

Special Issue

Advances in Mathematical Modeling and Applications

Message from the Guest Editors

This Special Issue aims to compile recent advances in the application of mathematical modeling approaches and techniques to understand and solve a wide range of complex societal problems, challenges, and natural phenomena across all scales.

Modeling applies mathematical expressions and equations to describe underlying processes and mechanisms across varying levels of complexity. By imposing appropriate assumptions and constraints to reduce complexity based on a physical understanding of the real world, analytical or numerical solutions of the resulting model equations can be obtained using mathematical theories and methodologies. These models provide a robust framework for analyzing emerging patterns, predicting system behavior, and supporting evidence-based scientific decision-making.

Submissions focusing on mathematical modeling and simulation are particularly welcome, especially those involving applications in biology, chemistry, ecology, epidemiology, engineering, environmental diffusion, heat transfer, finance, fluid mechanics, industrial and real-world applications, medicine, physics, or transport phenomena.

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About the Journal

Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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