

# Welcome



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DEGLI STUDI  
DI PADOVA

Il Dipartimento di Scienze Chimiche accoglie il

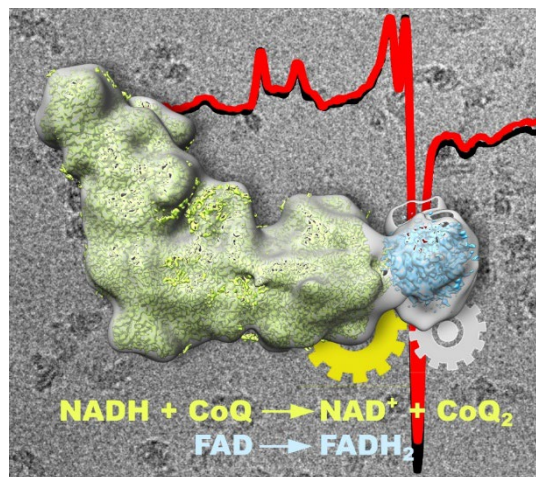
**dott. Gabriele Giachin**

che terrà un seminario dal titolo:

## **Integrative approaches to understand the complexity of a mitochondrial energy producing machinery**

**Martedì 22 novembre 2022, alle ore 16.45, presso l'Aula H,  
Dipartimento di Scienze Chimiche, Via Marzolo, 1.**

*In mitochondria, the cell's "powerhouses", large protein machineries belonging to different metabolic pathways operate to produce energy in a highly concerted manner. Inter-pathways contacts are called "metabolons" and represent a unique strategy to channel metabolic substrates for efficient energy productions. Very little is known about the structural mechanisms regulating the assembly of these metabolons. Understanding dynamic processes that are thinly coordinated at a cellular level is not possible using a single technique but becomes accessible only through the integration of a number of approaches. Here, I am presenting my recent results obtained at DiSC on the first structural characterization of a macromolecular assembly formed by the mitochondrial Complex I (the entry point of the electron transfer chain) and ACAD9 (one of the enzymes playing a key role in the oxidation of fatty acids in mitochondria). The integrative approaches that I am employing include cell-based assays, SAXS, EPR and finally cryo-EM: these methods are providing a first picture of the structure and function of this unique complex formed by two protein machineries belonging to different bioenergetic pathways.*



Il Direttore del Dipartimento

Michele Maggini