEP 2003 (Paris), OEP 2007 (Paris), and ICSI 2011 (Cergy-Pontoise).

Each submitted paper was reviewed by three members of the international Program Committee. Among the 48 submissions received, 26 were selected for oral presentation. The authors of these accepted submissions sent revised versions of their papers. From a second reviewing process, 20 revised submissions were accepted in these post-proceedings. Accordingly, the acceptance rate for the post-proceedings was 41.67%.

The aim of ICSIBO 2014 is to highlight the theoretical progress of swarm intelligence metaheuristics and their applications. Swarm intelligence is a computational intelligence technique involving the study of collective behavior in decentralized systems. Such systems are made up of a population of simple individuals interacting locally with one another and with their environment. Although there is generally no centralized control on the behavior of individuals, local interactions among individuals often cause a global pattern to emerge. Examples of such systems can be found in nature, including ant colonies, animal herding, bacteria foraging, bee swarms, and many more.

The authors were invited to present original work relevant to swarm intelligence, including, but not limited to: theoretical advances of swarm intelligence metaheuristics; combinatorial, discrete, binary, constrained, multi-objective, multi-modal, dynamic, noisy, and large-scale optimization; artificial immune systems, particle swarms, ant colony, bacterial foraging, artificial bees, fireflies algorithm; hybridization of algorithms; parallel/distributed computing, machine learning, data mining, data clustering, decision making and multi-agent systems based on swarm intelligence principles; adaptation and applications of swarm intelligence principles to real-world problems in various domains.

We would like to express our sincere gratitude to our invited speakers Maurice Clerc and Nicolas Monmarché. The success of the conference resulted from the input of many people to whom we would like to express our appreciation: the members of Program Committee and the secondary reviewers for their careful reviews that ensured the quality of the selected papers and of the conference. We take this opportunity to thank the different partners whose financial and material support contributed to the organization of the conference: Université de Haute-Alsace, Faculté des Sciences et Techniques, ROADEF, GDR-MACS. Last but not least, we thank all the authors who submitted their research papers to the conference, and the authors of accepted papers who attended the conference to present their work. Thank you all.

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