Special Issue

Emerging Trends in Artificial Intelligence for Renewable Energy Systems: Demand and Flexibility Forecasting and Demand Response

Message from the Guest Editors

The integration of artificial intelligence (AI) into renewable energy systems (RES) has transformed the areas of energy forecasting, demand management, and responsiveness to fluctuations in energy demand and supply. This Special Issue aims to explore cutting-edge AI methodologies tailored to optimize the efficiency and reliability of renewable energy grids. This Issue will focus on the following objectives:

- Exploring AI techniques for renewable energy forecasting
- Enhancing demand flexibility and response mechanisms
- Exploring novel explainable artificial intelligence (XAI)- and responsible artificial intelligence (RAI)-empowered systems for the renewable energy sector to improve the communication of explanations to human users regarding their decisions
- Exploiting advances in generative artificial intelligence (GAI)
- Addressing real-world applications and challenges

Guest Editors

Dr. Elissaios Sarmas

Dr. Vangelis Marinakis

Prof. Dr. George A. Tsihrintzis

Deadline for manuscript submissions

15 September 2025

Electronics

an Open Access Journal by MDPI

Impact Factor 2.6
CiteScore 6.1

mdpi.com/si/224010

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

mdpi.com/journal/electronics

Electronics

an Open Access Journal by MDPI

Impact Factor 2.6
CiteScore 6.1

mdpi.com/journal/electronics

About the Journal

Message from the Editor-in-Chief

Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guest-edited by leading experts in selected topics of interest.

Editor-in-Chief

Prof. Dr. Flavio Canavero
Department of Electronics and Telecommunications, Politecnico di Torino, 10129 Torino, Italy

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), CAPlus / SciFinder, Inspec, Ei Compendex and other databases.

Journal Rank:

JCR - Q2 (Engineering, Electrical and Electronic) / CiteScore - Q1 (Electrical and Electronic Engineering)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.8 days after submission; acceptance to publication is undertaken in 2.4 days (median values for papers published in this journal in the first half of 2025).