Special Issue

Advances in Power Electronics: Transformation Technologies and Their Applications in Converter Systems, Wireless Power Transfer, and Electrical Energy Storage Systems

Message from the Guest Editors

Power electronic systems are integral parts of modern electrical energy conversion systems based on traditional and renewable energy sources. Electro-thermal analysis of power electronic circuits and the semiconductors or magnetic components is one of the main stages in the design of electrical energy conversion systems. Electricity storage systems used to store excess energy generated by renewable energy sources are also a very important element of electricity conversion systems. Modern semiconductor devices used in electrical power conversion systems are made using materials with a wide energy bandgap. The use of such devices requires appropriate knowledge in the selection of a suitable control system to ensure the correct operation of these devices. One of the challenges in modern power electronics is also the power supply of hydrogen production systems and their cooperation with fuel cells in order to generate green electricity. Much space in the literature is also devoted to wireless power transmission systems. We welcome submissions addressing, but not limited to, these areas.

Guest Editors

Prof. Dr. Przemysław Ptak

Department of Power Electronics, Gdynia Maritime University, Morska 81-87, 81-225 Gdynia, Poland

Prof. Dr. Kalina Detka

Department of Power Electronics, Gdynia Maritime University, Morska 81-87, 81-225 Gdynia

Deadline for manuscript submissions

31 March 2026

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/248848

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

mdpi.com/journal/applsci

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/journal/applsci

MDPI

About the Journal

Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, 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, Inspec, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Multidisciplinary) / CiteScore - Q1 (General Engineering)