



## Mathematical Tools and Design Techniques for Controlling the Frequency Response of MicroGrids

Guest Editors:

**Dr. Cristiano Maria Verrelli**

Electronic Engineering  
Department, University of Rome  
Tor Vergata, Via del Politecnico 1,  
00133 Rome, Italy

**Dr. Gilney Damm**

Instrumentation, Modélisation,  
Simulation et Expérimentation-  
COSYS-IMSE Laboratory,  
University Gustave Eiffel, 77420  
Champs-sur-Marne, France

Deadline for manuscript  
submissions:

**31 May 2025**

### Message from the Guest Editors

Dear Colleagues,

This Special Issue aims to present original papers exploring the possibility of mimicking a synchronous generator's behavior and thus fixing the resulting inertia-degradation issue that constitutes one of the main challenges for future power systems. Fostering cross-breeding between Mathematics and all the other different disciplines involved in the analysis and control of Power Grids will generate brand new theoretical results in the field while bringing the fundamental problems hidden behind the considered application to the mathematical community. It is our strong belief that both communities will benefit from these exchanges, with the results presented in this collection being of great importance for theorists and practitioners in both academia and industry.





an Open Access Journal by MDPI

## 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)