

## Special Issue

# Silicon and Silicon Nitride Integrated Photonics: Challenges and Opportunities

### Message from the Guest Editors

This Special Issue explores the challenges and opportunities of silicon and silicon nitride integrated photonics. The Special Issue covers topics such as the design and fabrication of waveguides and other optical devices, the integration of nonlinear optics, and the development of integrated circuits for photonics. Thus, we encourage you to contribute review papers, original research short letters, or long articles on such topics as:

- Silicon and silicon nitride passive waveguides and devices: design optimization, fabrication techniques, and characterization;
- Silicon and silicon nitride active photonic devices: modulators, detectors, filters, switches, resonators, and amplifiers;
- Integrated nonlinear optics including frequent combs and supercontinuum generation;
- Integration of silicon and silicon nitride photonics with other material systems: 2D materials, III-V/II-VI semiconductor compounds, chalcogenide glasses, LiNbO<sub>x</sub>, VO<sub>x</sub>, magneto-optic materials, phase-change materials, etc.;
- Applications of silicon and silicon nitride photonics, e.g., programmable photonics, mode manipulations, sensors, MIR photonics, on-chip spectrometers, etc.

### Guest Editors

Dr. Peipeng Xu

Faculty of Electrical Engineering and Computer Science, Ningbo University, Ningbo 315211, China

Dr. Liangjun Lu

State Key Laboratory of Advanced Optical Communication Systems and Networks, Department of Electronic Engineering, Shanghai Jiao Tong University, Shanghai 200240, China

### Deadline for manuscript submissions

closed (10 June 2024)



## Photonics

an Open Access Journal  
by MDPI

Impact Factor 1.9  
CiteScore 3.5



[mdpi.com/si/171789](https://mdpi.com/si/171789)

*Photonics*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[photonics@mdpi.com](mailto:photonics@mdpi.com)

[mdpi.com/journal/  
photonics](https://mdpi.com/journal/photonics)





# Photonics

---

an Open Access Journal  
by MDPI

---

Impact Factor 1.9  
CiteScore 3.5



[mdpi.com/journal/  
photonics](https://mdpi.com/journal/photonics)



## 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.

---

### Editor-in-Chief

Prof. Dr. Nelson Tansu

School of Electrical and Electronic Engineering (EEE), The University of Adelaide, Adelaide, SA 5005, Australia

---

### Author Benefits

#### High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, and other databases.

#### Journal Rank:

CiteScore - Q2 (Instrumentation)

#### Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 14.8 days after submission; acceptance to publication is undertaken in 1.9 days (median values for papers published in this journal in the first half of 2025).