

PERSONAL INFORMATION

Stefano Mocali



Affiliation
Council for Agricultural Research and Economics (CREA)
Agriculture and Environment Research Centre (AA)
Via di Lanciola 12/A – Cascine del Riccio, Firenze (Italy)



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none

Sex Male | **Date of birth** 18/09/1973 | **Nationality** Italian

Enterprise	University	EPR
☐ Management Level	☐ Full professor	☒ Research Director and 1st level Technologist / First Researcher and 2nd level Technologist / Principal Investigator
☐ Mid-Management Level	☐ Associate Professor	☐ Level III Researcher and Technologist
☐ Employee / worker level	☐ Researcher and Technologist of IV, V, VI and VII level / Technical collaborator	☐ Researcher and Technologist of IV, V, VI and VII level / Technical collaborator

WORK EXPERIENCE

From January 2023 - present

Research Director

Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria – Centro di ricerca Agricoltura e Ambiente (CREA-AA), Firenze_ <https://www.crea.gov.it/>

- Principal investigator for my group and coordinator of 2 EU projects (H2020)
- Main research topics:** Soil microbial ecology and biodiversity, biotechnology, NGS, microbial phenomics, plant-microbe interactions, soil sustainability

From 2021 to 2022

First Researcher

Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria – Centro di ricerca Agricoltura e Ambiente (CREA-AA), Firenze_ <https://www.crea.gov.it/>

- Principal investigator for my group and coordinator of 2 EU projects (H2020)
- Main research topics:** Soil microbial ecology and biodiversity, biotechnology, NGS, microbial phenomics, plant-microbe interactions, soil sustainability

From 2010 to 2020

Researcher

Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria – Centro di ricerca Agricoltura e Ambiente (CREA-AA), Firenze_ <https://www.crea.gov.it/>

- Principal investigator of the Soil Microbiology group of CREA-AA in several national and EU projects
- Main research topics:** Soil microbial ecology and biodiversity, biotechnology, NGS, microbial phenomics, plant-microbe interactions

EDUCATION AND TRAINING

From May 2000 to May 2003

PhD in “Soil Science and Climatology”

Soil Science and Plant Nutrition Department, University of Florence, Florence (Italy) and Council for Agricultural Research and Economics - Research Centre for Plant and Soil Interactions (CREA-RPS), Rome (Italy)

- Soil microbial diversity, molecular ecology, soil microbiology and biochemistry, fertilizers

WORK ACTIVITIES

Editorial activity

- Member of the Editorial Board of Frontiers in Microbiology (section “Microbe and Virus Interactions with Plants”): <https://www.frontiersin.org/journals/microbiology/sections/microbe-and-virus-interactions-with-plants#editorial-board>

- Member of the Editorial Board of the open access Agriculture (<https://www.mdpi.com/journal/agriculture/editors>)
- Reviewer of many scientific journals, including (in the last 5 years): Scientific reports, Geoderma, Applied Soil Ecology, Frontiers in Microbiology, BMC Microbiology, Biology and Fertility of Soils, etc.

Invited presentations

- Invited speaker at the "International Forum on Soil Microbial Remediation and Bio-stimulant Development" promoted by the Institute of Plant Nutrition, Resource and Environment of the Beijing Academy of Agriculture and Forestry Sciences (BAAFS), China, 27-28 May 2026.
- Invited speaker at the EU Agri-Food Days (<https://www.youtube.com/watch?v=GaGEnNZe-ml>), Brussels, 10-12 December 2024.

Grants

- Winner of a CREA grant for 3,5 months visit at the Netherlands Institute of Ecology (NIOO-KNAW), Wageningen (The Netherlands). Period: from 20-09-2012 to 20-12-2012.

