Special Issue

Advanced Materials and Technologies in Nanogenerators

Message from the Guest Editors

Nanogenerators (NGs) are a field that uses Maxwell's displacement current as the driving force for effectively converting mechanical energy into electric power. Besides targeting worldwide energy needs within a large scope, an area of nanoenergy has been developed aiming at using nanotechnology to harvest the energy required for the sustainable, independent and maintenance-free operation of micro-/nanosystems and mobile/portable electronics. Based on three effects including piezoelectricity, triboelectricity and pyroelectricity, NGs have broad applications in energy science, environmental protection, wearable electronics, self-powered sensors, medical science, robotics and artificial intelligence. This Special Issue of *Nanomaterials* aims to cover the most recent advances in materials and technologies for the preparation of different types of NGs, and related physicochemical effects such as tribotronics, piezotronics, piezophototronics, pyroelectrics and flexotronics, as well as the potential applications such as wearable electronics, self-powered sensors and blue energy. Please click on the link to find out more information.

Guest Editors

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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 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
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