University Academic Curriculum Vitae

Personal information

Name: Fabio Trevisan

Education since leaving school

- 2016; Technical high-school degree in chemistry and biotechnology (98/100)
- 2019; Bachelor in Agricultural and Agro-Environmental Sciences; Free University of Bolzano, IT (110 c.l. /110) Thesis title:" Study and characterization of the alkaloid hordenine in barley roots cv. Solist"
- 2021; Master in Plant Sciences; Wageningen University, NL (Passed cum laude) Thesis title:"Carbon isotope fractionation in C4 and C3 plants subjected to nutrient deficiencies"

Present appointment

- PhD in Mountain Environment and Agriculture
- 01.11.2021 - 31.10.2024
- Free University of Bolzano
- Activities carried out during the PhD:
  - Experiment planification and organization of field and greenhouse experiments including stable isotope labelling experiments; experiments focused on abiotic stress, namely nutritional stress (from experimental design to communication with third parties *e.g.* farmers and land owners)
  - Soil sampling
  - Plants growth in soil, *i.e.* pot and rhizoboxes, as well as soilless systems, *i.e.* hydroponics, in greenhouses/climatic chambers with focus on nutritional deficiencies and microplastic contamination (Arabidopsis, tomato, Clusia sp., cucumber, maize, barley, garden cress)
  - Plants, soil and rhizosphere sampling with multiple approaches like collection solution submersion, DGT and microdialysis
  - Soil chemical analysis (pH, cations, anions, heavy metals, ionomic composition, TOC, aggregates stability, pesticides residues)
  - Chemical analysis on plant tissues (targeted and untargeted metabolomics of primary as well as secondary metabolites, bulk and compound specific stable isotope enrichment analysis via IRMS and LC-HRMS respectively (BSIA & CSIA), ionomic composition via ICP-MS, physiological parameters monitoring *e.g.* photosynthetic rate, stomatal conductance, chlorophyll fluorescence, via IRGA)
  - Data collection and analysis (development of data processing pipelines for metabolomics data)
  - Statistical analysis (uni- and multivariate analysis using R software)
  - Results interpretation, graphs and figures design
  - Writing scientific papers and reports
  - Direct contact with manufacturer for purchase of instruments, consumables and reagents (from market analysis to quotation request, from purchase to installation/delivery)
  - Collaboration with other projects including Horizon Europe, PNRR, PRIN and UniBz internal projects

Professional experience

From / to	Job title	Name of academic Institution	Academic level	responsibilities
February - March 2015	Internship	Eco Research, Bolzano	-	PAH, PCB and heavy metals analysis on water, sludge and soil samples (from sample preparation to data analysis and

				results interpretation)
February - March 2016	Internship	Laimburg Research Centre; Laboratory of Residues and Contaminants	-	Residues analysis on different biological matrixes like plants, fruits, animals insects, and soil) (from sample collection, to preparation and from data analysis to results interpretation)
July - August 2017	Internship	Laimburg Research Centre; Laboratory of Flavours and Metabolites	BSc	Analysis of aromas and secondary metabolites on different biological matrixes like plants, fruits and soil) (from sample collection, to preparation and from data analysis to results interpretation)
April - August 2021	Internship	University of Vienna; Department of Molecular Systems Biology (MOSYS) & Vienna Metabolomics Center (VIME); Prof. Wolfram Weckwerth	MSc	Cultivation of different plant species (Clusia sp., Arabidopsis, tomato) in green-houses, monitoring of environmental parameters (soil and air humidity and temperature, leaf temperature and PAR); untargeted metabolomics analysis on different plant tissues (roots and leaves), data collection, data analysis and results interpretation.
March - July 2023	PhD period abroad	Swedish University of Agricultural Sciences, Umeå; Department of Forest Ecology and Management; Prof. Sandra Jämtgård	PhD	Stable isotope labeling experiments on tomato plants and Compound Specific Stable Isotope Analysis (CSIA); barley soil pot experiments sampling soil and rhizosphere using microdialysis;
November 2021 - October 2024	Teaching assistant	Free University of Bolzano	PhD	Coordination, organization and support of educational activities especially laboratory exercitations.

