Special Issue

Collective Dynamics, Decision-Making and Self-Organization in Complex Systems

Message from the Guest Editor

Collective dynamics is the study of how the interactions between individuals in a system lead to system-level behaviors and phenomena. It can be applied to a variety of systems, including animal groups, human societies, companies in complex supply networks, vehicular traffic, and crowds. The various systems in collective dynamics make decisions for their benefit and the benefit of the collective. However, there is a scarcity of research addressing decision-making in the context of collective dynamics.

Moreover, if the various systems are left in a state of self-organization such that order emerges from local interactions between parts of a system (the parts could be complex systems themselves) that were initially disordered, then the decision-making process for the benefit of the individual and the collective is called into question, especially in complex situations characterized by ambiguity, uncertainty, emergence, non-ergodicity, and non-monotonicity.

We are therefore interested in articles that investigate collective dynamics, with emphasis on decision-making and self-organization in complex systems.

Guest Editor

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Deadline for manuscript submissions

30 December 2025

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/221980

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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