

RICCARDO MANCINELLI

Curriculum Vitae

EDUCATION

January 2022 / now - PhD candidate

Center for Environmental Science, Hasselt University, Hasselt, Belgium

Supervisor and Promotor: prof. Nadia Soudsilovskaya

Title: "Eco-physiological mechanisms of mycorrhizal fungal impacts on soil carbon cycle"

Oct 2017 /now - PhD candidate

Institute of Environmental Sciences, Leiden University, Leiden, The Netherlands

Supervisor: prof. Nadia Soudsilovskaya

Promotor: prof. Peter van Bodegom

Title: "Eco-physiological mechanisms of mycorrhizal fungal impacts on soil carbon cycle"

My PhD project aims to reveal how the most wide-spread types of mycorrhizal fungi, arbuscular mycorrhiza (AM) and ectomycorrhiza (EM), differently affect soil carbon cycling. Furthermore, it aims to understand how AM- and EM- vegetation shifts affect regional carbon cycling via functioning of mycorrhizal fungi.

February 2017 - MSc in Environmental Biology at the University of Trieste.

Thesis title: "Biological control of fungal pathogens on *Brassica napus* using bacterial seed treatments"

Final grade: 108/110

Mar/Sep 2016 - Research Assistant (Internship) for Master degree thesis

Institute of Environmental Biotechnology, Graz University of Technology, Graz, Austria

Supervisor: Gabriele Berg, Daria Rybakova

During this experience I have been full time employed as a trainee in the context of a research group working on biological control agents (project funded by BIOCOMES, biocomes.eu). This experience allowed me to improve my skills in biotechnology techniques (DNA isolation and visualization, PCR, GCMS, fluorescence microscopy, *in vitro* microbial cultures, VOCs assay, and bacterial antagonistic assay *in vitro* and *in planta*) and for the study of plant associated microbial communities. Such experience in a competitive research environment gave me the chance to touch with hand how research works in all its parts: from the planning of a project, to data collection and analysis, development and paper writing.

Nov/ Gen 2016 - Traineeship

Department of life Science, University of Trieste, Trieste, Italy

Supervisor: Lucia Muggia

During this traineeship I contributed to a research on the phylogeny of the genus

Cheirromyces within lichenized fungi. During this traineeship I improved my knowledge in molecular analytics (DNA extraction techniques, PCR), in botany laboratory skills (environmental sample treatments, *in vitro* cultures) along with bioinformatics tools (as BioEdit, molecular on-line databases)

December 2014 - BSc in Biological Science and Technologies at the University of Trieste.

Thesis title: "Carbon Starvation As a Possible Mechanism Driving Drought-Induced Tree Die-Off"

Final grade: 95/110

Jun/Aug 2014 - Traineeship for Bachelor thesis at Department of Agricultural and Environmental Sciences, University of Udine, Udine, Italy

Supervisor: Valentino Casolo

During my work I improved my field sampling skills, the knowledge of plant carbohydrates biochemistry and biochemistry laboratory techniques (Spectrophotometry, carbohydrates extraction)

Languages:

- Italian: Native language
- English: Fluent speech, reading/writing with proficiency, professional experience in advanced scientific environments
- German: Beginner
- Dutch: Beginner
- Spanish: Beginner

Informatics:

- OS: windows, mac (basics)
- Programming language: R.
- General use software:
- Microsoft Office (Word, Excel, Power point, Access), Statistical analysis software (R, R studio), GIS software (QGIS, GRASS), Bioinformatics software (BioEdit, Mr. Bayes, BEAST, SEED 2.0)
- Bioinformatic: NGS data analysis, OTU database construction. Usage of programs and databases for nucleotide and amino acid sequence analysis and phylogenetic reconstruction

Laboratory:

- General laboratory practices and techniques
- Cultivation of plant specimen in greenhouse setup
- Plant NSC analysis
- Usage of GCMS and HPLC techniques
- In vitro isolation, cultivation and maintenance of fungal specimen
- Microscopy (Optical, Confocal, plant and fungal tissue staining)
- DNA extraction and PCR amplification of environmental samples
- Fungal and bacterial isolation and culture techniques
- Plant-bacterial interaction and growth promoting assays

Others:

SKILLS

WORK
EXPERIENCE

- Experimental design, scientific communication, teaching and student supervision.
- Understanding of plant biology and microbiology (genetics, physiology, ecophysiology, taxonomy), remote sensing, statistical analysis and modelling.
- Laboratory management (laboratory equipment supply and maintenance, chemical supply, safety measures)
- Environmental samples collection
- Confident in presenting information and research findings in writing and in conferences

October 1st 2022/ November 7th 2022 – Visiting researcher

Institute of Microbiology, Laboratory of Environmental Microbiology, The Czech Academy of Sciences.

