

## Special Issue

# Cellular Physiology and Aging: Membrane Dynamics, Intracellular Environment and Signaling Pathways

### Message from the Guest Editors

Over the past two centuries, average life expectancy has doubled in most developed countries. However, the increase in lifespan has not been mirrored by a corresponding extension of healthy life expectancy (healthspan). At the cellular level, aging is characterized by a progressive loss of structural and functional integrity, driven primarily by oxidative stress and inflammation. Alterations in ion channels, membrane transporters, and intracellular signaling pathways play a pivotal role in disrupting cellular homeostasis, thereby contributing to the overall decline in organismal function associated with aging.

This Special Issue seeks to gather original research articles and comprehensive reviews that elucidate the molecular mechanisms underlying age-related changes in membrane dynamics, redox homeostasis, and intracellular signaling. By integrating current knowledge and recent advances, our aim is to provide a holistic overview of the molecular pathways involved in aging and to highlight strategies for preventing, delaying, or potentially reversing the physiological and biochemical alterations that contribute to the onset of age-related diseases.

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### Guest Editors

Dr. Alessia Remigante  
Prof. Dr. Rossana Morabito  
Dr. Sara Spinelli

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### Deadline for manuscript submissions

20 August 2026



## International Journal of Molecular Sciences

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

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Prof. Dr. José L. Quiles  
Department of Physiology, Institute of Nutrition and Food Technology  
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