



## Genetics and Epigenetics of Aging and Longevity

Guest Editor:

**Prof. Dr. Alexey Moskalev**  
Moscow Institute of Physics and  
Technology, Moscow, Russia

Deadline for manuscript  
submissions:  
**closed (16 November 2020)**

### Message from the Guest Editor

Dear Colleagues,

Lifespan is a complex quantitative characteristic that makes a significant contribution to Darwinian adaptiveness. The objective of this topic is to summarize the available information about underlying genetic and epigenetic determinants of longevity and aging. The redistribution of energy resources from one pathway to the other can induce or inhibit the “longevity program”, providing increased vitality and aging slowdown. These trends include heterochromatin recovery, retrotransposition suppression, and aneuploidy elimination; restoring the acidity of lysosomes; telomere elongation; suppression of chronic inflammation; elimination of protein crosslinks; elimination of senescent cells; recovery of NAD<sup>+</sup> levels; inhibition of mTOR, S6K, TGF $\beta$ , and AT1; and controlled activation of the “longevity program” genes FOXO, AMPK, PGC1 $\alpha$ , and NRF2. This topic could help toward a better understanding of the mechanisms of aging and longevity and identification of new biomarkers of aging and longevity interventions and could increase their translational potential.

Prof. Alexey Moskalev  
*Guest Editor*





an Open Access Journal by MDPI

## 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

## 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.

## 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)

## Contact Us

---

*International Journal of Molecular  
Sciences* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
www.mdpi.com

mdpi.com/journal/ijms  
ijms@mdpi.com  
X@IJMS\_MDPI