



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 2

<b>Titolo Caratterizzazione e applicazione di consorzi microbici per il riutilizzo di scarti organici di diversa origine</b>
<b>Title Characterization and application of microbial consortia for the reutilization of organic wastes from different origins</b>
Tutor <b>Mirca Zotti</b> <a href="mailto:mirca.zotti@unige.it">mirca.zotti@unige.it</a>
Program description including the formation program (Inglese) This PhD's topic focuses on identifying organisms of diverse composition, especially fungi, which can be employed in recovery processes of common waste materials. Microbial consortia represent a new biotechnological strategy fit for several fields, such as polluted soil remediation, rare metal biomining, organic farming biostimulation and biofertilisation, and specialized compost production. This project fully integrates into the mechanisms of circular economy, which demands the requalification and sustainable usage of waste, as well as into the broader concept of green economy. The company involved, called MICAMO, is a biotech company founded as a spin-off within the University of Genoa. MICAMO recently obtained recognition as an Innovative SME from the Business Register. Micamo brings together the skills of molecular biologists, biochemists, microbiologists and specialized technicians who have been working for years in the field of environmental and food diagnostics. MICAMO supports public and private companies in finding effective and practical solutions in relation to environmental and food safety and quality. In the food sector MICAMO is committed to finding solutions for product and process innovation and in the recovery of production waste to insert them in innovative processes of Circular Economy and Green Economy.
PON research line: Green
Company hosting the PhD: MICAMO s.r.l. environmental and molecular microbiology - <a href="http://www.micamo.com">www.micamo.com</a>
Financial support: capital number 100022-2017-ALTRIPRIVN_oltrepo
Tutor's publications (max 3) 1) Rosatto, S., Cecchi, G., Roccotiello, E., Di Piazza S., Di Cesare A., Mariotti M., Vezzulli L., Zotti, M., 2021. Frenemies: Interactions between rhizospheric bacteria and fungi from metalliferous soils. <i>Life</i> 11(4), 273. 2) Cecchi G, Cutroneo L, Di Piazza S, Besio G, Capello M, Zotti M., 2021. Port Sediments: Problem or Resource? A Review Concerning the Treatment and Decontamination of Port Sediments by Fungi and Bacteria. <i>Microorganisms</i> 9(6),1279. 3) Di Piazza, S., Benvenuti, M., Damonte, G., Cecchi G., Mariotti, M.G., Zotti, M. 2021. Fungi and circular economy: <i>Pleurotus ostreatus</i> grown on a substrate with agricultural waste of lavender, and its promising biochemical profile. <i>Recycling</i> , 6(2), 40.