

external seminar



# Biometra seminars

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AULA C, LITA Segrate

## MITOCHONDRIAL NETWORK AS A CENTRAL HUB IN THE CONTROL OF PROTEOSTASIS AND AGEING

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Maintaining the integrity of organelles and proteins despite the cellular stresses that arise from environmental pressure is essential for life. The time-dependent accumulation of cellular damage is widely considered to be the general cause of cellular degeneration and disease onset. Decline of the protein quality control, called the loss of proteostasis, contributes to impairment of macromolecule function and is considered among the primary hallmark of aging, morbidity and mortality. We have recently found that mitochondrial dysfunction triggers a transcriptional dependent response that alters proteostasis, promotes a secretory pattern that induces organs premature senescence and organism death. In this lecture I will discuss how the shape of mitochondrial network controls different signalling pathways that impinge on organ physiology, ageing and disease progression with a focus on cancer. In the second part of the lecture I will describe the discovery of a new gene that controls autophagy and is essential for a healthy ageing.



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