



## PhD in Biomedical Sciences

Research Area: Microbiology, Clinical Mycology

**Title:** Characterization of skin mycobioma in intensive care units

Fungi are fundamental to the Human microbiome. However, fungi distribution on and within the body, is poorly understood. Of the mycobiota, the genus *Candida* is one of the main genera. Candidiasis is the most common cause of fungal infection worldwide and includes superficial infections and invasive disease. *Candida albicans* remains the most isolated pathogen, however a shift in etiology has been observed for *Candida non-albicans* species. Over the past decade, the global emergence of *Candida auris* has been a major concern for the medical and scientific community. Difficult laboratory identification and multidrug resistant profiles associated with *C. auris* result in difficult eradication and frequent therapeutic failure.

In this context, the study focuses on the evaluation of colonization by *Candida* and particularly *C. auris* in patients at medical and surgery ICU at Prof. Doutor Fernando Fonseca Hospital. This survey aims to determine the skin mycobiome diversity and antifungal resistant profiles. The research will focus on clinical and microbiological characteristics and will allow the knowledge of the influence of the associated nosocomial microbiota on the prevalence of fungal colonization. To achieve these aims a combination of basic and translational microbiological techniques will be used.

**Keywords:** Survey, *Candida* spp., *Candida auris*, antifungal resistance

**Supervisors:** Professor Doutor Maria Helena Barroso (Supervisor), Professor Doutor João Inácio (Brighton University, IHMT/UNL) and Professor Doutor Miguel Viveiros (IHMT/UNL)

**Start Year:** 2018