

Giorgia Cavallini



Ph.D. student

Systematic Botany and Mycology Laboratory
Department of Ecological and Biological
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PhD student with interest in microbial ecology. Seeking to investigate how climate change may affect the delicate balance that governs polar ecosystems.

PROFESSIONAL EXPERIENCE

Apr. 2023 - May 2023 Project collaboration work contract: "Development of procedures experimental for studying the role of hydroxytyrosol on the modulation of intestinal microflora of aged mice." Laboratory of biochemistry and plant molecular biology, Department of Ecological and Biological Sciences (DEB), University of Tuscia, Viterbo (Italy)

EDUCATION

Nov. 2023 Professional Habilitation in Biology
Department of Ecological and Biological Sciences (DEB), University of Tuscia, Viterbo (Italy)

Apr. 2023 – ongoing Ph.D. in Ecology and sustainable management of environmental resources doctorate school
Department of Ecological and Biological Sciences (DEB), University of Tuscia, Viterbo (Italy)
Supervisors: Profs. Laura Zucconi

Feb. 2020– Feb. 2023 Master's Degree in Cellular and Molecular Biology (LM-6)
Department of Ecological and Biological Sciences (DEB), University of Tuscia, Viterbo (Italy)
Score:110/110 cum laude
Thesis title: "Unraveling the functional role of endophytic fungi from the Antarctic plant *Colobanthus quitensis*"
Supervisor Prof. Carla Caruso

Oct. – Feb. 2020 Bachelor's Degree in Biological Sciences (L-13)
Department of Ecological and Biological Sciences (DEB), University of Tuscia, Viterbo (Italy)
Score:110/110 cum laude
Thesis title: "Chemistry and properties of curcuminoids"
Supervisor Prof. Carla Caruso

RESEARCH PROJECTS

Participation in research projects:

2022–ongoing MICROPLANTALP MICROorganism-PLANT Interactions in the Forefield of
Glaciers: a Hotspot for Studying the Impact of Climate Change in ALPine Habitats
Participating in the characterization of the responses of microbial communities from alpine
habitats to warming simulated in the field and controlled laboratory conditions

SKILLS

Hard skills

Technical skills

- *Microfungi and filamentous fungi isolation from environmental samples*
Performed isolation of microfungi from different environmental matrices, mainly from soils.
- *Microbial culture set up under sterile conditions on both solid and liquid media*
Managed cultures of filamentous fungi.
- *Nucleic acid extractions from live and frozen tissues (fungi and plants) and environmental samples*
Extracted DNA and RNA from many different bulk samples including extremely low-biomass soil samples and different tissues, such as thickened wall fungi
- *Plant fitness analysis*
Performed phenotypic analysis to analyse responses to biotic stresses in plants.
- *PCR and Real-Time PCR based techniques*
Applied these techniques to characterize genes of interest in complex communities and single organisms.

Informatic skills

- *Analysis of sequencing data in Linux environment*
Analysed DNA metabarcoding datasets with different software and pipelines (e.g. QIIME2, AMPtk)
- *Gene Ontology Analysis*
Analysed datasets with software for gene ontology analysis (e.g. AmiGO, ShinyGO)
- *Analysis of images*
Analysed images of samples through software such as Image j and Adobe Photoshop.

Soft skills

- *Teamwork*
Worked closely with all members of my team to achieve project goals; participated in group meetings and discussions to exchange ideas and knowledge.
- *Relationship building*
Developed strong friendships with other members of my team
- *Willingness to learn*
Continuously seek out opportunities to expand my knowledge and skillset
- *Communication and organizational skills*
Good communication and organizational skills acquired through university experience.

PARTICIPATION TO CONFERENCES

Posters:

- **Cavallini G.**, Zucconi L., Augusti A., Bernetti A., Borruso L., Brugnoli E., Canini F., D'Alò F., Fracasso I., Gavrichkova O., Mimmo T., Montagnani L., Mugnai G., Pinchuk I., Sannino C., Sarti M., Turchetti B., Buzzini P. (2023). Microorganisms-Plant Interactions in Alpine ecosystem: a hotspot for studying the impact of climate change. XIX Congress of European Mycologists, Perugia – Italy, September 4th-8th 2023

- **Cavallini G.**, Zucconi L., Augusti A., Bernetti A., Borruso L., Brugnoli E., Canini F., D'Alò F., Fracasso I., Gavrichkova O., Mimmo T., Montagnani L., Mugnai G., Pinchuk I., Sannino C., Sarti M., Turchetti B., Buzzini P. (2023). New possible complementary approaches to study the responses of terrestrial alpine ecosystemsto climate changes in the MICROPLANTALP project. UAE Microbiome 2023, Abu Dhabi – United Arab Emirates, November 21th-22th 2023