

Special Issue

Intelligent Medical Optical Imaging: From Multimodal Sensing to Precision Reconstruction

Message from the Guest Editors

The Special Issue "Intelligent Medical Optical Imaging: From Multimodal Sensing to Precision Reconstruction" explores cutting-edge advancements in optical imaging technologies for medical diagnostics and therapy. It emphasizes the integration of multimodal sensing (e.g., photoacoustic, fluorescence, and optical coherence tomography) with intelligent algorithms (deep learning, GANs, transformers) to achieve high-resolution, real-time, and accurate imaging. Key challenges addressed include enhancing signal quality in noisy environments, improving reconstruction speed, and fusing complementary data from different modalities (e.g., optical-MRI hybrid systems). Innovations such as AI-driven image reconstruction and dynamic feature fusion modules enable precise visualization of anatomical structures and functional biomarkers. Applications span early cancer detection, surgical navigation, and neurological disease monitoring. The issue highlights how these technologies bridge the gap between laboratory research and clinical translation, offering transformative tools for personalized medicine and minimally invasive interventions.

Guest Editors

Dr. Yiwei Chen

Suzhou Institute of Biomedical Engineering and Technology, Chinese Academy of Sciences, Suzhou, China

Dr. Zhenglong Sun

Shenzhen Bay Laboratory, Shenzhen, China

Deadline for manuscript submissions

15 June 2026



Photonics

an Open Access Journal
by MDPI

Impact Factor 1.9
CiteScore 3.5



mdpi.com/si/254858

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).