Special Issue

Symmetry in Mathematical Modelling: Topics and Advances

Message from the Guest Editors

Symmetry has been found in physics, chemistry, biology, finance, and mathematics. The study of symmetry provides insights into these subjects. Mathematical models are an important method of studying real-world systems. The symmetry reflected by such mathematical models reveals the inherent symmetry of real-world systems. It is of practical significance to study such symmetry phenomena. Many directions of mathematics involve symmetry problems. For example, chaotic attractors often display symmetric topology. Many systems of differential equations, such as impulsive differential equations, stochastic impulsive differential equations, and fractional differential equations, also have symmetry properties. Moreover, many models based on game theory exhibit symmetry. The topics of interest for this Special Issue include but are not limited to mathematical modelling, nonlinear dynamics, ordinary differential equations, partial differential equations, impulsive differential equations, random impulsive differential equations, biomathematics, financial mathematics, chaos, artificial intelligence, machine learning, neural networks, and data analysis.

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Deadline for manuscript submissions

closed (30 September 2023)

Symmetry

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 5.3

mdpi.com/si/100477

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About the Journal

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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