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Swarm Intelligence Applications and Algorithms

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Deadline for manuscript submissions:
closed (1 May 2023)

Message from the Guest Editors

Swarm intelligence algorithms simulate organized and coordinated behaviour of groups of organisms, such as flock of birds, school of fish, colonies of ants, groups of bats, or herds of elephants. Despite the fact that the swarm consists of relatively unsophisticated individuals, swarm as a group exhibits intelligent behaviour by establishing direct and indirect forms of communication without the central component. In the literature, this characteristic is known as self-organization, and four basic principles of self-organization are positive and negative feed-back, multiple interactions and randomness.

Since the swarm approaches have proven to be robust optimizers of NP hard tasks, there is a logical assumption that many real-world NP hard challenges can be solved by using swarm intelligence algorithms in original, modified/upgraded and hybridized implementations. The most important goal of this Special Issue is to gather such research contributions.

Authors are also encouraged to submit manuscripts with theoretical discussion about the performance and behaviour of swarm approaches, as well as to present their EC applications to NP hard challenges.

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Message from the Editor-in-Chief

Algorithms are the very core of Computer Science. The whole area has been considered from quite different perspectives, having led to the development of many sub-communities: Complexity theory (limitations), approximation or parameterized algorithms (types of problems), geometric algorithms (subject area), metaheuristics, algorithm engineering, medical imaging (applications), indicates the range of perspectives. Our journal welcomes submissions written from any of these perspectives, so that it may become a forum for exchange of ideas between the corresponding scientific subcommunities.

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