Special Issue

Vibration Energy Harvesting

Message from the Guest Editor

This Special Issue focuses on the theoretical advancements, design innovations, and real-world implementations of vibration energy harvesting systems. Topics range from material innovation and system modeling to the integration of VEH systems into broader energy solutions. Detailed Topics:

- Fundamentals of VEH Technologies:
- Piezoelectric, electromagnetic, and triboelectric mechanisms.
- Multi-physics modeling and optimization strategies.
- Materials and Device Design:
- Advanced materials such as piezoelectric composites and flexible substrates.
- Design and fabrication of MEMS-based harvesters.
- System Integration and Optimization:
- Energy storage solutions compatible with VEH, including supercapacitors and microbatteries.
- Power management systems to maximize efficiency.
- Applications and Case Studies:
- Industrial monitoring, wearable devices, smart cities, and IoT networks.
- Deployment of autonomous sensors for remote or hard-to-reach locations.
- Future Trends and Challenges:
- Scalability and cost reduction.
- Addressing limitations in power density and vibration source dependency.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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