Sonia Mazzarino

University of Turin, Department of Life Sciences and Systems Biology (DBIOS), Turin Botanical Garden, Viale Pier Andrea Mattioli 25, 10125, Torino (Italy).

Education

2022 – Ongoing	**PhD in Biological Sciences and Applied Biotechnology**, University of Turin Title of the research project: Isolation and selection of plant-associated microbes for the formulation of new inocula to be used in sustainable agriculture. This Project is in collaboration with the Italian company Green Has Italia S.p.A. and with the French company Mycophyto.
05-07-2021	**State examination: Senior Biologist,** License to practice as a Biologist, Ordine Nazionale dei Biologi (ONB), Italy
2018 – 2021	**Master's degree in Environmental Biology (LM 06)**, University of Turin Title of the thesis: Preliminary study of the mechanisms of soil-plant interaction in relation to various abiotic stresses Final grade: 110/110 with honors
2015 – 2018	**Bachelor's degree in Biological Sciences (L-13)**, University of Turin Title of the thesis: Communication and exchange of nutrients between plants through shared mycorrhizal networks Final grade: 94/110

Research Experience

Green Has Italia S.p.A. – *Corso Alba, 89, 12043 Canale CN, Italy*
PhD Project collaboration (January 2022 – December 2024)
Aims of the project: (i) isolation and identification of plant growth promoting (pgp) bacteria for a biostimulant application; (ii) understand how the microbial community is shaped by drought stress and after a recovery condition. Methods: (i) culture dependent approach: bacteria isolation, plant growth promoting tests, evaluation of bacteria inoculum in a greenhouse experiment; (ii) culture independent approach: DNA extraction, PCR and metabarcoding analysis.

Mycophyto– *45 Bd Marcel Pagnol, 06130 Grasse, France*
Visiting PhD student: 4 months (February 2023 – July 2024)
Aim of the project: isolation, maintenance and identification of arbuscular mycorrhizal fungal strains. Methods: trap cultures technique and AMF monosporal cultures to propagate and maintain the AMF component, molecular technique to identify the isolated strain.

NIOO-KNAW - *Droevendaalsesteeg 10, 6708 PB Wageningen, The Netherlands*
Erasmus traineeship post degree (September 2021 – December 2021)
Aim of the traineeship: screen beneficial endophytic bacteria for plant induced systemic resistance on tomato plant against fungal pathogen and insect pest. Methods: in vitro and in greenhouse experiments, managing a 3 ways interaction experiment (plant-bacteria-pathogen/pest).

Green Has Italia S.p.A. – *Corso Alba, 89, 12043 Canale CN, Italy*
Master traineeship (January 2021 – February 2021)

Aim of the traineeship: Evaluation of the effectiveness of a fertilizer with biostimulant action on lettuce plants under drought stress. Methods: in greenhouse experiment, biostimulant application and evaluation.

Ipsp – CNR – *Turin Botanical Garden, Viale Pier Andrea Mattioli 25, 10125, Turin (Italy)*
Bachelor internship (March 2018 – June 2018
Aims: Environmental microbiology, study on fungal genoma. Methods: molecular biology (DNA extraction, PCR).

Personal Skills

Technical skills

- Microbiology techniques (fungal and bacteria isolation; in vitro cultures; bacterial growth curves through spectrophotometer and plate counting; plant growth promoting tests on bacteria (phosphorus solubilization; indole-3-acetic acid production; siderophores production; drought tolerance evaluation; pH tolerance evaluation; biopriming germination effect; in greenhouse inoculum application).
- Molecular biology techniques (DNA extractions, PCR, electrophoresis, metabarcoding analysis)
- Phenological data acquirement and data processing

Languages

- Italian: Native
- English: Intermediate (CEFR-B2)
- French: Elementary (CLA – Unito University)

Software

- Microsoft Office (Word, Excel, Power Point)
- Bioinformatics tools (data analyses with R language)
- Digital image processing programs (Biorender, ImageJ).

Conferences

Attended:

- "miCROPe", July 15-18 2024, Wien (Austria), **poster** presentation
- "Food System Microbiomes", May 14-17 2024, Turin (Italy), **flash oral talk** and **poster** presentation
- "Biostimulant World Congress" 28 Nov - 1 Dec 2023, Milan (Italy), **poster** presentation
- "ISS Holobiont", July 25-29 2022, Lyion (France).

Posters:

- **Mazzarino S**., Bortolot M., Sacchi B., Contartese V., Clement M., Hoff G., Perotto S., Martino E., Salvioli di Fossalunga A.. "Combining metabarcoding and culture-dependent approaches: a strategy towards science-based harnessing of rhizospher microbiota in agricultural soil". ICOM 12. Manchester, August 4-9, 2024
- **Mazzarino S.**, Bortolot M., Castiglione A. M., Vigliante I., Novero M., Contartese V. and Salvioli di Fossalunga A. "Compositional shift in the root microbiota of tomato and rice plants upon drought stress and its recovery". MiCROPe Congress. Wien (Austria), July 15-18 2024.
- **Mazzarino S.**, Castiglione A. M., Bortolot M., Vigliante I., Novero M., Contartese V. and Salvioli di Fossalunga A. "Isolation and selection of plant-associated microbes for the formulation of new inocula to be used in sustainable agriculture". Food System Microbiomes. Turin (Italy), May 14-17 2024.
- **Mazzarino S.**, Castiglione A. M., Bortolot M., Vigliante I., Novero M., Contartese V. and Salvioli di Fossalunga A. "Selection of plant-associated microbes for the formulation of new inocula to be used in sustainable agriculture". Biostimulant World Congress. Milan (Italy), 28 Nov - 1 Dec 2023.

- **Bortolot M.**, **Mazzarino S.**, Pizzinat A., Sacchi B., Perotto S., Martino E., Salvioli di Fossalunga A.. "Characterization of the microbial communities associated to blueberry plants in a natural environment". Congress of European mycologists. Perugia, September 3-8 2023.

Turin, 02/08/2024