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Nanomaterials for Energy Harvesting

Guest Editor:

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Deadline for manuscript submissions:
closed (15 December 2022)

Message from the Guest Editor

Nanomaterials have enhanced the performance of many energy-harvesting devices due to the increase in strength of physical effects such as photovoltaics, thermophotovoltaics, piezoelectricity, ferroelectricity, thermoelectricity, or magneto-mechanical effects. These phenomena, commonly involved in energy harvesting, are often denoted as giant or colossal in connection with nanomaterials and nanosystems.

This Special Issue will be focused on specially designed nanosystems for energy-harvesting applications, including their theoretical modeling, fabrication, and characterization, as well as on specific configurations and devices that could efficiently harvest energy in a certain wavelength/frequency band. Such devices include but are not limited to photovoltaic cells, supercapacitors, rectennas, and pyroelectric and thermoelectric devices. Besides the aforementioned nanostructures, this Special Issue welcomes any research focused on new physical effects and advanced nanomaterials and architectures for energy harvesting.

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Editor-in-Chief

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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.

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