



## Mathematical Modeling in Biology and Life Sciences

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### Message from the Guest Editors

Dear Colleagues,

The progress in biology and life sciences over the last several decades has been revolutionary. However, many aspects of the biological mechanisms remain unclear due to complex interactions at the molecular, cellular, individual and population levels. As modern biology and life science research become more quantitative, mathematical modeling becomes increasingly important. These methods have been widely used to study complex biological processes and phenomena, test biological hypotheses, answer questions that cannot be tackled in clinical research alone, and provide both qualitative and quantitative findings.

Symmetry permeates all aspects of life sciences, from biological molecules to ecosystems and biomes, which has a strict mathematical interpretation: invariance under transformation. It plays an important role in the construction and analysis of mathematical models of biological forms and processes. More evidence is beginning to show that taking an interdisciplinary approach has the potential to lead to breakthroughs in the study of biology and life sciences.





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## Editor-in-Chief

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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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