

Nationality: Italian | (+39) 0 | https://www.researchgate.net/profile/Riccardo_Fedeli3 | Italy

● WORK EXPERIENCE

16/01/2021 – 16/08/2021 – Siena, Italy

STUDENT FELLOWSHIP – UNIVERSITY OF SIENA

Soil-plant fingerprinting in cultivation fields of Aglione della Valdichiana at the Department of Life Sciences, under the scientific responsibility of Prof. Stefano Loppi (PSGO Project 45/2017 "Vero Aglione della Valdichiana - VAV" CUP ARTEA 861489 Psr Feasr 2014-2020 funding).

24/11/2020 – 31/10/2021 – Siena, Italy

UNIVERSITY TUTOR – UNIVERSITY OF SIENA

University Tutor related to support for orientation and tutoring; front office activities and communication with students via social media, phone and email, supplemental, preparatory and remedial tutoring activities

01/07/2019 – 31/10/2021 – Siena, Italy

UNIVERSITY TUTOR – UNIVERSITY OF SIENA

Tutor in the Department of Physical Earth and Environmental Sciences; front office activities and communication with students via social media, phone, and email; supplemental, preparatory, and remedial tutoring activities

● EDUCATION AND TRAINING

01/11/2021 – CURRENT – Via Mattioli 4, Siena

PHD STUDENT IN LIFE SCIENCES – University of Siena

BIODAS -Biochar and wood distillate for a sustainable agriculture

PhD theme

Biochar and wood distillate for a sustainable agriculture In agriculture, the use of natural products to replace synthetic fertilizers and pesticides, without however affecting the yield, but rather, if possible, by increasing it, will be fundamental, as specifically foreseen by the Farm to Fork Strategy of the European Union. The objective of this project is to test the application in agriculture of biochar and wood distillate, two by-products of the use of waste wood biomass for the production of electrical and thermal energy through pyrolysis, thus offering a formidable example of circular economy. In particular, biochar will be tested with the aim of combating the effects of climate change, improving the characteristics of the soils and the productivity of agroecosystems, thanks to its ability to counteract salinity and promote water retention. Wood distillate will instead be tested both as a biostimulant and as a biopesticide in some of the main plants of agronomic interest grown in the Mediterranean. With this project, the potential to reduce the use of synthetic chemicals in the agricultural sector will be evaluated, while providing high yield, nutraceutical value and crop quality. Both the positive impact on biodiversity and the ecosystem, and the possible environmental side effects of ecotoxicological concern will also be assessed

<https://www.unisi.it/>

15/10/2018 – 16/12/2020 – Via Banchi di Sotto, Siena, Italy

MASTER'S DEGREE IN ECOTOXICOLOGY AND ENVIRONMENTAL SUSTAINABILITY – University of Siena

Final grade: 110

Thesis: Comparative LCA of wood and concrete buildings. Theoretical approach on the possible scenarios for the end of life of wood

<https://www.unisi.it/>

05/02/2020 – 31/08/2020 – Siena, Italy

TRAINING PATH FOR THE ACHIEVEMENT OF 24 CFU VALID FOR TEACHING – University of Siena

04/10/2015 – 19/07/2018 – via Banchi di Sotto, Siena, Italy

BACHELOR'S DEGREE IN ENVIRONMENTAL AND NATURAL SCIENCES – University of Siena

Final grade: 110 with honors

Thesis: Uptake and release of copper and zinc in the lichen *Evernia Prunastri*

<https://www.unisi.it/>

14/09/2010 – 09/07/2015 – Via dei Tigli SNC, Orvieto, Italy

HIGH SCHOOL DIPLOMA – IIS Scientifico e Tecnico - Liceo Majorana Orvieto

Final grade: 84/100

<http://www.majoranaorvieto.org/>

● LANGUAGE SKILLS

Mother tongue(s): **ITALIANO**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
INGLESE	B2	B2	B2	B2	B2
SPAGNOLO	B1	B1	B1	B1	B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● PUBLICATIONS

Modeling heavy metal release in the epiphytic lichen *Evernia prunastri*.

<https://link.springer.com/article/10.1007/s11356-021-12620-7> – 2021

Vannini, A., Paoli, L., Fedeli, R., Kangogo, S. K., Guarnieri, M., Ancora, S., ... & Loppi, S. (2021). *Environmental Science and Pollution Research*, 1-6.

Comparison of the Mineral and Nutraceutical Profiles of Elephant Garlic (*Allium ampeloprasum* L.) Grown in Organic and Conventional Fields of Valdichiana, a Traditional Cultivation Area of Tuscany, Italy

<https://doi.org/10.3390/biology10101058> – 2021

Loppi, S., Fedeli, R., Canali, G., Guarnieri, M., Biagiotti, S., & Vannini, A. (2021). Comparison of the Mineral and Nutraceutical Profiles of Elephant Garlic (*Allium ampeloprasum* L.) Grown in Organic and Conventional Fields of Valdichiana, a Traditional Cultivation Area of Tuscany, Italy. *Biology*, 10(10), 1058.

Accumulation and Release of Mercury in the Lichen Evernia prunastri (L.) Ach

<https://doi.org/10.3390/biology10111198> – 2021

Vannini, A., Jamal, M. B., Gramigni, M., Fedeli, R., Ancora, S., Monaci, F., & Loppi, S. (2021). Accumulation and Release of Mercury in the Lichen Evernia prunastri (L.) Ach. *Biology*, 10(11), 1198.

