Special Issue

Quantum Sensors and Their Biomedical Applications

Message from the Guest Editors

High-performance magnetic sensing is a powerful tool used for probing biological, chemical, and physical systems. Indeed, many sophisticated research experiments and applications rely on the measurement of extremely weak magnetic fields (such as biomagnetism and magnetic microscopy). Furthermore, magnetic sensing at the nanoscale level is a promising and interesting research topic within nanoscience. Therefore, in recent decades, many efforts have been devoted to the development of different ultrasensitive magnetic sensors, such as atomic magnetometers, based on detecting the Larmor spin precession of optically pumped atoms, surface-enhanced Raman scattering sensors, diamond magnetometers based on nitrogen-vacancy centers in room-temperature diamond, and micro- and nano-superconducting quantum interference devices (SQUIDs). The aim of this Special Issue is to provide an updated overview on the development of ultra-high-sensitivity sensors and their biomedical applications. Both original research articles and reviews are encouraged.

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Message from the Editor-in-Chief

Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

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