Special Issue

Next-Generation Nano-Optoelectronics: Materials, Devices, and Systems

Message from the Guest Editors

We are pleased to invite you to contribute to this Special Issue entitled “Next-Generation Nano-Optoelectronics: Materials, Devices, and Systems”, focusing on transformative advances at the nanoscale. Recent breakthroughs in quantum-confined materials and nanophotonic engineering have enabled new classes of devices overcoming fundamental limitations in light emission, detection, and manipulation. This Special Issue highlights performance-driven innovations with demonstrable advantages in the following:

- Speed-bandwidth product of photonic detectors;
- Quantum efficiency of nanoscale emitters;
- Heterogeneous integration scalability.

In this Special Issue, original research articles and reviews are welcome. Research areas may i nclude (but are not limited to) the following:

- Device-level studies of quantum dot/2D material systems;
- Topological photonic devices for robust light control;
- CMOS-compatible nano-optoelectronic platforms;
- Novel characterization revealing device physics.

We look forward to receiving your contributions.

Guest Editors

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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.

Editor-in-Chief

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