materials

an Open Access Journal by MDPI

IMPACT FACTOR 3.1

Indexed in: PubMed

CITESCORE 5.8

Advances in Hybrid Energy Harvesting: Materials, Structures and Applications

Guest Editors:

Dr. Zacharias A. Viskadourakis
Foundation for Research and Technology-Hellas (FORTH), Institute of Electronic Structure and Laser (IESL), N. Plastira 100, GR-70013 Heraklion, Greece

Dr. George Kenanakis
Institute of Electronic Structure and Laser, Foundation for Research and Technology-Hellas, N. Plastira 100, 70013 Heraklion, Greece

Deadline for manuscript submissions:
20 September 2024

Message from the Guest Editors

Hybrid energy harvesting can be defined as a procedure in which wasted ambient energy from various sources, such as light, heat, movement, vibration, or electromagnetic signals, is captured and converted to electric energy through transduction mechanisms such as photovoltaic, thermoelectric, pyroelectric, piezoelectric, and electromagnetic. Compared to conventional energy-harvesting devices, hybrid systems possess a significant advantage in that they can produce energy continuously, regardless of the environmental conditions. For example, a hybrid harvester consisting of a photovoltaic panel and a thermoelectric generator (TEG) can produce electric power during the day, mainly due to solar energy conversion. However, at night, TEGs continue to provide energy, taking advantage of temperature differences. Therefore, hybrid energy harvesters continuously provide stable, constant energy. As such, hybrid energy-harvesting systems could represent promising alternatives, especially for replacing batteries in low-power electronic devices and wearables, making them an important technology for achieving a sustainable society in the future.

materials

IMPACT FACTOR 3.1 | Indexed in: PubMed | CITESCORE 5.8

an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Maryam Tabrizian
1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.
Journal Rank: JCR - Q1 (Metallurgy and Metallurgical Engineering) / CiteScore - Q2 (*Condensed Matter Physics*)

Contact Us

Materials Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/materials
materials@mdpi.com
𝕏@Materials_Mdpi