

Special Issue

Interdisciplinary Modeling and Analysis of Complex Systems

Message from the Guest Editors

This Special Issue of *Mathematics* aims to bridge disciplinary silos by curating cutting-edge research at the intersection of computational mathematics and domain-specific complexity. We seek to establish a platform where methodological innovation meets real-world application, advancing rigorous, transferable frameworks for complex system analysis that transcend conventional boundaries. We invite original research and reviews focusing on interdisciplinary methodologies for complex systems. Contributions may address (but are not limited to) the following areas:

- Cross-domain applications of complex networks, dynamical systems, or stochastic processes;
- Multi-agent systems enriched by cognitive science, behavioral economics, or AI agents;
- Hybrid system modeling (e.g., agent-based + network-based + data-driven);
- Co-design of models with domain experts (e.g., ecologists, epidemiologists, urban planners);
- Scalable system simulation for high-dimensional, adaptive systems;
- Uncertainty quantification, sensitivity analysis, and validation of cross-disciplinary models.

Guest Editors

Prof. Dr. Qing Cai

School of Electronic Engineering, Xidian University, Xi'an 710071, China

Dr. Xu Zhang

School of Artificial Intelligence, Xidian University, Xi'an 710126, China

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Mathematics
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
mathematics@mdpi.com

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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.

Editor-in-Chief

Prof. Dr. Francisco Chiclana
School of Computer Science and Informatics, De Montfort University,
The Gateway, Leicester LE1 9BH, UK

Author Benefits

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Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 17.3 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the second half of 2025).