



Complexity and Symmetry in the Science of Living Systems: Active Particle Methods

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Message from the Guest Editor

Dear Colleagues,

This Special Issue aims at presenting scientific articles devoted to modeling, qualitative analysis, and simulations of large systems of interacting living entities by active particles methods.

The key concept pushed forward in the issue is a multiscale vision and interpretation by mathematical models of living systems from the microscale to collective behaviors, and organized networks.

The overall content is multidisciplinary, as it aims at focusing on behavioral economy, biology, animal swarms as well as crowd dynamics, where human behaviors and heterogeneity have a significant influence on collective dynamics.

New concepts of symmetry and asymmetry are planned to be presented, looking ahead to a possible future of the science of living systems by advanced tools of mathematics, physics, and computer science.





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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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