Experience in academic teaching

- Teaching assistant of the following courses at the Free University of Bolzano:
  - Biochemistry and Physiology of Agricultural Plants; Language: English; BSc; L-25; Agricultural, Food and Mountain Environmental Sciences; AY 2021/22 - 12h
  - Soil Chemistry and Fertility; Language: German; BSc; L-25; Agricultural, Food and Mountain Environmental Sciences; AY 2023/24 - 36h
  - Analytical Chemistry; Language: German; BSc; L-25; Agricultural, Food and Mountain Environmental Sciences; AY 2021/22 - 12h, 2022/23 - 12h, 2023/24 - 4h
- Supervision of two (2) BSc students for their BSc thesis
  - Franz Waschgler; AY 2022/23; Thesis title:"Impact of plant developmental status on the reacquisition of root exudates"
  - Samuel Basso; AY 2023/24; Thesis title:"Evaluating Conventional and Organic Approaches in Diverse Agricultural Systems: An In-Depth Analysis of Soil Composition Associated with Vineyards in South Tyrol"

Memberships

Member of the "Società Italiana di Chimica Agraria" since 2022.

Research and scholarships

- PhD thesis title "Plant physiological and metabolic reprogramming in response to abiotic stress."

Date granted	Award Holder(s)	Funding Body	Title	Amount received
01.11.2021	Trevisan Fabio	Free University	PhD	Annual net scholarship

		of Bolzano		€ 16.243,00

Publications

- Hall, R. D., Trevisan, F., & de Vos, R. C. (2022). Coffee berry and green bean chemistry–Opportunities for improving cup quality and crop circularity. *Food Research International*, *151*, 110825. https://doi.org/10.1016/j.foodres.2021.110825
- Maver, M., Trevisan, F., Miras-Moreno, B., Lucini, L., Trevisan, M., Cesco, S., & Mimmo, T. (2022). The interplay between nitrogenated allelochemicals, mineral nutrition and metabolic profile in barley roots. *Plant and Soil*, *479*(1-2), 715-730. https://doi.org/10.1007/s11104-022-05553-8
- Trevisan, F., Tiziani, R., Hall, R. D., Cesco, S., & Mimmo, T. (2023). $\delta^{13}C$ as a tool for iron and phosphorus deficiency prediction in crops. *Plant Direct*, 7(3), e487. https://doi.org/10.1002/pld3.487
- Trevisan, F., Tiziani, R., Cesco, S., & Mimmo, T. (2024). Timing matters: exudates collection duration impacts tomato root exudome under nutrient deficiencies. *Rhizosphere* (2024) (Accepted for publication 28th February 2024)

Conferences

Poster

- ISRR Dundee Medal Lecture in Root Research and Workshop 2021 "Enhancing root and rhizosphere interactions for sustainable cropping" (online 17th November 2021)
- 22nd World Congress of Soil Science (WCSS) 2022 (Glasgow, UK, 31st July – 05th August 2022)
- ISRR Dundee Medal Lecture in Root Research and Workshop 2022 "Divining roots: revealing how plants sense and adapt their root system architecture to water availability" (online 9th November 2022)
- 10th International Symposium on Root Development 2023 (Ghent, Belgium, 15th-19th May 2023)
- ISRR Dundee Medal Lecture in Root Research and Workshop 2023 "Reflecting on the impact of Prof Philip White on the understanding the role of roots in plant nutrition" (online 8th November 2023)

Oral

- ELLS Scientific Student Conference 2021 Green (r)evolution: from molecules to ecosystems (Warsaw, PL, 19th-20th November 2021, online edition)
- Agricultural Chemistry Winter School (ACWS) 2022 (Udine, IT, 14th-17th February 2022, online edition)
- III Convegno AISSA#UNDER40 (Bolzano-Bozen, IT, 14th-15th July 2022)
- 19th International Plant Nutrition Colloquium (IPNC) & Boron Satellite Meeting (Iguassu Falls, BRA, 22nd-27th August 2022)

Statement of interest

Thanks to the knowledge on soil chemistry and plant physiology which I gained during PhD and previous experiences in laboratories of environmental analysis in- and outside academia, I will be able to support any kind of activities carried out by the research group. I will provide my experience, knowledge, curiosity and good communication skills to help writing projects to obtain founds, designing new experiments, growing plants, sampling soil and plants, developing new methodologies, performing the analyses, analyzing data and writing scientific papers and project reports. In addition to academic and professional experience, being a farmer since childhood helps me, and therefore the research group, to keep

a practical view as well as being helpful when communicating with stakeholders with different backgrounds and levels of education.
Aside from technical and scientific skills, I firmly believe that the research group could benefit from my predisposition toward learning, curiosity and willingness to improve.

Language competence

Italian: Mother language
English: C1
German: C1

Date 04.03.2024 Signature