Special Issue

Single-Photon Emitters in Wide-Bandgap Semiconductors

Message from the Guest Editors

We are pleased to invite you to submit a manuscript for a Special Issue on "Single-Photon Emitters in Wide-Bandgap Semiconductors". Single-photon emitters (SPEs) are essential for quantum information technologies, enabling secure satellite communications, quantum imaging, and high-speed computing. Among solid-state systems, III-nitride-based quantum dots (QDs) and color centers are promising for room-temperature operation. Though GaN materials benefit from mature growth and fabrication techniques, GaN QDs and color centers face challenges. Achieving high photon purity, especially in electrically driven SPEs, remains critical. This Special Issue welcomes basic, methodological, and applied research, including:

- **Materials/Fabrication**: Advanced growth techniques for III-nitride QDs and color centers
- **Fundamental Physics**: Studies on defect-based SPE origins and QD physics
- **Device Engineering**: Fabrication of optically/electrically driven SPEs
- **Characterization**: Advanced spectroscopic methods at room/cryo temps
- **Applications**: Integration into quantum devices for computing, communication, and sensing

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Deadline for manuscript submissions

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About the Journal

Message from the Editor-in-Chief

You are invited to contribute a research article or a comprehensive review for consideration and publication in *Photonics* (ISSN 2304-6732). *Photonics* is an online open access journal covering both the fundamental and applications of optics and photonics. *Photonics* strives to provide an avenue to allow authors to disseminate their scientific findings—both theoretical/ simulations and experimental works—in highly accessible peer-reviewed journal publications. The manuscript in *Photonics* will be handled with quick turnaround production processing time. We welcome authors to submit their manuscripts for publications in *Photonics*. Our goal in *Photonics* is to enable fast dissemination of high impact works to the scientific community.

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