

# Special Issue

## Mathematical Modelling in Relativity and Quantum Theory

### Message from the Guest Editor

Nowadays, mathematical modelling is an indispensable tool for the successful description and simulation of systems in natural sciences and engineering. Within the field of theoretical physics, applications of relativity and quantum theory are at the forefront of active research and can also be combined with applied mathematics. Numerical relativity, which includes dealing with gravitational wave simulation, and quantum field theory, which describes higher order perturbative corrections of interacting particles, are utilized in specific mathematical models of ongoing and outstanding importance. Moreover, models for global positioning systems with their engineering challenges, or simulations of elementary mechanical devices in strong gravitational fields that display unprecedented phenomena, are intriguing physical systems to model. This Special Issue welcomes contributions on applications of relativity and quantum theory, aiming at the description and simulation of interesting physical systems in both realms.

### Guest Editor

Prof. Dr. Michael M. Tung

Doctor of Physics, Doctor of Mathematics, Instituto de Matemática Multidisciplinar, Universitat Politècnica de València, 46022 Valencia, Spain

### Deadline for manuscript submissions

closed (31 May 2024)



## Mathematics

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.3  
CiteScore 4.0



[mdpi.com/si/160862](https://mdpi.com/si/160862)

*Mathematics*  
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 2.3  
CiteScore 4.0



[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 17.1 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the first half of 2024).