



## Biology and Symmetry/Asymmetry : Feature Papers 2022

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Deadline for manuscript  
submissions:

**closed (31 May 2023)**

### Message from the Guest Editors

Dear Colleagues,

Symmetry is invariant under some mathematical transformations, such as reflection, rotation, or translation. It may occur in three-dimensional space, as in the symmetrical geometry of organisms or molecules. Symmetry in time, though, is a fourth dimension—symmetrical enzymatic reactions for example, and animal and human behaviors. Symmetry in additional dimensions is a possibility as well. Symmetries may also be symmetries of scale, such as fractals in nature and art.

Symmetries are often broken, and these are subject to study. Upon fertilization, for example, a spherical oocyte undergoes a series of broken symmetries, culminating in an adult organism that is no longer spherically symmetrical. Broken symmetry arises in the molecules of life as well. Deoxyribonucleic acid undergoes a conformational change that breaks helical symmetry during the processes of replication and translation.

Prof. Dr. John H. Graham  
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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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