

## 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

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### Guest Editors

Dr. Elissaios Sarmas

Dr. Vangelis Marinakis

Prof. Dr. George A. Tsihrintzis

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### Deadline for manuscript submissions

15 September 2025



## Electronics

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### 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 guestedited by leading experts in selected topics of interest.

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### Editor-in-Chief

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