

Special Issue

SPAD-Based Sensors and Techniques for Enhanced Sensing Applications

Message from the Guest Editors

The integration of Single-Photon Avalanche Diodes in standard CMOS processes (CMOS-SPADs) provides unique advantages over other single-photon detection technologies. CMOS SPADs can be arranged into 1 or 2D arrays of channels working in parallel and inherit all the advantages of CMOS technology, such as compact size and a wide temperature operating range. For these reasons, CMOS-SPADs are now replacing other single-photon technologies in many time-resolved and other enhanced sensing applications, including depth sensing/LiDAR, medical imaging (FLIM, Raman spectroscopy, PET), high dynamic range imaging and quantum sensing (e.g., super-resolution microscopy, ghost imaging, non-line-of-sight imaging). This Special Issue addresses recent advancements in the following areas:

- CMOS-SPAD architectures for enhanced sensing applications.
- Innovative techniques for the processing of data generated by CMOS-SPAD architectures.
- Circuits for CMOS-SPAD sensors (e.g., time-to-digital converters, DCDC converters).
- Experimental activity using CMOS-SPADs.

Guest Editors

Dr. Leonardo Gasparini

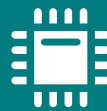
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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. 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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