Special Issue

Two-Dimensional Semiconductors for Electronics and Optoelectronics

Message from the Guest Editor

Due to their atomic-level thickness and ultrahigh specific surface area, the macroscopic properties of two-dimensional (2D) materials are highly dependent on their surface and interface structures and behaviors. Transition metal dichalcogenide (TMDC) semiconductors, as representative 2D materials, have emerged as core materials for next-generation high-performance electronics and optoelectronics, leveraging their quantum size effects, tunable band structures and other unique advantages. We are pleased to invite you submit your latest research findings in this Special Issue. This Special Issue aims to explore the applications and future of two-dimensional semiconductors in electronics and optoelectronics. In this Special Issue, original research articles and reviews are welcome. Research areas may include (but are not limited to) the following:

- Electroluminescence of heterostructures of two-dimensional semiconductors;
- Optoelectronic bionic synaptic transistor;
- Photodetectors and optical modulators based on two-dimensional semiconductors;
- Quantum emitters and nonlinear optical devices.

I look forward to receiving your contributions.

Guest Editor

Prof. Dr. Dongxue Chen
School of Physical Sciences, University of Science and Technology of China, Hefei 230026, China

Deadline for manuscript submissions

31 December 2026

Micromachines

an Open Access Journal by MDPI

Impact Factor 3.0
CiteScore 6.0
Indexed in PubMed

mdpi.com/si/274629

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

mdpi.com/journal/micromachines

Micromachines

an Open Access Journal by MDPI

Impact Factor 3.0
CiteScore 6.0
Indexed in PubMed

mdpi.com/journal/micromachines

MDPI

About the Journal

Message from the Editor-in-Chief

You are invited to contribute research articles or comprehensive reviews for consideration and publication in *Micromachines* (ISSN 2072-666X). *Micromachines* is published in the open access format. Research articles, reviews and other contents are released on the internet immediately after acceptance. The scientific community and the general public have unlimited free access to the content as soon as it is published. As an open access journal, *Micromachines* is supported by the authors or their institutes by payment of article processing charges (APC) for accepted papers. We are pleased to welcome you as our authors.

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Ei Compendex, dblp, and other databases.

Journal Rank:

JCR - Q2 (Instruments and Instrumentation) / CiteScore - Q1 (Mechanical Engineering)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.8 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).