Special Issue

Future Prospects of Energy Harvesting Technologies

Message from the Guest Editor

Trillions of sensors are envisioned with pervasive interconnection as the cornerstone of the modern Internet of Things (IoT), supporting the digital links that can monitor every aspect of human lives reliably and autonomously. The search for long-term, stable, and maintenance-free energy supply for paving these sensors encounters a bottleneck, when the deficiencies of conventional battery-based ways have been gradually exposed in the aspects of limited lifetime, risk of environmental pollution, and low device maintainability. Recently emerged energy harvesting technologies such as micro-electromagnetic generators (micro-EMG), piezoelectric generators (PEG), thermoelectric generators (TEG), and triboelectric nanogenerators (TENG) have shown potential in building a self-powered system and realizing a stable energy supply, enlightening the novel shape of IoT sensors with the features of low consumption and disordered distribution that could be powered by utilizing the eco-friendly and sustainable ambient energy harvesting technology.

Keywords

- self-powered sensor
- energy harvesting
- flexible sensor
- intelligent sensing
- functional nanomaterials
- nano-energy device

Guest Editor

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