Special Issue

Oxidative Stress and Inflammation in Health and Disease

Message from the Guest Editors

Oxidative stress and systemic inflammation are connected processes that can influence and amplify each other. Oxidative stress can activate immune cells to release pro-inflammatory molecules and to generate reactive oxygen species, as part of their defense mechanisms. In turn, pro-inflammatory cytokines can trigger the generation of more radicals, creating a vicious cycle that sustains chronic inflammation and leads to tissue damage in various organs. This Special Issue aims to highlight the current understanding of the bidirectional relationship between inflammation and oxidative stress and their role in the development and progression of various diseases and conditions such as cardiovascular and respiratory diseases, neurodegenerative and reproductive system disorders, diabetes and obesity, and cancer. Moreover, studies on how lifestyle factors (environmental exposures, antioxidant adjuvant treatments, diet, etc.) can contribute to the reduction or increase in the risk of these chronic conditions are welcome. This Special Issue will accept original articles and reviews dealing with the molecular aspects of oxidative stress and systemic inflammation.

Guest Editors

Dr. Fabio Vivarelli

Department of Farmacy and Biotechnology, University of Bologna, 40126 Bologna, Italy

Dr. Donatella Canistro

Department of Farmacy and Biotechnology, University of Bologna, 40126 Bologna, Italy

Deadline for manuscript submissions

20 August 2025



International Journal of Molecular Sciences

an Open Access Journal by MDPI

Impact Factor 4.9 CiteScore 9.0 Indexed in PubMed



mdpi.com/si/190896

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





International Journal of Molecular Sciences

an Open Access Journal by MDPI

Impact Factor 4.9 CiteScore 9.0 Indexed in PubMed





Message from the Editor-in-Chief

The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) 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, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *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. Maurizio Battino

Department of Odontostomatologic and Specialized Clinical Sciences, Sez-Biochimica, Faculty of Medicine, Università Politecnica delle Marche, Via Ranieri 65, 60100 Ancona, 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, PMC, MEDLINE, Embase, CAPlus / SciFinder, and other databases.

Journal Rank:

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

