



## Implementation of Renewable Energy in Power Distribution Systems Using Digitalization

Guest Editors:

**Dr. Olena Rubanenko**

Research and Innovation Centre  
for Electrical Engineering,  
University of West Bohemia,  
Univerzitní 26, 301 00 Pilsen,  
Czech Republic

**Dr. Milan Belik**

Department of Electrical Power  
Engineering, University of West  
Bohemia, 30614 Pilsen, Czech  
Republic

Deadline for manuscript  
submissions:

**15 December 2024**

### Message from the Guest Editors

The integration of renewable energy sources (RES) into power grids is a significant global trend impacting various problems in specific conditions of particular countries. The aim of this Special Issue is to study the digitalization of Renewable Energy Sources (RES), creating Digital Twins (DTs), supporting the balancing of the power grid and increasing the flexibility of the energy system, possible through dispatchable renewable energy sources.

For this Special Issue, original research articles and reviews are welcome. Research areas may include (but are not limited to) the following:

- Analysis of available technical means
- Development of technological schemes implementation RES in the power grid
- Simulation photovoltaic system
- Model microgrid with renewable energy sources
- DT microgrid and RES
- Formation of optimal parameters of the power supply system according to the criterion of cost minimization and energy efficiency
- Developing the composition of equipment (the number, type, and location of electrical modules, inverters, and storage systems, taking into account the terrain and meteorological conditions)
- Using modern software for simulation RES
- Degradation PV module





an Open Access Journal by MDPI

## Editor-in-Chief

**Prof. Dr. Flavio Canavero**

Department of Electronics and  
Telecommunications,  
Politecnico di Torino, 10129  
Torino, Italy

## 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.

## 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), CAPus / SciFinder, Inspec, and other databases.

**Journal Rank:** JCR - Q2 (*Electrical and Electronic Engineering*) CiteScore - Q2 (*Electrical and Electronic Engineering*)

## Contact Us

*Electronics* Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/electronics](http://mdpi.com/journal/electronics)  
[electronics@mdpi.com](mailto:electronics@mdpi.com)  
[X@electronicsMDPI](https://twitter.com/electronicsMDPI)