

Special Issue

Applications of Partial Differential Equations in Mathematical Physics, 2nd Edition

Message from the Guest Editor

Partial differential equations in mathematical physics provide a suitable platform for the development of original research in the fields of applied mathematics and physical sciences for the solution of boundary value problems with the introduction of partial differential equations and related methodologies. The purpose of this Special Issue is to gather contributions from experts on analytical and semi-analytical techniques with application domains, including, but not limited to, fluid dynamics, creeping hydrodynamics, and magnetic fluids; direct and inverse scattering problems in wave phenomena; electromagnetism and low-frequency scattering; electric and magnetic activity of the brain; scattering of elastic waves from isotropic and anisotropic materials; mathematical modelling of cancer tumour growth; and interaction with cold atmospheric pressure plasma jet systems and actuators.

Contributions with a main emphasis on numerical methods for the application of partial differential equations in mathematical physics are also welcome, provided they exploit analytical means at certain stages of the procedures employed for the derivations of the solutions.

Guest Editor

Dr. Panayiotis Vafeas

Department of Chemical Engineering, University of Patras, University Campus, 26504 Patras, Greece

Deadline for manuscript submissions

closed (30 June 2025)



Mathematics

an Open Access Journal
by MDPI

Impact Factor 2.2
CiteScore 4.6



mdpi.com/si/172323

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).