

## Special Issue

# Intermittent Hypoxia: Physiological and Biomedical Perspectives

### Message from the Guest Editors

Intermittent hypoxia (IH) involves cyclic oxygen deprivation interspersed with normoxia. It occurs naturally (e.g., altitude training) or pathologically (e.g., sleep apnea). IH triggers complex adaptations—beneficial in physiology, detrimental in disease—via hypoxia-inducible factors (HIFs), oxidative stress, and inflammatory signaling. In sports, IH enhances aerobic performance by elevating erythropoietin, improving mitochondrial function, promoting vasodilation, and increasing metabolic stress tolerance—benefiting endurance disciplines like cycling and long-distance running. Clinically, IH preconditioning protects against ischemia-reperfusion injury in cardiac surgery and transplantation. Conversely, in chronic respiratory diseases (e.g., COPD), pathological IH promotes oxidative stress, cardiovascular dysfunction, neurocognitive decline, and pulmonary hypertension. This Special Issue invites original research and reviews on IH adaptation mechanisms, sports science applications, pathophysiological effects in cardiorespiratory diseases, and therapeutic strategies. We seek interdisciplinary contributions advancing IH research in health and disease.

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### Guest Editors

Dr. Teresa Carbonell Camós  
Dr. Olga Tura-Ceide  
Dr. Norma Alva

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### Deadline for manuscript submissions

30 October 2026



## International Journal of Molecular Sciences

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