

HOSTING GROUPS FOR INTERNATIONAL MOBILITY

Molecular Microbiology and Microbial Biotechnology Lab

Research activities: morpho-physiological and molecular characterization of strains belonging to actinobacteria; analysis of membrane extracellular vesicles produced by streptomycetes; antibiotic production by actinobacterial strain fermentation; biosynthesis of microbial bioactive metabolites; analysis of actinobacterial gene clusters devoted to bioactive molecule production; isolation and characterization of plant growth promoting actinobacteria; analysis of microbiome of biotic or abiotic matrices; sewage sludge/soil/plant microbiome modulation.



Team members:

Giuseppe Gallo, Associate Professor

Teresa Faddetta, Post-Doc

Silvia La Scala, PhD student

Flavia Cannizzaro, PhD student

Dario Belmonte, PhD student

Selected publications:

- *The role of carbon and nitrogen ratio on sewage sludge microbiota for producing polyhydroxyalkanoates*, **J. Environ. Manage.**, 375, 124240 (2025) (<https://doi.org/10.1016/j.jenvman.2025.124240>);
- *Bioactive Metabolite Survey of Actinobacteria Showing Plant Growth Promoting Traits to Develop Novel Biofertilizers*, **METABOLITES**, 13, 1-18 (2023) (<https://doi.org/10.3390/metabo13030374>);
- *Streptomyces coelicolor Vesicles: Many Molecules to Be Delivered*, **AEM**, 88, 1-16, (2022) (<https://doi.org/10.1128/AEM.01881-21>);
- *The endophytic microbiota of Citrus limon is transmitted from seed to shoot highlighting differences of bacterial and fungal community structures*, **Sci Rep**, 11, 1-12, (2021) (10.1038/s41598-021-86399-5)
- *Biogenic iron-silver nanoparticles inhibit bacterial biofilm formation due to Ag⁺ release as determined by a novel phycoerythrin-based assay*, **APPL MICROBIOL BIOT**, 104, 6325-6336 (2020) (<https://doi.org/10.1007/s00253-020-10686-w>).