Special Issue

Application of Nanogenerators in Nanoelectronics

Message from the Guest Editor

In the past decade, nanogenerator technologies using triboelectric, piezoelectric, tribovoltaic, and other mechanisms have experienced enormous development. We invite authors to contribute original research articles on the applied aspects of nanogenerator for implantable electronics, environmental sensors, nanorobotics, intelligent MEMS/NEMS, portable/wearable personal electronics, etc. This Special Issue aims to provide an overview of the latest developments in nanogenerator technology for nanoelectronics via original research articles and reviews. Research areas may include (but are not limited to) the following:

- Mechanism and characteristics (triboelectric, piezoelectric, ferroelectric, etc.);
- Triboelectric, piezoelectric, flexoelectric, and ferroelectric nanomaterials/nanostructures;
- 1D/2D nanomaterial synthesis, characterization, and integration for nanogenerators;
- Fundamental study on material science, band structure, and interface engineering;
- Novel approaches in the integration and nanomanufacturing of tribotronic, piezotronics, and piezophototronic devices;
- Nanogenerators for electronics and sensors.

Guest Editor

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Deadline for manuscript submissions

closed (18 July 2025)



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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometerscale dimensions, which we call "nanomaterials". These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal-organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, Nanomaterials, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

Editor-in-Chief

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