micromachines

IMPACT FACTOR 2.222

an Open Access Journal by MDPI

Smart Miniaturised Energy Harvesting

Guest Editor:

Prof. Dr. Cristina Rusu
RISE / RISE ICT Acreo, Arvid Hedvalls Backe 4, 41133 Gothenburg, Sweden

cristina.rusu@ri.se

Deadline for manuscript submissions:
10 March 2019

Message from the Guest Editor

Dear Colleagues,

The digitalization of modern industry rapidly increases the need for sensors and sensor systems. The integration of a large number of sensors is challenging to realize if batteries must be utilized (replacement, inaccessible deployment, large quantities, environmental impact). Alternatively, wired power distribution is needed, increasing weight/cost and complicating the installation due to limited space in, e.g., automotive, aeronautics, precision agriculture, and environment monitoring. Furthermore, the design of an energy harvesting system is complex in comparison with that of a battery-based system. Therefore, an energy harvesting system converting available ambient energy (e.g., kinetic, thermal) to electrical energy is one of the most promising technologies for smart self-powered sensor systems.

To achieve the full potential of self-powered systems, multidisciplinarity and intersectorial cooperation is required, as well as advances in key topics, such as modelling and simulation of harvesters, supercap, very-low power electronics and system-level architecture, practical applications requirements, testing setups similar to real applications, and economical fabrication concepts. Thus, this Special Issue seeks to present a variety of topics related to “Smart Miniaturised Energy Harevsting” with advances from academic research, as well as from industrial applications.