

Special Issue

Mathematical Modeling in Population Dynamics

Message from the Guest Editor

This Special Issue aims to highlight the most recent advances in mathematical modelling that may describe the complex biological, ecological, and evolutionary processes underpinning population dynamics. The following topics are of interest: discrete and continuous modelling paradigms; analysis of multi-species interactions, such as predator–prey and competitive systems; spatial and stochastic methods involving partial differential equations or network/agent-based models; epidemiological modelling of disease transmission and control; and evolutionary perspectives involving selection, mutation, and adaptation on various timescales. Submissions shall emphasize the importance of mathematics in predicting and controlling population events through rigorous theoretical analysis, computational simulations, and empirical confirmations. This Special Issue accepts original research articles, reviews, new applications in empirical findings, or new theoretical advancements. This will be a valuable resource for enhancing the theoretical foundation and real-world applications of population dynamics modelling by demonstrating multidisciplinary collaboration.

Guest Editor

Dr. Deeptajyoti Sen

1. Department of Mathematics and Statistics, Masaryk University, Kotlaraska 2, 60200 Brno, Czech Republic
2. Department of Informatics, Faculty of Business and Management, Kolejini 4, 61200 Brno, Czech Republic

Deadline for manuscript submissions

30 November 2025



Mathematics

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 4.6



mdpi.com/si/232467

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

[mdpi.com/journal/
mathematics](https://mdpi.com/journal/mathematics)





Mathematics

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 4.6



[mdpi.com/journal/
mathematics](https://mdpi.com/journal/mathematics)



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

High Visibility:

indexed within Scopus, SCIE (Web of Science), RePEc, and other databases.

Journal Rank:

JCR - Q1 (Mathematics) / CiteScore - Q1 (General Mathematics)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.4 days after submission; acceptance to publication is undertaken in 2.4 days (median values for papers published in this journal in the first half of 2025).