

# Special Issue

## Cooperative Effects in Finite Systems

### Message from the Guest Editors

Cooperative phenomena are at the basis of many-body physics. These phenomena are associated with particle interactions and correlations. Cooperative phenomena are at the origin of phase transitions. They lead to quantum effects. With the development of modern technologies, operating on a nanometer scale, a natural question arises about the manifestation of cooperative phenomena in mesoscopic systems. In these systems, the finite-size effects can become important, as can the influence of the surfaces and boundaries, whose role can be neglected for macroscopic systems.

Understanding the peculiarities of these phenomena in a microscopic environment becomes a real challenge for science. Indeed, the study of physics phenomena in mesoscopic systems has grown into a wide field of interdisciplinary investigations involving various branches of natural sciences from physics to chemistry and biology to sociology. Thus, the importance of studying different aspects of cooperative phenomena that can break or preserve symmetries in their evolution between the macroscopic and microscopic world becomes obvious.

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### Guest Editors

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### Deadline for manuscript submissions

closed (31 December 2023)



## Symmetry

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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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### Editor-in-Chief

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