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Mathematical Modeling of Biological Systems: Geometry, Symmetry and Conservation Laws

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Deadline for manuscript submissions:
closed (31 July 2021)

Message from the Guest Editors

Dear Colleagues,

Mathematical modeling is a powerful approach supporting the investigation of open problems in natural sciences, in particular physics, biology and medicine. Applied mathematics allows to translate the available information about real-world phenomena into mathematical objects and concepts. Mathematical models are useful descriptive tools that allow to gather the salient aspects of complex biological systems along with their fundamental governing laws, by elucidating the system behavior in time and space, also evidencing symmetry, or symmetry breaking, in geometry and morphology. Additionally, mathematical models are useful predictive tools able to reliably forecast the future system evolution or its response to specific inputs. More importantly, concerning biomedical systems, such models can even become prescriptive tools, allowing effective, sometimes optimal, intervention strategies for the treatment and control of pathological states to be planned.
This Special Issue is looking for innovative contributions of experienced researchers in the field of mathematical modelling applied to biology and medicine. Original research papers and reviews are welcome.

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Special Issue

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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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