



University of Genova

Department of Earth, Environmental
and Life Sciences

Doctorate Course in Earth and
Environmental Science and
Technology

Università degli Studi di Genova



Dottorato in Scienze e Tecnologie
per l'Ambiente e il Territorio

Curriculum in biology applied to agriculture and the environment

Research Theme n. 8

Titolo Gestione sostenibile dei rifiuti attraverso applicazioni biotecnologiche di ceppi fungini Title Sustainable waste management exploiting fungal biotechnologies/
Tutor (name and email) and eventual co-tutor Mirca Zotti mirca.zotti@unige.it and Simone Di Piazza simone.dipiazza@unige.it
Program description including the formation program abroad (Inglese) The project aims to train qualified researchers able to independently conceive, design, and carry out applied research in the field of mycology especially focused to the exploitation of fungi in biodegradation and recycling of waste. Some fungi may survive in contaminated environments, showing a very remarkable capability of contaminants inactivation and bioaccumulation. This capacity led to the use of fungi in the uptake or recovery of precious metals, such as rare-earth elements. The main goal is the selection and characterization of the best performing strains from different substrates to be used in the field of waste management in a circular economy. During the project, the candidate will spend a period of 6 month abroad within a framework of collaboration with international research group such as Westerdijk Fungal Biodiversity Institute (Holland).
Financial support: Tutors' departmental funds
Tutor's publications (max 3) <ul style="list-style-type: none">• DI PIAZZA S., HOUBRAKEN J., MEIJER M., CECCHI G., KRAAK B., ROSA E., ZOTTI M. 2020. Thermotolerant and Thermophilic Mycobiota in Different Steps of Compost Maturation. <i>Microorganisms</i> 2020, 8, 880.• CECCHI G., CUTRONEO L., DI PIAZZA S., VAGGE G., CAPELLO M., ZOTTI M. 2020 From waste to resource: mycoremediation of contaminated marine sediments in the SEDITERRA Project. <i>Journal of Soils and Sediments</i> 20 (6): 2653-2663.• DI PIAZZA S., GRAZIA CECCHI G., CARDINALE A.M., CARBONE C., MARIOTTI M.G., GIOVINE M., ZOTTI M. 2017. <i>Penicillium expansum</i> Link strain for a biometallurgical method to recover REEs from WEEE. <i>Waste Management</i> 60 (2017) 596–600 http://dx.doi.org/10.1016/j.wasman.2016.07.029.