



## Uncertainty Quantification: Latest Advances and Applications

Guest Editors:

**Dr. Chensen Ding**

Department of Mechanics and  
Engineering Science, Peking  
University, Beijing 100091, China

**Dr. Xiaoxiao Du**

School of Mechanical  
Engineering & Automation,  
Beihang University, Beijing  
100191, China

**Dr. Mengxi Zhang**

School of Civil Engineering,  
Tianjin University, Tianjin 300072,  
China

Deadline for manuscript  
submissions:

**30 September 2025**

### Message from the Guest Editors

The aim of this Special Issue is to bring together original research articles and review articles highlighting recent advances in theoretical modeling, numerical simulation, and experiments in uncertainty quantification. We also encourage submissions that investigate interesting applications involving uncertainty quantification. Research integrating machine learning or data-driven techniques is particularly welcome.

Potential topics include but are not limited to the following:

- Data-driven and machine learning techniques in uncertainty quantification.
- Novel theory of modeling uncertainty problems.
- Numerical algorithms for alleviating computational burden and/or enhancing accuracy in uncertainty quantification.
- Sensitivity analysis and optimization based on uncertainty quantification.
- Novel experimental techniques related to uncertainty quantification.
- Case studies or advanced applications of uncertainty quantification in engineering and social science.





## 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)