

Male, born on 26/12/1992 in Pisa (PI), Italy
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Competences

- Plant biochemistry (Western-blot, Electrophoresis, Spectrophotometric quantifications etc.)
- Plant molecular biology (PCR, RT-PCR, real time, microarray expression analysis)
- Soil chemistry (colorimetric elemental quantification and principal soil analyses)
- Soil biochemistry (respiration, toxicity tests, enzyme activities)
- Soil molecular biology (soil rDNA amplification, DGGE)
- Spectroscopy (ICP-MS elemental analyses, particle size analysis – DLS)

Education

- Ph.D. in **Biotechnology**. University of Verona – PhD school of Natural Sciences and Engineering – Department of Biotechnology (Verona, Italy) Oct. 2017 – Jul. 2021
- MSc.: **Plant and Microbial Biotechnologies**. University of Pisa – Department of Food, Agriculture and Environment (Pisa, Italy) Apr. 2015 – Jul. 2017
- BSc.: **Agrarian Sciences** University of Pisa – Department of Food, Agriculture and Environment (Pisa, Italy) Sept. 2011 – Apr. 2015

Research activities

- Project: EIT FOOD 21773 Sustainable fertilizer: “Sustainable fertilizers from beef slaughtering digested sludge”
Supervisor: Prof Claudio Ciavatta. Gen. 2022 – Dic. 2022
- Role of FePO₄ nanoparticles on Fe and P nutrition in cucumber and soybean and field retention for a sustainable nano-fertilization. Dic. 2020 – Nov. 2021
- Analysis of biostimulant properties of okara peptidic fractions, part of the project “F2F: Field to field - Valorisation of biomolecules from soybean drink by-products as defence products and biostimulants for an improved sustainability of crops cultivation”
Supervisor: Prof Zeno Varanini

Ph.D. Research activity

- **FePO₄ nanoparticles as source of nutrients: effects on the plant-soil system and evidence for a safe and sustainable nano-fertilization.** The objective of the work was to investigate the effects of FePO₄ nanoparticles used as nano-fertilizer in the plant-soil system. Early transcriptomic responses of plants in hydroponics to FePO₄ nanoparticles, impact of FePO₄ nanoparticles on soil environment and on plant development were evaluated. The research revealed that FePO₄ nanoparticles are an available source of nutrients for plants and can be applied without negative consequence on the environment. (Joint Project “Nanofert” UniVR-Cerea FCP).
Ph.D. thesis: <https://iris.univr.it/handle/11562/1044499#.YTdXEY77SUK>

Publications

- FePO₄ nanoparticles sustain P nutrition of cucumber plants without negative impact on soil biological properties (In preparation)
- Transcriptional changes of cucumber and maize plant roots in response to nanosized and non-nano FePO₄ as source of nutrients (In preparation)
- Nitrate Reductase Modulation in Response to Changes in C/N Balance and Nitrogen Source in Arabidopsis. Plant and Cell Physiology. DOI: <https://doi.org/10.1093/pcp/pcy065> 21 March 2018

External laboratories research

- Laboratory of Soil chemistry and biochemistry. Department of Agriculture, Food, Environment and Forestry – (DAGRI). University of Florence. Florence, Italy (Prof. Giancarlo Renella) Mar.–Apr. 2019
- Laboratory of microbiology and soil molecular biology. CREA-AA, former Council for Agricultural Research. Florence, Italy (Dr. Roberta Pastorelli) Jan.–Feb. 2019
- Cell Structure and Function II, Yamaguchi and Sato Lab. Faculty of Science and Graduated School of Life Science, Hokkaido University, Sapporo, Japan (Prof. Junji Yamaguchi) Jul.–Oct. 2016.
- Biophysics institute. National Research Council of Pisa (CNR), Italy (Prof. Paolo Gualtieri) Oct. 2014–Jan. 2015

Conferences/Presentations

- Oral presentation at Nano-Day IV, session: Nanotechnologies and nanomaterials in agriculture and food production. University of Milano Bicocca, Milan, Italy. 11 Dec. 2019
- Oral presentation at First Joint Meeting on Soil and Plant System Sciences (SPSS 2019): Natural and Human-induced Impacts on the Critical Zone and Food Production. CIHEAM Bari, ITALY. 23 Sept. 2019
- Oral presentation at Nanoinnovation 2019, workshop “AgriNano techniques”, Current Nano perspectives in the Agri-Food sectors. La Sapienza University of Rome, Italy. 12 Jun. 2019

Scholarships

- Scholarship from University of Pisa for MSc thesis at Hokkaido University – Graduate School of Life Science (Sapporo, Japan) Jul.–Oct. 2016

Teaching experiences

- Contract for occasional employment: preparatory course for admission tests at School of Science and Engineering. (Corso SCI18) in General Chemistry. University of Verona. 16–20 Jul. 2018
- Laboratory tutoring: 24 hour per academic year in Agrochemistry, Bachelor’s degree in Viticultural and Oenological Science and Technology. University of Verona. Academic years: 2017/2018
2018/2019
2019/2020

Other roles

- Representative of Ph.D. students of the Department of Biotechnology, University of Verona Oct. 2017–Nov. 2020

Languages

- **Italian** Mother tongue
- **English** C1



Bologna, 13/01/2022

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