

# Filippo Vaccari



KEY-WORDS:  
PLASTIC · SOIL · MICROBIOLOGY

## PROFILE

I am a second-year PhD student in Microbiology specialized in plastic pollution and degradation in soil. I'm working on MINAGRIS an Horizon with the aim of studying plastic contamination in European agricultural soil.

## AFFILIATION

Department for Sustainable Food Process (DISTAS)  
Università Cattolica del Sacro Cuore

## LANGUAGES



Mother language



Level C1

## HOW TO REACH ME

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## Reference Contact

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## PROJECT TITLE

### Micro and nano-plastics in agricultural soils: impacts on ecosystem services and overall sustainability

#### Steps of the research

- Assessment of degradability, mobility and fate of MNP on the soil environment.
- Assessment of the impact of micro and nanoplastics pollution combined with other soil stressors on soil microbiota.
- Study of the microbial interactions between environmental plastic particles and their relative microbiota.
- Determine metabolic and genetic potential of the plastisphere, focusing on pathogenicity genes and antibiotic resistance.

#### Main Results

Significant effects of plastic on soil microbiota and soil fauna.

#### Research Contribution

The MINAGRIS project will raise awareness and increase knowledge of institutions on MNP impact and create practical knowledge easily understandable and accessible by plastic industries and farmers. The results of this project will direct legislators in making choices for future sustainable agriculture practices.

#### Collaborations:

WUR: Dr. Esperanza Huerta Lwanga

#### Why should you care?

Plastics are considered an integral element of modern agriculture deemed necessary to maximize yields and protect soils and crops from weeds and pests. However, plastic residues are often not removed and stay on the fields, interfering with the soil's biota and physico-chemical cycles.