Special Issue

Advances, Challenges and Opportunities in the Use of 2D Materials for Biosensing and Biomedical Applications

Message from the Guest Editors

Biosensing platforms that draw inspiration from the molecular identification function of living organisms have witnessed significant advances in sensing capability. Recent innovative developments in diagnostic devices have allowed for enhanced analytical performance, miniaturized sensors, multiplex analysis, and readout signal enhancement. Of particular interest are biosensors based on two-dimensional (2D) materials, which are characterized by their thin-layered structure and unique properties, making them highly useful in biosensing applications. Since the isolation of graphene in 2004, there has been an exponentially growing number of reports exploring the use of 2D materials in biosensing and other emerging healthcare applications. For this Special Issue, we welcome the submission of original research papers and review articles that harness the inherent properties of 2D materials for biosensing applications. This Special Issue aims to explore the challenges and opportunities of the use of 2D materials in biosensing platforms.

Guest Editors

Prof. Dr. Cheng-Te Lin

Dr. Chen Ye

Dr. Kunyan Zhang

Dr. Jeewan Ranasinghe

Deadline for manuscript submissions

31 August 2025

Biosensors

an Open Access Journal by MDPI

Impact Factor 5.6
CiteScore 9.8
Indexed in PubMed

mdpi.com/si/192952

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

mdpi.com/journal/biosensors

Biosensors

an Open Access Journal by MDPI

Impact Factor 5.6
CiteScore 9.8
Indexed in PubMed

mdpi.com/journal/biosensors

About the Journal

Message from the Editor-in-Chief

Biosensors is a leading journal, devoted to fast publication of the latest achievements, technological developments and scientific research in the exciting multidisciplinary area of biosensors. Both experimental and theoretical papers are published, including all aspects of biosensor design, technology, proof of concept and application. Special issues are devoted to specific technologies and applications, and a selection of the most outstanding papers each year is recognized. Pushing the boundaries of the discipline, we invite original papers, as well as timely reviews on cutting edge fields within the subject area.

Editor-in-Chief

Prof. Dr. Giovanna Marrazza
Department of Chemistry "Ugo Schiff", University of Florence, Via della Lastruccia 3, 50019 Sesto Fiorentino, Italy

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, MEDLINE, PMC, Embase, CAPlus / SciFinder, Inspec, and other databases.

Journal Rank:

JCR - Q1 (Instruments and Instrumentation) / CiteScore - Q1 (Instrumentation)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 21.8 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the first half of 2025).

MDPI