Special Issue

Computational Optical Imaging: Progress and Future Prospects

Message from the Guest Editors

Computational optical imaging is a cutting-edge field that deeply integrates optical imaging technology with modern computing. By co-optimizing optical system design and intelligent information processing, it overcomes the physical limitations of conventional imaging in resolution, signal-to-noise ratio (SNR), field of view, speed, and dimensionality. Rather than relying solely on hardware improvements, computational optical imaging leverages techniques such as coded sensing, computational reconstruction, and deep learning to extract high-dimensional information from compressed or degraded optical signals, enabling novel capabilities like super-resolution imaging, 3D reconstruction, phase imaging, and non-line-of-sight imaging. Topics of interest for this Special Issue include, but are not limited to, the following: Computational optical imaging; Super-resolution optical imaging; Single-molecule tracking technology; Deep learning for target tracking; Deep learning for image processing; Neuromorphic imaging; Digital holography.

Guest Editors

Dr. Famin Wang

School of Mechanical Engineering and Automation, Shanghai University, Shanghai 200444, China

Dr. Zhou Ge

School of Mechatronic Engineering and Automation, Shanghai University, Shanghai 200072, China

Deadline for manuscript submissions

30 December 2025

hv

Photonics

an Open Access Journal by MDPI

Impact Factor 1.9
CiteScore 3.5

mdpi.com/si/237735

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 1.9
CiteScore 3.5

mdpi.com/journal/photonics

MDPI

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).