BioISI - Biosystems & Integrative Sciences Institute

Masters 3 – Molecular Biology FCUL
Masters 4 – Biochemistry for Health NOVA

Exploring respiratory enzymes from *Staphylococcus aureus*

Place of work/: FCUL

Supervisors: Manuela M. Pereira

Contact: mmpereira@fc.ul.pt

Abstract

S. aureus is an opportunistic pathogen, which shows a great ability to adapt to diverse environmental conditions, especially during host colonization. The adaptability of this pathogen comes from its metabolic versatility, which in part is due to the relatively complex composition of their respiratory chains. Specifically, the ability to use several substrates for the reduction of the quinone pool is what gives this organism its most metabolic plasticity. S. aureus contains a vast array of quinone reductases which connect the different metabolic pathways to the respiratory chain.

The main goal of this project is to explore the structure and function of the several quinone reductases present in S. aureus. In this project, the MSc student will contact microbiology, molecular biology, biochemistry and biophysics methodologies. Specifically, the student will perform, among other techniques, cell growths, protein expression, purification and biochemical and biophysical characterizations.