

Course offered for the STAT PhD program starting from a.y. 2020/2021

TITLE	Mitochondria: more than just a powerhouse. Tools to study mitochondrial morphology and function
Lecturer	Francesca Baldini; Laura Vergani
Duration and Credits	2 CFU (8 hours)
Course description	Mitochondria are commonly known as the 'powerhouses' of the cell as they play a central physiological role by hosting one of the fundamental processes: the cellular respiration. Recent emerging evidences suggest a wider spectrum of mitochondrial functions, beyond the primary role of ATP generators. The course will provide students with a an integrated multi-analytical approach to investigate the structure and function of these organelles. During the course, we will discuss the different techniques and approaches to study mitochondrial morphology, ultrastructure and function: from fluorescent labeling (Mitotracker, TMRE), electron microscopy, real-time PCR to high-resolution respirometer (Oroboros O2K-FluoRespirometer, Seahorse XF Analyzer).
Course organization	Frontal lessons
Teaching period	Jan- -Jul 2021 (2 class activities of 4 hours each)