

Special Issue

Advancements in Fire Detection Technologies: Innovations for Extreme Environments

Message from the Guest Editor

Fire detection in extreme conditions presents unique challenges that require specialized sensor technologies capable of operating effectively under harsh environmental circumstances, such as in high temperatures, dense smoke, fluctuating humidity, and with volatile chemical compositions. To address these challenges, cutting-edge sensing technologies are being integrated into early fire detection systems, particularly in environments prone to rapid fire spread and limited accessibility. These systems must incorporate advanced sensor modules, distributed heat sensors, and chemical detectors designed to withstand intense environmental stress while ensuring consistent and accurate performance. Highly accurate, air pollution sensors can enhance early warning capabilities and provide timely alerts in hazardous conditions. This Special Issue aims to explore the latest advancements in fire detection technologies, highlighting innovations tailored to extreme environments and discussing the future trajectory of intelligent, resilient, and affordable fire sensing solutions. For more details, please visit [here](#).

Guest Editor

Dr. Hamid Omidvarborna

1. Mobile Source Laboratory Division, California Air Resources Board, 4001 Iowa Avenue, Riverside, CA 92507, USA
2. Department of Civil and Environmental Engineering, University of Toledo, Toledo, OH 43606, USA

Deadline for manuscript submissions

closed (25 April 2026)



Sensors

an Open Access Journal
by MDPI

Impact Factor 3.5
CiteScore 8.2
Indexed in PubMed



mdpi.com/si/235912

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

[mdpi.com/journal/
sensors](https://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](https://mdpi.com/journal/sensors)



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
Department of Electrical and Information Engineering, Politecnico di Bari, Via Orabona 4, 70126 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)