



## Advances in Combinatorics, Discrete Mathematics and Graph Theory

Guest Editors:

**Dr. Jonnathan Rodriguez**

Departamento de Matemáticas,  
Facultad de Ciencias Básicas,  
Universidad de Antofagasta, Av  
Angamos 601, Antofagasta, Chile

**Dr. Luis Medina**

Departamento de Matemáticas,  
Facultad de Ciencias Básicas,  
Universidad de Antofagasta, Av  
Angamos 601, Antofagasta, Chile

Deadline for manuscript  
submissions:

**31 December 2024**

### Message from the Guest Editors

Dear Colleagues,

Combinatorics and graph theory are areas of mathematics that deal with the study of discrete objects and their combinatorial structures. In recent decades, there have been significant advances in these areas, driven by a combination of new theoretical approaches, advanced computational tools, and applications in various fields. Regarding graph theory, significant progress has been made in areas such as random graph theory, complex network theory, graph coloring theory, graph flow theory, and structural graph theory. For example, in random graph theory, profound results have been obtained on the asymptotic properties of random graphs, leading to a better understanding of random phenomena in complex real-world networks, such as social networks, communication networks, and biological networks. In addition to these theoretical advances, combinatorics and graph theory have also experienced a surge in their application in various interdisciplinary areas, such as computer science, computational biology, information theory, game theory, and data science.





an Open Access Journal by MDPI

## Editor-in-Chief

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

## 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.

## Author Benefits

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), RePEc, and other databases.

**Journal Rank:** JCR - Q1 (Mathematics) / CiteScore - Q1 (General Mathematics)

## Contact Us

---

*Mathematics* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/mathematics](http://mdpi.com/journal/mathematics)  
[mathematics@mdpi.com](mailto:mathematics@mdpi.com)  
[X@MathematicsMDPI](https://twitter.com/MathematicsMDPI)