

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 include (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

Dr. Xin Guo

National Key Laboratory for Electronic Measurement Technology, North University of China, Taiyuan 030051, China

Dr. Yajun You

National Key Laboratory for Electronic Measurement Technology, North University of China, 3 Xueyuan Road, Taiyuan 030051, China

Deadline for manuscript submissions

31 May 2026



Photonics

an Open Access Journal
by MDPI

Impact Factor 1.9
CiteScore 3.5



mdpi.com/si/249196

Photonics
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
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).