Special Issue

Deep Learning in Optical Engineering: Applications in Design, Simulation, and Performance

Message from the Guest Editor

Deep learning has injected intelligent impetus into the entire chain of optical engineering, forging close connections among the core links of optical material research and development, system design, processing and manufacturing, and testing. On the material front, it enables precise prediction of key parameters such as refractive index, thereby expediting the screening of novel functional optical materials. In the design phase, it achieves inverse intelligent design of optical devices, surmounting the limitations of traditional forward design methodologies. During the processing stage, it dynamically adjusts process parameters based on visual monitoring, effectively minimizing surface form errors. In the field of optical inspection, it facilitates rapid identification of micro-defects in components and accurate analysis of imaging performance indicators, significantly boosting testing efficiency and precision. This addresses the inherent drawbacks of traditional testing methods, such as strong subjectivity and high missed detection rates, and provides a robust guarantee for the quality control of optical products.

Guest Editor

Dr. Dongliang Zheng
School of Electronic and Optical Engineering, Nanjing University of Science and Technology, Nanjing 210094, China

Deadline for manuscript submissions

1 October 2026

hv

Photonics

an Open Access Journal by MDPI

Impact Factor 2.1
CiteScore 3.9

mdpi.com/si/266427

Photonics
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
photonics@mdpi.com

mdpi.com/journal/photonics

MDPI

Photonics

an Open Access Journal by MDPI

Impact Factor 2.1
CiteScore 3.9

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 13.9 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the first half of 2026).