Special Issue

Advancing Energy Harvesting Performance and Sustainability of Triboelectric Nanogenerators

Message from the Guest Editor

As we are currently entering into a fourth industrial revolution—an era of ubiquitous, mobile supercomputing, intelligent robots, self-driving cars, and other Internet of Things-based devices—a constant source of electrical energy is needed to keep these devices operational. These energy demands compete with the basic energy demands for daily living, which places exponential pressure on generating energy from traditional sources. Thus, capturing energy through other methods in a safe, cost-effective, efficient, sustainable, and renewable manner is required. Triboelectric nanogerators, a type of electrostatic-based energy harvester, are able to harvest energy from the ambient environment, such as mechanical motion, and have the potential to fulfill all these roles with the most ease, adaptability, and availability. These energy harvesters have recently undergone significant innovation, such as a drastic increase in the output energy harvested, and have also been utilized in self-powered systems. This Special Issue seeks to showcase research papers and review articles that are focused on developments for higher performance TENG and sustainable TENGs.

Guest Editor

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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

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