Patents

- European patent n. 04025494.8-2111 (20-12-2004): Process for fragmentation of fungal, bacterial or yeast cell DNA and for inactivating residual antibiotics in fermentation biomass.
- Italian patent n. 102022000022590 (03-11-2022): Aptamero per la rilevazione del microorganismo *Bacillus subtilis*

PERSONAL SKILLS

BMC Microbiology,

Mother tongue(s) Spanish

ADDITIONAL INFORMATION

Main publications (last 5 years)

total number of publications in peer-review journals: 89 (Source: Scopus)
total number of citations: 4481 (Source: Scopus)
H index: 29 (Source: Scopus)

- 1) Dong, X., Vera, A., Patiño, M., Siles, J. A., Zhang, W., Aponte, C., ... & Bastida, F. (2026). Low-intensity management promotes the soil priming effect in European agroecosystems. *Nature Communications*. <https://doi.org/10.1038/s41467-026-71255-9>
- 2) Romero, F., Labouyrie, M., Orgiazzi, A., Ballabio, C., Panagos, P., Jones, A., ... & van der Heijden, M. G. (2025). The soil microbiome as an indicator of ecosystem multifunctionality in European soils. *Nature Communications*. <https://doi.org/10.1038/s41467-025-67353-9>
- 3) Esposito, A., Scala, V., Vassilev, N., Aragona, M., Canfora, L., Polito, A., ... & Mocali, S. (2025). Evaluation of tomato based agro-industrial byproducts as substrates for *Trichoderma harzianum* cultivation and bioinoculant potential. *Frontiers in Microbiology*, 16, 1713960. <https://doi.org/10.3389/fmicb.2025.1713960>
- 4) Latini, A., Di Gregorio, L., Valkama, E., Costanzo, M., Maenhout, P., Suhadolc, M., ... & Bevivino, A. (2025). Do soil microbes drive the trade-off between C sequestration and non-CO₂ GHG emissions in EU agricultural soils? A systematic review. *Sustainability*, 18(1), 319. <https://doi.org/10.3390/su18010319>
- 5) Semenzato, G., Vitali, F., Frascella, A., Lollini, L., Mocali, S., Papini, A., ... & Emiliani, G. (2025). Role of metabolism, resistance, and/or antagonism as drivers of endomicrobiomes assemblage in *Origanum heracleoticum* L. *Communications Biology*, 8(1), 158. <https://doi.org/10.1038/s42003-025-07527-9>
- 6) Riggi, L. G. A., Pérès, G., Aponte, C., Bispo, A., Bragato, G., Cluzeau, D., ... & Faber, J. H. (2025). Establishing assessment criteria for soil bioindicators: insights from case studies in Europe. *Ecological Indicators*, 178, 114063. <https://doi.org/10.1016/j.ecolind.2025.114063>
- 7) Vitali, F., Trzciński, P., Manfredini, A., Olimi, E., Bigiotti, G., Ptaszek, M., ... & Mocali, S. (2025). Combined genomic and phenomic analyses reveals multifunctionality of *Paenibacillus polymyxa* K16 for plant's nutrition, growth and health. *Scientific Reports*, 15(1), 33487. <https://doi.org/10.1038/s41598-025-15862-4>
- 8) Matson, A., Fantappiè, M., Campbell, G. A., Miranda-Vélez, J. F., Faber, J. H., Gomes, L. C., ... & Chenu, C. (2024). Four approaches to setting soil health targets and thresholds in agricultural soils. *Journal of Environmental Management*, 371, 123141. <https://doi.org/10.1016/j.jenvman.2024.123141>
- 9) Del Duca, S., Mocali, S., Vitali, F., Fabiani, A., Cucu, M. A., Valboa, G., ... & Landi, S. (2024). Impacts of Soil Management and Sustainable Plant Protection Strategies on Soil Biodiversity in a Sangiovese Vineyard. *Land*, 13(5), 599. <https://doi.org/10.3390/land13050599>
- 10) Vassileva, M., Mendes, G. D. O., Deriu, M. A., Benedetto, G. D., Flor-Peregrin, E., Mocali, S., ... & Vassilev, N. (2022). Fungi, P-solubilization, and plant nutrition. *Microorganisms*, 10(9), 1716. <https://doi.org/10.3390/microorganisms10091716>
- 11) Giffard, B., Winter, S., Guidoni, S., Nicolai, A., Castaldini, M., Cluzeau, D., ... & Leyser, I. (2022).

