

Special Issue

Advancements in Silicon Integrated Photonics: Design, Fabrication, and Applications

Message from the Guest Editor

We invite contributions that address a diverse array of applications for silicon-integrated photonics, such as optical interconnects for high-performance computing and data centers, neuromorphic and quantum photonic processors, and silicon-based biosensing platforms. Topics of interest for this Special Issue include, but are not limited to,

- Innovation in the design of silicon photonic devices;
- Advanced fabrication techniques for silicon photonic components;
- High-speed silicon-based modulators and photodetectors;
- Programmable and reconfigurable photonic circuits;
- Photonic–electronic integration strategies;
- Heterogeneous and hybrid integration approaches;
- Photonic packaging, coupling, and thermal management;
- Optical interconnects and co-packaged photonic systems;
- Quantum photonic circuits on silicon platforms;
- Neuromorphic computing using silicon photonics;
- Photonic biosensors and lab-on-chip applications;
- Photonic design automation (PDA) and simulation tools;
- Process design kits (PDKs) and compact modeling techniques;
- Designs for manufacturability and variability mitigation in silicon photonics;
- Emerging materials and integration schemes in silicon photonic platforms.

Guest Editor

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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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