

Special Issue

Metal Toxicity and Particle Toxicity

Message from the Guest Editor

Environmental pollution by metals and particles is increasingly becoming a problem characterized by adverse effects worldwide. These pollutants are commonly present in waters, soils, and the atmosphere due to the rapid development of mining, smelting operations, transport, agriculture, metal-using industries, inadequate waste management, fertilizers, and pesticides. Some metals play key biological functions in the regulation of growth and development. In contrast, others can accumulate in one or more different organs, causing numerous damage and metabolic changes to plants and animals, even at low concentrations. Currently, 18 metals and one metalloid (As) are on the 150 National Priorities List from the Agency for Toxic Substances and Disease Registry (ATSDR). Moreover, each metal has unique features and physicochemical properties that confer specific toxicological mechanisms of action in cells. Due to multiple sources and formation pathways, chemical particles have diverse sizes, surface charges, shapes, and chemical compositions, leading to their differential toxicological effects. However, understanding the molecular mechanisms and establishing the toxic impact

Guest Editor

Dr. Alicja Piotrowska-Niczyporuk
Department of Plant Biology and Ecology, Faculty of Biology, University of Białystok, Ciołkowskiego 1J Str., 15-245 Białystok, Poland

Deadline for manuscript submissions

31 December 2026



International Journal of Molecular Sciences

an Open Access Journal
by MDPI

Impact Factor 4.9
CiteScore 9.0
Indexed in PubMed



mdpi.com/si/238255

*International Journal of
Molecular Sciences*
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
ijms@mdpi.com

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





International Journal of Molecular Sciences

an Open Access Journal
by MDPI

Impact Factor 4.9
CiteScore 9.0
Indexed in PubMed



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



About the Journal

Message from the Editor-in-Chief

The *International Journal of Molecular Sciences (IJMS)* is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, and molecular biophysics. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

Editor-in-Chief

Prof. Dr. José L. Quiles
Department of Physiology, Institute of Nutrition and Food Technology
"Jose Mataix", Biomedical Research Center, University of Granada,
Avda. Conocimiento s/n, 18100 Armilla, Granada, Spain

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, PMC, MEDLINE, Embase, CAPus / SciFinder, and other databases.

Journal Rank:

JCR - Q1 (Biochemistry and Molecular Biology) / CiteScore - Q1 (Organic Chemistry)