



## Application of Mathematical Modeling, Optimization, Artificial Intelligence in Chemical Engineering

Guest Editors:

**Dr. Elena Niculina Dragoi**

Faculty of Chemical Engineering  
and Environmental Protection,  
Department of Chemical  
Engineering, "Gheorghe Asachi"  
Technical University of Iasi, Bd.  
Dimitrie Mangeron, nr. 67, 700050  
Iasi, România

**Dr. Mircea Teodor Nechita**

Faculty of Chemical Engineering  
and Environmental Protection,  
Department of Chemical  
Engineering, "Gheorghe Asachi"  
Technical University of Iasi, Bd.  
Dimitrie Mangeron, nr. 67, 700050  
Iasi, România

Deadline for manuscript  
submissions:

**30 April 2024**

### Message from the Guest Editors

Dear Colleagues,

The relevance of classical mathematics has not diminished, although it has changed little over the years. In addition, new mathematical applications in chemical engineering are constantly emerging, particularly in process modeling and design, process optimization, and control. The field of chemical engineering will continue to rely heavily on mathematics as it develops and expands.

Thus, this Special Issue aims to provide a platform for the dissemination of works focusing on the expansion of knowledge (gained via experimental analysis or simulation) through different modeling, optimization, and/or control strategies. Areas of interest include, but are not limited to:

- Statistical analysis for modeling and simulating chemical processes;
- Phenomenological models (focusing, for example, on the ordinary differential equation, calculations of finite differences or approximate solutions);
- Computing and artificial intelligence approaches (focusing, for instance, on deep learning or metaheuristics).

We welcome studies of both a theoretical and an empirical nature.





## 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, St. Alban-Anlage 66  
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)