

# Special Issue

## Emerging Mathematical Methods in Data Science: Theory, Algorithms, and Applications

### Message from the Guest Editor

In recent years, the mathematical foundations of data science have undergone a rapid evolution, driven by demands for scalable algorithms, rigorous uncertainty quantification, and robust inference in high-dimensional settings. This Special Issue seeks original research and survey articles that advance the mathematical underpinnings of data science. We invite contributions on the following topics: - Algorithmic innovations in randomized algorithms for matrices and tensors and optimization methods for large-scale learning. - Uncertainty quantification frameworks for data-driven models, including Bayesian methods and robust statistics. - Topological and geometric data analysis, covering persistent homology, manifold learning, and graph-based techniques. - Applications that demonstrate the impact of these methods in science, engineering, and healthcare.

### Guest Editor

Dr. Célio Fernandes

Center for Studies of Transport Phenomena (CEFT), Department of Mechanical Engineering, Faculty of Engineering, University of Porto, 4200-465 Porto, Portugal

### Deadline for manuscript submissions

28 February 2026



# Mathematics

an Open Access Journal  
by MDPI

Impact Factor 2.2  
CiteScore 4.6



[mdpi.com/si/239950](https://mdpi.com/si/239950)

*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 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).