

# Special Issue

## Intelligent Microfluidics

### Message from the Guest Editor

This Special Issue illuminates significant progress in the interdisciplinary field of microfluidics, emphasizing the transformative role of AI, machine learning (ML), and sensor technologies. Microfluidics, involving precise manipulation of fluids at submillimeter scale, has revolutionized sectors like healthcare, diagnostics, and chemical synthesis. The focus is sensor-integrated microfluidic chips for real-time monitoring, AI-empowered microfluidic systems for high-throughput analysis, and ML predictive models. AI and ML applications in microfluidics have brought about considerable advancements, enabling real-time monitoring of chemical reactions, cell cultures, and biological assays. AI has enhanced data analysis speed and accuracy, while ML predictive models have helped foresee microfluidic system behavior under various conditions, promoting efficient experimentation. This Issue offers a comprehensive overview of the latest developments in microfluidics, serving as a valuable resource for researchers, scientists, and engineers. We invite contributions presenting pioneering research and stimulating discussions on the future and potential of intelligent microfluidics.

### Guest Editor

Dr. Rasim Guldiken

College of Engineering, Architecture and Technology, Oklahoma State University, 215 N Hester St, Stillwater, OK 74078, USA

### Deadline for manuscript submissions

1 January 2026



## Sensors

an Open Access Journal  
by MDPI

Impact Factor 3.5  
CiteScore 8.2  
Indexed in PubMed



[mdpi.com/si/206511](https://mdpi.com/si/206511)

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

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)