Grant: Short-Term Scientific Mission Grant, COST- Action, European Cooperation in Science and Technology

Host Supervisors: Petr Baldrian, Petr Kohout.

Title: “Long term trends of soil microbiome development in the context of ecosystem restoration through soil inoculation methods”.

Jul 2017/Sept 2017 – Extracurricular Traineeship in Geographical Mobility

University of Graz, Institute of Plant Sciences, 8010 Graz, Austria

Grant: EURES FVG, Extracurricular Traineeship in Geographical Mobility

Supervisors: Muggia L, Grube M.

Title: “Laboratory trials for *in vitro* lichenization in alginate inclusions”

PAPERS, TALKS AND
POSTERS

Mancinelli R, van Bodegom P, Lankhorst J and Soudzilovskaia N.

Title: “Understanding the impact of main cell wall polysaccharides on the decomposition of ectomycorrhizal fungal necromass”.

Scientific Article Published in European *Journal of Soil Science* 74(2). February 2023.

DOI: 10.1111/ejss.13351

Talk and Poster at “Netherlands Annual Ecology Meeting”. Wageningen, The Netherlands, February 11-12, 2020

Chenguang G, Bezemer TM, van Bodegom P, Cornelissen JHC, van Logtestijn RSP, Xiangyu L, Mancinelli R, van der Hagen H, Zhou M and Soudzilovskaia N.

Title: “Plant community responses to alterations in soil abiotic and biotic conditions are decoupled for above- and belowground traits”.

Scientific Article Published in *Journal of Ecology* 111(3). January 2023.

DOI: 10.1111/1365-2745.14070

Chenguang G, van Bodegom P, Bezemer TM, Veldhuis MP, Mancinelli R and Soudzilovskaia N.

Title: “Soil Biota Adversely Affect the Resistance and Recovery of Plant Communities Subjected to Drought”.

Scientific Article Published in *Ecosystems* 26(3):1-11. August 2022.

DOI: 10.1007/s10021-022-00785-2

Mancinelli R, van Bodegom P, He L, Soudzilovskaia N.
Title: "Global analysis reveals the importance of mycorrhizal type to predict soil microbial composition and biomass across biomes"

Talk at "Ecology of Soil Microorganisms". Prague, Czech Republic. June 19-23, 2022.

Wassermann B, Rybakova D, Adam E, Zachow C, Bernhard M, Müller M, Mancinelli R and Berg G.
Title: "Studying Seed Microbiomes"

Chapter in *Methods in molecular biology* (Clifton, N.J.) 2232:1-21. January 2021
DOI: 10.1007/978-1-0716-1040-4_1
In book: *The Plant Microbiome*

Muggia L, Mancinelli R, Tønsberg T, Palice Z.
Title: "Molecular analyses uncover the phylogenetic position of the lichenized hyphomycetous genus *Cheiromycina*".

Scientific Article Published in *Mycologia* 109(4):1-13
DOI: 10.1080/00275514.2017.1397476
Talk at the "XXIX Convegno della Società Lichenologica Italiana". Trieste, Italy. September 28-30, 2016.
Poster at the 8th IAL Symposium. Helsinki, Finland. Aug 1-5, 2016.

Rybakova D, Mancinelli R, Schmuck M, Wirkstrom M, Birch-Jensen F, Postma J, Ehlers RU and Berg G
Title: "The seed microbiome: cultivar-dependent structure in oilseed rape affects the interaction with beneficial bacteria and pathogens".
Published in *Microbiome* 5(1)
DOI: 10.1186/s40168-017-0310-6

Mancinelli R, Rybakova D, Berg G
Title: "Synergistic effects of the *Verticillium longisporum* antagonistic bacterial strains and their influence on the microbiome of Brassica plants".
Poster at the "8th ÖGMBT Annual Meeting". Graz, Austria. Sep 12-14, 2016.

Mancinelli R, Rybakova D, Wetzlinger U, Schmuck M, Berg G
Title: "Biocontrol agents against *Verticillium* wilt in oilseed rape: studies *in vitro* and *in planta*".
Poster at the "12th International Verticillium Symposium". Ljubljana, Slovenia. October 6-9, 2016

Rybakova D, Schmuck M, Mancinelli R, Berg G
Title: "Seed treatment with biological control agents against *Verticillium* wilt in oilseed rape".
Biological and integrated control of plant pathogens. IOBC-WPRS Bulletin Vol. 117, 2016, pp. 254-257
