Special Issue

Power Management of Energy-Autonomous Nodes and Systems

Message from the Guest Editors

The Internet of Things (IoT) paradigm is having a pervasive impact on modern society. The ubiquitous character of IoT nodes implies that they must be energy autonomous and untethered. In this regard, power autonomy is achieved by harvesting energy from the environment using transducers, such as photovoltaic (PV) cells, thermoelectric generators (TEG), and vibration transducers. Nevertheless, due to the heavy dependence of their output signal from operating conditions, these transducers are often unsuitable to feed directly to the circuit where they are applied. Therefore, IoT nodes employ a power management integrated circuit (PMIC) to adapt the generated power and maximize conversion efficiency. The main components of a PMIC are power converters, clock generators, and control circuitry (amplifiers, filters, references etc.) that must also enable self-startup in critical conditions, i.e., low voltage and low power levels provided by external energy harvesters.

Guest Editors

Dr. Andrea Ballo

Department of Electrical, Electronics and Computer Engineering (DIEEI), University of Catania, 95125 Catania, Italy

Prof. Dr. Alfio Dario Grasso

Dipartimento di Ingegneria Elettrica Elettronica e Informatica (DIEEI), University of Catania, I-95125 Catania, Italy

Deadline for manuscript submissions

closed (20 August 2023)

Applied Sciences

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 5.5

mdpi.com/si/130774

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, Embase, CAPlus / SciFinder, and other databases.

Journal Rank:

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