Special Issue

Metabolic Biochemistry During Exercise: Contemporary Understandings and New Approaches to Improved Models, Methodologies and Data Interpretations

Message from the Guest Editor

This Special Issue is centered in the understanding of the biochemistry of the energetics of skeletal muscle contraction during exercise, in addition to the systemic acidosis responses to numerous disease processes. The underlying model of most prior studies of muscle metabolism has been based on whole-body (wb) gas exchange, limb gas exchange, and whole muscle samples, with limited recognition of the limitations imposed by these methods due to the All Or None Law of muscle contraction combined with the Size Principle of motor unit recruitment.

Core topics that challenge the conventions of important wb oxygen consumption (wb-VO2) measures (maximal VO2 (VO2max); VO2 gain; VO2 kinetics; and the economy and efficiency of muscle contractions during exercise), the biochemistry of skeletal muscle metabolic acidosis, and skeletal-muscle-fiber-type-specific biochemistry of energy metabolism will be presented with the overarching purpose of (1) stimulating the further research into these topics, and (2) improving the understanding of how the realities of the All Or None Law of muscle contraction combined with the Size Principle of motor unit recruitment influence skeletal muscle metabolism.

Guest Editor

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