

Special Issue

Silicon Integrated Photonics: Challenges and Opportunities

Message from the Guest Editor

This Special Issue aims to showcase the latest breakthroughs in silicon integrated photonics, encompassing fundamental physical mechanisms, novel device architectures, fabrication and packaging technologies, and a wide spectrum of applications—from classical to quantum. By bringing together leading contributions from academia and industry, this collection seeks to promote interdisciplinary dialogue and inspire collaborative innovation in the next generation of photonic technologies.

- silicon integrated photonics
- heterogeneous integration
- quantum technology
- ultra-fast photonics
- topological photonics
- optical computing
- AI-assisted photonic design
- spin-photon interface
- nonlinear dynamics
- optomechanics

Guest Editor

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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.

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