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

Dr. Junqing Zhao

Beijing Institute of Nanoenergy and Nanosystems, Chinese Academy of Sciences, Beijing 100083, China

Deadline for manuscript submissions

closed (18 July 2025)

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/223814

Nanomaterials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
nanomaterials@mdpi.com

mdpi.com/journal/nanomaterials

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/journal/nanomaterials

MDPI

About the Journal

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 nanometer-scale 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

Prof. Dr. Eugenia Valsami-Jones
School of Geography, Earth and Environmental Science, University of Birmingham, Birmingham B15 2TT, UK

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, CAPlus / SciFinder, Inspec, and other databases.

Journal Rank:

JCR - Q2 (Physics, Applied) / CiteScore - Q1 (General Chemical Engineering)