

Special Issue

Combinatorial Optimization and Its Real-World Applications

Message from the Guest Editor

Building on the success of our first edition, this *Mathematics* Special Issue will continue the exploration of cutting-edge advances in combinatorial optimization and its real-world applications across diverse fields—from logistics and healthcare to manufacturing and service industries. As modern decision-making problems grow increasingly complex, often involving large-scale NP-hard challenges with vast numbers of variables and constraints, there is a pressing need for

- Innovative models (e.g., mixed-integer linear programming, Boolean formulations);
- Efficient heuristics that balance solution quality with reduced computation times;
- Energy-aware algorithms to minimize computational resources;
- Practical case studies demonstrating successful implementation.

We invite contributions that address such challenges, offering theoretical insights or applied solutions to advance the field. Topics of interest include, but are not limited to, the following:

- Optimization techniques for large models;
- Heuristic and metaheuristic design;
- Real-world applications with measurable impact.

Guest Editor

Prof. Dr. Anna Sciomachen

Department of Economics and Business Studies, University of Genoa,
16126 Genoa, Italy

Deadline for manuscript submissions

30 April 2026



Mathematics

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 4.6



mdpi.com/si/247624

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).