

Special Issue

New Insights in Low-Dimensional Optoelectronic Materials and Devices

Message from the Guest Editor

Since the first demonstration of a semiconductor laser in the early 1960s, optoelectronic devices have been produced in their millions, pervading our everyday lives. At present, the fundamental research and applications of low-dimensional optoelectronic materials in sensing, display, lighting, and photon harvesting devices are rising, mainly because of their distinctive photophysical properties and feasible tunability induced by size, shape, and composition, including heterostructures and the addition of functional groups. This Special Issue aims to showcase research articles, short reports, and review papers that give new insights into the fundamental properties of emerging low-dimensional materials and their potential applications in optoelectronic devices. This research topic spans a wide variety of subjects in materials (1D quantum dots, 2D materials, etc.), devices (photodetectors, light-emitting diodes, lasers, solar cells, etc.), and integrated systems. We are inviting both research articles and review papers that are related to this fascinating topic. Further information can be found on the Special Issue website.

Guest Editor

Dr. Xiao Luo

School of Optoelectronic Science and Engineering, University of Electronic Science and Technology of China (UESTC), Chengdu 611731, China

Deadline for manuscript submissions

closed (15 January 2026)



Photonics

an Open Access Journal
by MDPI

Impact Factor 1.9
CiteScore 3.5



mdpi.com/si/201464

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 15 days after submission; acceptance to publication is undertaken in 1.9 days (median values for papers published in this journal in the second half of 2025).