
Wednesday March 14, 2018

13.15 - 14.00 in Hörsal M (Music)

Örebro University

Mitophagy and mitochondrial biogenesis in ageing and neurodegeneration

Prof. Nektarios Tavernarakis
Inst. Molecular Biology and Biotechnology, Medical School,
University of Crete

Host: Marios Stylianou



Mitochondria, the main energy hub of the cell, are highly dynamic organelles, playing essential roles in fundamental cellular processes. Mitochondrial function impinges on several signalling pathways modulating cellular metabolism, cell survival and healthspan. Impaired mitochondrial function and excessive mitochondrial content are major characteristics of ageing and several human pathophysiological conditions, highlighting the pivotal role of the coordination between mitochondrial biogenesis and mitophagy. Our findings unravel a homeostatic feedback loop that allows cells to adjust their mitochondrial population in response to environmental and intracellular cues. Age-dependent decline of mitophagy both inhibits removal of dysfunctional or superfluous mitochondria and impairs mitochondrial biogenesis resulting in progressive mitochondrial accretion and consequently, deterioration of cell function.
