

# Special Issue

## Numerical Methods and Applications for Phase Field Models

### Message from the Guest Editor

Our understanding of the universe varies with the scale at which we observe it; accordingly, different models are formulated to address phenomena at these various scales. A central idea in phase-field modeling is the introduction of one or more continuous order parameters that vary smoothly across interfaces. This framework has also been extended to the phase-field crystal method to study pattern formation and related phenomena. However, numerically solving phase-field equations remains challenging due to their strong non-linearity, stiffness, higher-order nature, and coupling with other physical equations. Instead of pursuing analytical solutions, researchers commonly employ numerical schemes to solve these equations with sufficient efficiency and accuracy. This Special Issue (SI) aims to highlight significant recent developments in phase-field modeling and computational techniques. We are particularly interested in innovative numerical schemes based on artificial intelligence (AI) technologies, which hold great promise in enhancing the efficiency and scope of phase-field simulations, thereby advancing both scientific understanding and technological innovation.

---

### Guest Editor

Prof. Dr. Peicheng Zhu  
Department of Mathematics, Shanghai University, Shangda Road 99,  
Shanghai, China

---

### Deadline for manuscript submissions

31 August 2026



## Mathematics

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.2  
CiteScore 4.6



[mdpi.com/si/247920](https://mdpi.com/si/247920)

*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 17.3 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the second half of 2025).