Special Issue

Recent Progress on Vibration-Based Energy Harvesting and Its Related Applications

Message from the Guest Editors

Vibration energy harvesting has become an active area of research. It builds on the ability to convert ambient mechanical vibrations into electrical energy. The ongoing progress has expanded the field toward higher efficiency, broader frequency bandwidth, and robust performance under real-world conditions. Recent breakthroughs include nonlinear energy harvesters, hybrid and multi-source transduction approaches, and advanced nanomaterials, among others.

This Special Issue aims to showcase advances and highlight future directions in vibration energy harvesting. We invite contributions that address fundamental theories, modelling and simulation, innovative device architectures, materials development, and application-specific implementations. Both original research articles and comprehensive reviews are welcome. This Special Issue invites papers in the following areas, but not limited to:

- vibration energy harvesting
- piezoelectric, electromagnetic, and electrostatic harvesters
- hybrid and nonlinear mechanisms
- advanced nanomaterials
- power management strategies
- self-powered systems
- wireless sensor networks
- Internet of Things (IoT)
- wearable electronics
- sustainable energy solutions

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Deadline for manuscript submissions

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Message from the Editor-in-Chief

Machines is an international, peer reviewed journal on machinery and engineering. It publishes research articles, reviews and communications.
Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. Full experimental and/or methodical details must be provided.
There are, in addition, unique features of this journal: Manuscripts regarding research proposals and research ideas will be particularly welcomed; Electronic files or software regarding the full details of the calculation and experimental procedure - if unable to be published in a normal way can be deposited as supplementary material.

Editor-in-Chief

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.9 days after submission; acceptance to publication is undertaken in 2.4 days (median values for papers published in this journal in the first half of 2025).