Discrete Dynamics in Nature and Society

Special Issue on
Swarm Intelligence with Discrete Dynamics: Algorithms and Applications

CALL FOR PAPERS

Swarm intelligence is a discrete dynamic system that deals with natural and artificial systems which consist of many dynamic individuals with decentralized control and self-organization. As a multidisciplinary study inspired by nature, this field typically focuses on collective behaviors deriving from a population of simple agents interacting with one another and with environment. These behaviors include bees' colonies, birds flocking, and bacteria foraging. Over the last few decades, there has been a remarkable growth in this field that encompasses the interests and efforts of researchers ranging from social science and ethology to computer science and engineering. Swarm intelligence has been successfully applied to various real-world problems such as discrete optimization, dynamic decision, and computational system. Resilience and adaptability aspects have been also considered in this context.

This special issue is devoted to publishing original and high-quality articles that advance the state-of-the-art algorithms and applications of swarm intelligence with discrete and dynamic characteristics.

- Particle swarm optimization
- Ant colony optimization
- Bee colony algorithms
- Bacterial foraging optimization
- Artificial fish search algorithm
- Krill herd algorithm
- Other algorithms inspired by swarm intelligence

Besides, applications of the above algorithms are as follows:

Potential topics include, but are not limited to:

- Operations research
- Socioeconomic systems
- Decision making
- Management optimization
- Information systems
- Power and energy systems
- Other socioeconomic, management, and engineering problems, also with reference to resilience and adaptability aspects

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