

photonics



an Open Access Journal by MDPI

Optical Computing and Optical Neural Networks

Guest Editors:

Dr. Bin Shi

Eindhoven Hendrik Casimir
Institute, Eindhoven University of
Technology, 5600 MB Eindhoven,
The Netherlands

Dr. Apostolos Tsakyridis

Department of Informatics,
Aristotle University of
Thessaloniki, Thessaloniki,
Greece

Dr. Miltiadis Moralis-Pegios

Photonic Systems and Networks
Group, Aristotle University of
Thessaloniki, Thessaloniki,
Greece

Deadline for manuscript
submissions:

closed (15 August 2024)

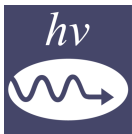
Message from the Guest Editors

The current exponentially growing data volume demands computing power that grows apace. Artificial intelligence based on neural networks has achieved great success in solving complex problems involving the processing of huge amounts of data. Optical and photonic neural networks are alternative solutions to electronics, exploiting the high parallelisms from the nature of light to enhance the computing speed and power efficiency with parallel computing. The study of optical neural networks is important to the exploration of the related methods, designs, systems, and training algorithms to improve the performance when solving complex problems. Optical neural networks are an essential part of optical computing, and potentially provide solutions in low-latency and real time data processing. This Special Issue aims to present the recent advanced research in optical neural networks with different schemes within the topic of non-von Neumann computing. The implementations can be in free-space, fiber-optics, and photonic integrated circuits.



mdpi.com/si/156263

Special Issue



photonics



an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Nelson Tansu

School of Electrical and
Electronic Engineering (EEE), The
University of Adelaide, Adelaide,
SA 5005, Australia

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.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPus / SciFinder, and other databases.

Journal Rank: CiteScore - Q2 (Instrumentation)

Contact Us

Photonics Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/photonics
photonics@mdpi.com
[X@Photonics_MDPI](https://twitter.com/Photonics_MDPI)