

## Special Issue

# Navigating New Horizons: Symmetry and Advances in the Integration and Active Support of Large-Scale Renewable Energy

### Message from the Guest Editors

Developing renewable energy technologies is crucial for achieving flexible and efficient energy production and reducing the impact of fossil fuels. However, fluctuations in renewable energy and our dependence on power electronic devices have complicated the integration of the grid, bringing challenges to planning, control, transmission, and economic operation. The concepts of symmetry and asymmetry are deeply rooted in these challenges, as they play a fundamental role in the design, control, and optimization of renewable energy systems. For example, the symmetrical characteristics of power electronic devices and grid structures can enhance system stability and efficiency, while asymmetry often introduces complex problems that require advanced control algorithms and design techniques. This Special Issue aims to explore how symmetry/asymmetry features affect the generation, grid integration, and optimization of renewable energy. Comprehensive reviews that thoroughly explore the interaction between symmetry and renewable energy technologies are also encouraged.

### Guest Editors

Dr. Wenyang Deng

Prof. Dr. Sizhe Chen

Dr. Li Liu

Dr. Huangqing Xiao

### Deadline for manuscript submissions

30 April 2026



## Symmetry

an Open Access Journal  
by MDPI

Impact Factor 2.2  
CiteScore 5.3



[mdpi.com/si/219208](https://mdpi.com/si/219208)

*Symmetry*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[symmetry@mdpi.com](mailto:symmetry@mdpi.com)

[mdpi.com/journal/  
symmetry](https://mdpi.com/journal/symmetry)





# Symmetry

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.2  
CiteScore 5.3



[mdpi.com/journal/  
symmetry](https://mdpi.com/journal/symmetry)



## About the Journal

### Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

---

### Editor-in-Chief

Prof. Dr. Sergei Odintsov

1. ICREA, 08010 Barcelona, Spain

2. Institute of Space Sciences (IEEC-CSIC), C. Can Magrans s/n, 08193 Barcelona, Spain

---

### Author Benefits

#### Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

#### High Visibility:

indexed within SCIE (Web of Science), Scopus, CAPus / SciFinder, Inspec, Astrophysics Data System, and other databases.

#### Journal Rank:

JCR - Q2 (Multidisciplinary Sciences) / CiteScore - Q1 (General Mathematics)