

# Special Issue

## Mathematical Biology and Infectious Diseases

### Message from the Guest Editors

Mathematical biology provides theoretical foundations for elucidating and characterizing various infectious disease dynamics in the coupled ecological and epidemiological system. Several large epidemics in the 21st Century, including the original SARS, Ebola, Zika, and COVID-19, have demonstrated the importance of the mathematical modeling of infectious diseases for effective decision support. While a large number of epidemic models have been developed recently, many of them focus on human populations. Other important biological and ecological factors, such as pathogen evolution, vector and non-human carriers' population dynamics, environmental variability, and landscape heterogeneity, should be considered in current epidemic models for a more accurate depiction of the coupled eco-epidemiological system. In this Special Issue, we encourage submissions providing cutting-edge methodologies and innovative insights into the interface of mathematical biology and infectious diseases. Potential topics include but are not limited to, the keywords provided below.

---

### Guest Editors

Dr. Shi Chen

Department of Public Health Sciences, University of North Carolina at Charlotte, 2901 University City Blvd., Charlotte, NC 28223, USA

Prof. Dr. Hua Chen

Beijing Institute of Genomics, Chinese Academy of Sciences, Beijing 100101, China

---

### Deadline for manuscript submissions

closed (1 September 2025)



## Mathematics

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.2  
CiteScore 4.6



[mdpi.com/si/207402](https://mdpi.com/si/207402)

*Mathematics*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[mathematics@mdpi.com](mailto: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 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).