Special Issue

Light-Driven Nanomotors

Message from the Guest Editor

Nanomotors, proposed as next-generation miniaturized devices towards self-propelled artificial nanomachines and intelligent nanorobots, can convert biochemical, thermal, magnetic, or electric energy into nanoscale mechanical motions. Light is an attractive energy source for effectively exerting an optical force through photon momentum transfer and easily manipulating small objects with contactless optical tweezers. The spin angular momentum and orbital angular momentum of a light beam provide the ability to control the rotational and translational motions of the trapped particles. With the impressive process of nanofabrication technology, the fascinating and versatile prospects of light-driven nanomotors have been extensively developed into a wide variety of applications. We are inviting both research articles and review papers that are related to this fascinating topic. Research areas may include (but are not limited to) the following:

- Artificial inorganic nanomotors/nanorobots;
- Optical trapping/manipulation/assembly;
- Collective motion of optically bound particles;
- Light-induced nanobubbles;
- Light-driven thermophoresis/self-electrophoresis.

Guest Editor

Dr. Ximin Cui

College of Electronics and Information Engineering, Shenzhen University, Shenzhen 518060, China

Deadline for manuscript submissions

31 August 2025

hv

Photonics

an Open Access Journal by MDPI

Impact Factor 1.9
CiteScore 3.5

mdpi.com/si/227305

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).