



## Research of Mitochondrial Function, Structure, Dynamics and Intracellular Organization 2.0

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### Message from the Guest Editor

Dear Colleagues,

Mitochondria play a central role in maintaining cellular function by energy (ATP) production. They are also a source of reactive oxygen species and pro-apoptotic elements. In addition to oxidative phosphorylation (OXPHOS), mitochondria regulate a wide range of metabolic processes and cellular signaling mechanisms. The importance of mitochondria in many aspects of cell physiology, bioenergetics, normal cell function and ion control (particularly  $\text{Ca}^{2+}$ ) is well known. Changes in mitochondrial function and energy transfer play crucial roles in numerous diseases and in aging. Therefore, the multifaceted and comprehensive analysis of mitochondria is central to studies of energy metabolism and the pathophysiology of human diseases, including ischemia-reperfusion injury, myopathies, neurodegenerative diseases and cancer. The study of mitochondrial oxygen consumption (OXPHOS) can be performed using isolated mitochondria or in situ, in permeabilized cells or muscle fibers. Moreover, changes in mitochondrial structure, dynamics, organization and function can be analyzed by fluorescent imaging.





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## Message from the Editor-in-Chief

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