Special Issue

Nanomaterial-Optimized Device Construction and AI-Enhanced Signal Analysis of Gas Sensors

Message from the Guest Editors

The development of gas sensors, as the core hardware components of artificial olfactory systems for odor digitization, has been a continuous hotspot in both academic research and industrial applications in recent years. The rise of nanofunctional materials and artificial intelligence technologies in recent decades has delivered new approaches and further possibilities to address the gas sensor-associated dilemmas. Novel nanomaterials have attracted significant attention from many scholars and demonstrated their outstanding properties in gas sensing applications, such as controllable specific modifications, flexibility, and room-temperature applications. This Special Issue will focus on the latest research progress in two aspects: One is the modulation mechanism of nanosensitive materials on the response and selectivity of gas sensors. The other is the enhancement of data analysis methods for encoding and decoding output signals. We anticipate that this Special Issue will discuss the development of gas sensors from a range of unique perspectives and inspire the innovation of multidisciplinary technologies to promote the advancement of sensor technologies.

Guest Editors

Dr. Tao Wang

Dr. Tetsuya Shimamura

Prof. Dr. Jia Yan

Dr. Mingzhi Jiao

Deadline for manuscript submissions

10 March 2026

Sensors

an Open Access Journal by MDPI

Impact Factor 3.5
CiteScore 8.2
Indexed in PubMed

mdpi.com/si/192232

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

mdpi.com/journal/sensors

Sensors

an Open Access Journal by MDPI

Impact Factor 3.5
CiteScore 8.2
Indexed in PubMed

mdpi.com/journal/sensors

MDPI

About the Journal

Message from the Editor-in-Chief

Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

Editor-in-Chief

Prof. Dr. Vittorio M. N. Passaro
Dipartimento di Ingegneria Elettrica e dell'Informazione (Department of Electrical and Information Engineering), Politecnico di Bari, Via Edoardo Orabona n. 4, 70125 Bari, Italy

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), PubMed, MEDLINE, PMC, Ei Compendex, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

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