

# Special Issue

## Mathematical Modeling and Optimization of Energy Systems

### Message from the Guest Editor

Rapid global economic growth has resulted in continually rising energy consumption. Since the industrial revolution, conventional petroleum derivatives, such as coal, oil, and flammable gas, have been the primary energy sources. As a result, significant efforts are being made to generate energy from renewable sources, such as wind, solar, and so on. The recent focus of research has also been targeted toward the reliable and improved performance of renewable energy systems, with a focus on all components of the systems, including the power converter and its controlling techniques. We invite the submission of original research or review papers to this Special Issue of *Mathematics*, entitled “Mathematical Modeling and Optimization of Energy Systems”. The main objective of this Special Issue is to promote new advancements, developments, and applications of control, modeling and optimization in the field of energy systems. Additionally, we aim to highlight the possibilities of the careful integration of the energy system within the electric grid. Moreover, it is important to consider this impact, especially under fault conditions.

### Guest Editor

Dr. Kotb Basem Tawfiq

Department of Electromechanical, Systems, and Metal Engineering,  
Ghent University, 9000 Ghent, Belgium

### Deadline for manuscript submissions

closed (15 September 2024)



## Mathematics

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.2  
CiteScore 4.6



[mdpi.com/si/156759](https://mdpi.com/si/156759)

*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).