Special Issue

Intelligent Single-Photon Sensing and Imaging

Message from the Guest Editor

Devices like Single-Photon Avalanche Diodes (SPADs) and Superconducting Nanowire Single-Photon Detectors (SNSPDs) now offer unprecedented capabilities, including picosecond timing resolution, high detection efficiency, and low noise.

However, the next frontier in this field lies not merely in improving detector hardware but in the profound synergy between single-photon sensors and intelligent computing functionalities. This Special Issue is dedicated to exploring the convergence and integration of three key pillars: (a) cutting-edge single-photon detection hardware, (b) advanced computational algorithms, and (c) the emergence of optoelectronic neuromorphic computing and sensing.

The scope of this Special Issue includes, but is not limited to, the following topics:

Intelligent single-photon sensing and imaging accelerated by advanced computational algorithms; Intelligent single-photon sensor and imager as novel computing platforms.

We invite contributions that are shaping the future of intelligent single-photon sensing systems, capable not only of detecting photons but also of understanding them.

Guest Editor

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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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