Vineyard management and its impacts on soil biodiversity, functions, and ecosystem services. *Frontiers in Ecology and Evolution*, 10, 850272. <https://doi.org/10.3389/fevo.2022.850272>

- 12) Costantini, E. A., & Mocali, S. (2022). Soil health, soil genetic horizons and biodiversity. *Journal of Plant Nutrition and Soil Science*, 185(1), 24-34. <https://doi.org/10.1002/jpln.202100437>
- 13) Manfredini, A., Malusà, E., Costa, C., Pallottino, F., Mocali, S., Pinzari, F., & Canfora, L. (2021). Current methods, common practices, and perspectives in tracking and monitoring bioinoculants in soil. *Front Microbiol* 12: 698491. <https://doi.org/10.3389/fmicb.2021.698491>
- 14) Canfora, L., Costa, C., Pallottino, F., & Mocali, S. (2021). Trends in soil microbial inoculants research: A science mapping approach to unravel strengths and weaknesses of their application. *Agriculture*, 11(2), 158. <https://doi.org/10.3390/agriculture11020158>
- 15) Baldi, E., Gioacchini, P., Montecchio, D., Mocali, S., Antonielli, L., Masoero, G., & Toselli, M. (2021). Effect of biofertilizers application on soil biodiversity and litter degradation in a commercial apricot orchard. *Agronomy*, 11(6), 1116. <https://doi.org/10.3390/agronomy11061116>

Main projects (last 5 years)

- 2016-2018: Regional Project "Assessment of plant-microbe interactions in Tuscan vineyards through a metagenomic approach (**METAGEOWINE**)". Funded by Ente Cassa di Risparmio di Firenze (grant n. 2015/0939). Budget: 35K€. Role: Coordinator.
- 2017-2021: EU project "New approaches for protection in a modern sustainable viticulture: from nursery to harvesting (**LIFE Green Grapes**)" -[LIFE16-ENV/IT/000566]. Budget: 2,5M€. Role: CREAAA Research Unit Responsible.
- 2019-2025: EU project "Exploiting the multifunctional potential of belowground biodiversity in horticultural farming (**EXCALIBUR**)" – [H2020 n.817946, SFS-01-2018]. Budget: 7M€. Role: Coordinator.
- 2021 – 2025: EU project "Modeling and mapping soil biodiversity patterns and functions across Europe (**MINOTAUR**)" funded under the EJP SOIL programme entitled "Towards climate-smart sustainable management of agricultural soils" (H2020 n.862696). Budget: 2M€. Role: Coordinator.
- 2022 - 2025: EU PNRR-funded project **AGRITECH** - Spoke 1 (CUP C23C22000450006), T 1.2.4 Mechanisms underlying plant/animal-microbial interactions beneficial for tolerance. Budget: 100k€. Role: CREA-AA Research Unit Responsible

Other Relevant Information

- Responsible of the Secretariat of the International Union of Soil Sciences (IUSS) since April 2026
- Head of the CREA-AA Research Centre in Florence, since June 2017 to January 2019
- Italian National Academic Qualification as Full Professor in Agricultural Microbiology (sector AGR16), since August 2019
- Member of the Spinoff ECOLGENE (<https://www.unifi.it/ricerca-e-innovazione/innovazione/spin-e-incubazione/ecolgene-srl>), 2015-2024.
- Chair of the Subdivision "Soil Biology, Microbiology and Biodiversity" of Soil System Sciences (SSS) of the European Geosciences Union (EGU), 2014-2015.
- Vice-President of the PARSEC Foundation (<https://www.fondazioneparsec.it/it/>)
- Young Italian Ambassador for the ISME Society (<https://isme-microbes.org/community/isme-ambassadors/ambassadors/>)
- Member of the Directive board of the Italian Society of Soil Science (SISS), 2018-2024
- Member of the Directive board of the Italian Society for General Microbiology and Microbial Biotechnology (SIMGBM), 2022-2024
- Member of the Earth Microbiome Project consortium: <https://earthmicrobiome.org/people/working-group-consortium>
- Evaluator of H2020 project proposals, call SFS-21-2020 (contract n. CT-EX2015D230912-101, 17-09-2020)

Florence, 22-06-2026

Stefano Mocali