

Special Issue

Distributed Control and Optimization for Resilient Microgrid Systems: Event-Triggered Mechanisms and Energy Storage Strategies

Message from the Guest Editors

This Special Issue focuses on distributed control and optimization in microgrids, crucial for managing the complexity and dispersion of distributed energy resources (DERs). Distributed approaches offer scalability, resilience, and flexibility, addressing power fluctuations and ensuring real-time adaptability, unlike centralized mechanisms. Distributed methods also bolster system resilience by decentralizing decision-making, reducing single points of failure, and enhancing robustness against attacks. They ease communication burdens, reduce latency, and allow local decision-making without constant central reliance, ideal for managing dispersed resources. For this Special Issue, we invite contributions that explore new trends, novel distributed or decentralized algorithms, or applications in microgrids and smart grids, including laboratory tests, field validations, data-driven methods, and co-simulation strategies. Both review articles and original research papers are welcome.

Guest Editors

Dr. Wenfa Kang

Dr. Yajuan Guan

Dr. Baoze Wei

Deadline for manuscript submissions

15 October 2025



Energies

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 7.3



mdpi.com/si/220448

Energies
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
energies@mdpi.com

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





Energies

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 7.3



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



About the Journal

Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

Editor-in-Chief

Prof. Dr. Enrico Sciubba

Department of Mechanical and Industrial Engineering, University
Niccolò Cusano, 00166 Roma, Italy

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), Ei Compendex, RePEc, Inspec, CAPlus / SciFinder, and other databases.

Journal Rank:

CiteScore - Q1 (Control and Optimization)