



Symmetry in Mathematical Modelling: Topics and Advances

Guest Editors:

Prof. Xiao-Bao Shu

College of Mathematics, Hunan
University, Changsha, Hunan
410082, China

Prof. Dr. Fei Xu

Department of Mathematics,
Wilfrid Laurier University,
Waterloo, ON N2L 3C5, Canada

Deadline for manuscript
submissions:

closed (30 September 2023)

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.





symmetry



an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Sergei D. Odintsov

ICREA, P. Lluis Companys 23,
08010 Barcelona and Institute of
Space Sciences (IEEC-CSIC), C.
Can Magrans s/n, 08193
Barcelona, Spain

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.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), CAPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank: JCR - Q2 (*Multidisciplinary Sciences*) / CiteScore - Q1 (*General Mathematics*); Q1 (*Physics and Astronomy*); Q1 (*Computer Science*)

Contact Us

Symmetry Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/symmetry
symmetry@mdpi.com
X@Symmetry_MDPI