

Call for Papers

Special Issue on Photonic Quantum Sensors Devices and Applications

Photonic quantum sensing utilizes the principles of quantum mechanics in conjunction with photonics for precision sensing and detection. The traditional optical approach has some noteworthy limitations in terms of resolution and accuracy. However, the applications of quantum phenomena such as quantum superposition and quantum entanglement to photons enable photonic quantum sensing to surpass its counterparts in efficiency. Photonic quantum sensor devices promise to surpass existing boundaries within the realm of sensor technology, notably in terms of precision, by leveraging the inherent principles of quantum mechanics. The practical realization of photonic quantum sensor devices, which work beyond ideal laboratory conditions in practical applications within the broader spectrum of sensor technology, is the next step in quantum sensor technologies. Considering these developments, this Special Issue invites contributions that delve into photonic quantum sensors' foundational principles and practical applications.

Topics

This Special Issue of the IEEE Sensors Journal will showcase state-of-the-art in Photonic Quantum Sensors. Original research contributions and review papers are sought related areas including (but not limited to):

- Metrology and Sensing
- Communication
- Healthcare
- Aerospace
- Agriculture
- Robotics
- Imaging
- Energy
- Defense and Security
- Environmental Monitoring
- AI and IoT Applications
- Sensing Materials
- Navigation and Positioning

Important dates (tentative)

September 30, 2024:	Deadline for Manuscript Submission
November 30, 2024:	Completion of Final Review
March 2025:	Publication

Upon acceptance papers appear as Early Access (preprints) in IEEEExplore and are fully citable.

Guest Editors

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Submission and Peer Review of Papers

Manuscripts submitted to the special issue should maintain an explicit focus on sensors or sensor systems, to be considered within the scope of the IEEE Sensors Journal (please check full journal scope). All manuscripts must be submitted on-line, via the *IEEE Manuscript Central*, see <http://mc.manuscriptcentral.com/sensors>. Choose the special issue listed in the dropdown menu during submission. For manuscript preparation and submission, please follow the guidelines in the *Information for Authors* at the IEEE Sensors Journal web page, <https://ieee-sensors.org/ieee-sensors-journal/for-authors>