Contributi per una flora vascolare di Toscana. XIII (813-873)

[10.2424/ASTSN.M.2021.08](https://doi.org/10.2424/ASTSN.M.2021.08) – 2021

Peruzzi, L., Viciani, D., Adami, M., Angiolini, C., Astuti, G., Bonari, G., ... & Bedini, G. (2021). Contributions for a vascular flora of Tuscany. XIII (813-873).

Bio-Based Solutions for Agriculture: Foliar Application of Wood Distillate Alone and in Combination with Other Plant-Derived Corroborants Results in Different Effects on Lettuce (Lactuca Sativa L.)

<https://doi.org/10.3390/biology11030404>

Fedeli, R., Vannini, A., Guarnieri, M., Monaci, F., & Loppi, S. (2022). Bio-Based Solutions for Agriculture: Foliar Application of Wood Distillate Alone and in Combination with Other Plant-Derived Corroborants Results in Different Effects on Lettuce (Lactuca Sativa L.). *Biology*, 11(3), 404.

Foliar Application of Wood Distillate Alleviates Ozone-Induced Damage in Lettuce (Lactuca sativa L.)

<https://doi.org/10.3390/toxics10040178>

Vannini, A., Fedeli, R., Guarnieri, M., & Loppi, S. (2022). Foliar Application of Wood Distillate Alleviates Ozone-Induced Damage in Lettuce (Lactuca sativa L.). *Toxics*, 10(4), 178.

Influence of the Preservation Method on the Nutritional Profile of Elephant Garlic (Allium ampeloprasum L.) Grown in Valdichiana, a Traditional Cultivation Area of Tuscany, It

[https://themedicon.com/pdf/agricultureenvironmental/MCAES-02-041.pdf?](https://themedicon.com/pdf/agricultureenvironmental/MCAES-02-041.pdf?fbclid=IwAR1smRO_ENkwIMXmopMYrRHhDiYjyFSqeUbgMo_3grHvTHvgFZ48OBmhl98)

[fbclid=IwAR1smRO_ENkwIMXmopMYrRHhDiYjyFSqeUbgMo_3grHvTHvgFZ48OBmhl98](https://themedicon.com/pdf/agricultureenvironmental/MCAES-02-041.pdf?fbclid=IwAR1smRO_ENkwIMXmopMYrRHhDiYjyFSqeUbgMo_3grHvTHvgFZ48OBmhl98)

Vannini, A., Fedeli, R., Guarnieri, M., Biagiotti, S., & Loppi, S. (2022). "Influence of the Preservation Method on the Nutritional Profile of Elephant Garlic (Allium ampeloprasum L.) Grown in Valdichiana, a Traditional Cultivation Area of Tuscany, Italy". *Medicon Agriculture & Environmental Sciences* 2.6 : 19-27.

● DRIVING LICENCE

Driving Licence: AM

Driving Licence: B

● ORGANISATIONAL SKILLS

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- Adaptability
- Time management
- Accuracy
- Autonomy
- Meeting deadlines
- Decision making
- Planning
- Goal setting

● COMMUNICATION AND INTERPERSONAL SKILLS

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- Verbal and non-verbal communication
- Public Speaking
- Ability to deliver multimedia presentations
- Clarity
- Respect
- Empathy

● CONFERENCES & SEMINARS

11/06/2021

9° Workshop BioDea - "Word to the research"

Participation as a speaker with a talk entitled - "Effects of wood distillate on *Lactuca sativa* L." [ORAL COMMUNICATION].

07/05/2021

8° Workshop BioDea - "Application of Wood Distillate and Biochar and their contribution to the reduction and sequestration of atmospheric CO2."

09/04/2021

7° Workshop BioDea - "Sustainable fruit farming and the use of Biochar in hydroponics."

05/03/2021

6° Workshop BioDea - "An organic alternative for growing vegetables and IV gamma."

12/02/2021

5° Workshop BioDea - "Environmentally sustainable approaches in tobacco and viticulture."

● UNIVERSITY ACTIVITIES

03/2017 – 12/2020

Student representative in the council of the Department of Physical Sciences of Earth and Environment

15/12/2021 – CURRENT

PhD student representative in the council of the Department of Life Sciences

● DIGITAL SKILLS

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- Excellent knowledge of the Office package (Word Excel Access Power Point)
- Excellent mastery of Apple software (Numbers, Pages, iMovie, Logic Pro)
- Autonomous management of e-mail
- R / R studio

- Sima Pro
- Windows
- Excellent knowledge of social networks and their professional use

● TECHNICAL SKILLS

.

Nutraceutical analysis on salads, potatoes, chickpeas and garlic:

- Analysis of soluble sugars and β -carotene by HPLC
- Spectrophotometric analysis of: starch, soluble proteins, polyphenols, flavonoids and antioxidant power
- Knowledge of preparative methods (acid digestion) for the quantification of micro/macro elements in plant organisms (salad, garlic and potato);

Ability to develop experimental designs

● THESIS CO-REPORTER

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- Bachelor thesis of Maria Piegari: "Use of biochar for the immobilization of heavy metals: the case study of copper in lettuce grown in hydroponics" - University of Siena