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#### Education:

- PhD student in Animal and Food Science (2024 - )
- Master student in Evolutionary Biology (2021-2023)
- Bachelor student in Biological Science (2017-2021)

#### Research areas:

- Microbiome composition in tomato plants
- Sustainable agriculture

#### Brief description of Ph.D project:

The plant microbiome comprises microorganisms such as bacteria, fungi, viruses, and protists that colonize various plant compartments, including the rhizosphere and phyllosphere. These microorganisms play a vital role in plant health and functionality by influencing growth, nutrition, and defense mechanisms against pathogens. As the composition of the microbiome is closely linked to plant genotypes and environmental conditions, it represents a promising frontier for enhancing agricultural productivity and sustainability. Advances in

high-throughput sequencing technologies, such as Next- Generation Sequencing (NGS), combined with bioinformatic tools, have enabled culture- independent characterization of microbial communities associated with plant resistance or susceptibility to pathogens. Understanding the taxonomic diversity and abundance of endophytic microorganisms provides insights into plant productivity. Integrating microbiome monitoring into breeding programs may offer an innovative approach to select disease-resistant varieties, ultimately promoting agricultural systems that rely more on microbial ecosystem services and less on external inputs such as fungicides.

Supervisor:

Professor Piergiorgio Stevanato