

Curriculum vitae et studiorum

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Education

- PhD in Experimental Ecology and Geobotany at the University of Pavia, Department of Earth and Environmental Sciences (XXVIII cycle), thesis defended on 29.01.2016
- Master Degree in Natural Sciences at the University of Pavia, thesis defended on 19.07.2012, 110/110 cum laude.

Current position

Senior Researcher in Systematic Botany and Mycology (*RTDB - Ricercatore a Tempo Determinato di tipo B; area 05 Scienze Biologiche, SSD BIO/02 – Botanica Sistemica*).

Didactics and teaching activity

Teaching in University and PhD Courses (Università degli Studi di Pavia):

- *Plant Pathology* for Master's Program in Agri-Food Sustainability, since AY 2022/2023 [in English]
- *Plant Pathology* for Bachelor's Program in Sciences and Technology for Nature since AY 2020/2021, [in Italian]
- *Introduction to Biodiversity* for Master's Program in Biodiversity Conservation, Didactics and Scientific Communication (course master: prof. Elena Savino), since AY 2022/2023 [in Italian]
- *Weeds Systematics* for Master's Program in Agri-Food Sustainability, since AY 2022/2023 [in English]
- *Biotechnological Microorganisms* – Mycology module for Bachelor's Program in Biotechnology, Biomolecular curriculum, AY 2019/2020 [in Italian]
- *Identification and sustainable use of edible mushrooms* for Bachelor's Program in Sciences and Technology for Nature, AY 2018/2019 and 2019/2020 [in Italian]
- *Ecology and applications of wood decay fungi* for the PhD's Program in Earth and Environmental Sciences, AY 2023/2024 [in Italian]

Teaching abroad as Visiting Professor

At Haskóli Íslands (University of Iceland, Reykjavik), AY 2017/2018

At Politechnika Białostocka (Białystok University of Technology), AY 2022/2023

Other teaching activity

- *Mycology and Palinology* for the I level post-graduate program in Forensic Sciences (Università degli Studi di Pavia), AY 2017/2018
- Summer School *Methods in Forest Ecology* (Università degli Studi di Pavia)
- Lectures of Botanics (Bachelor's Program in Biology) and Plant Pathology (Bachelor's Program in Sciences and Technology for Nature) - Università degli Studi di Pavia
- Invited lecturer at Università degli Studi di Siena
- Didactics for ISPRA (Ministry High Institute for Environment Protection and Research) and SBI (Italian Botanical Society). Collaboration to the Training Course of Environmental Mycology of the ISPRA Network for the study of mycological diversity (Network per lo studio della diversità micologica).

Research projects as a principal investigator (peer-review, competitive call)

- SOIL MICRObial communities as a TOOL for studying the impact of climate change in natural and agricultural ecosystems (SOIL MICRO-TOOL). PRIN: PROGETTI DI RICERCA DI RILEVANTE INTERESSE NAZIONALE – Bando 2022 PNRR (ERC LS8). [*Project financed by Ministero dell'Università e della Ricerca*]
- SAPEVO – Strategie Integrate di Biostimolazione Applicate al Peperone di Voghera. PoC (Proof of Concept) within Ecosistema NODES – PNRR (Spoke 6 – Agroindustria Primaria). 2023-2024. [*Project financed by Ministero dell'Università e della Ricerca*]

Research projects as a member of research units (peer-review, competitive call)

- Caratterizzazione del germoplasma OLivicolo tradizionale e conservazione ex situ in caMpi catalogo nel territorio dell'Oltrepò Pavese (OLIMPO). Finanziato da Regione Lombardia, PSR FEASR – Programma di Sviluppo Rurale 2014-2020 (MISURA 10 - “Pagamenti agro climatico ambientali”, SOTTOMISURA 10.2 – “Sostegno per la conservazione, l'uso e lo sviluppo sostenibili delle risorse genetiche in agricoltura”, OPERAZIONE 10.2.01 – “Conservazione della biodiversità animale e vegetale”). 2022-2024 [*Project financed by the European Network for Rural Development (ENRD)*]
- “CE4WE (Circular Economy for Water and Energy)”, Call Hub Ricerca e Innovazione Regione Lombardia, POR FESR 2014/2020 Innovazione e Competitività. Finanziato dalla Regione Lombardia. 20/02/2020 – 30/11/2022 [*Project financed by the European Network for Rural Development (ENRD)*]
- Progetto Myco-Advanced leaTher matERials (MATER) per il bando Avviso congiunto Materiali avanzati – finanziato da Fondazione Cariplo and Regione Lombardia, 2018 – 2021.
- “Italian-Bulgarian bilateral project – Funghi as source of lignolytic enzymes: production and possible applications”, 2015-2018.
- PNRA18_00015-E, MicroBioMA-S "Exploring the diversity of soil microbes and their biomolecules in Victoria Land" [*Project financed by the National Program for Research in Antarctica*]

Research project as unique contract researcher

Progetto MicoDEP – convention between Università degli Studi di Pavia, CAP Holding and A2A Ciclo Idrico (now A2A Life Company). 2019-2022

Other job experiences

Assignment for “Research activity to produce fungal biomass to be inoculated into the pilot plant realized by CAP Holding SpA” by University of Pavia, Department of Earth and Environmental Sciences. 2022.

Research Activity - Fields

Fields

Fungal biodiversity, systematics and taxonomy; edible and medicinal mushrooms; mycomaterials and fungal-based biocomposites; metal bioaccumulation and degradation of organic pollutants by means of fungi; fungi for mycodepuration of civil wastewater and for sludge valorization; plant pathology with special focus on fungal pathogens

Bibliometric indices [last update 20/10/2023]

H = 16 (Scopus) ; H= 15 (WOS)

Sum of times cited = 674 (Scopus); = 548 (WOS)

Sum of published papers: 37 including 34 in ISI journals

Management activities

- Member of the PhD Board of the PhD Course in Earth and Environmental Sciences (University of Pavia)
- Member of the Program Review Commission for the Bachelor's Program in Sciences and Technology for Nature
- Responsible of the Laboratory of Microscopy and Molecular Biology within the Laboratory of Mycology at the Department of Earth and Environmental Sciences
- Responsible structured person for safety in the workplace – Responsible structured person in laboratory for research and didactic activity (RADL)
- Tutor for Thesis/University Tutor for Natural Sciences LM+ Project (training in a private company, AY 2021/22, 2022/23)

Awards

15/02/2019: winner of the II edition of Graduation Award “Giuseppe Caretta” for Environmental and Applied Mycology (the award was given to the PhD Thesis).

Scientific publications

Articles

1. Doria E., Altobelli E., Girometta C., Nielsen E., Zhang T., Savino E., 2014. *Evaluation of lignocellulolytic activities of ten fungal species able to degrade poplar wood*. International Biodegradation and Biodeterioration, 94: 160-166. <http://dx.doi.org/10.1016/j.ibiod.2014.07.016>.
2. Savino E., Girometta C., Miteva-Staleva J., Krumova E., 2016. *Wood decay macrofungi: strain collection and studies about antioxidant properties*. Comptes rendus de l'Academie bulgare des Sciences, 69(6): 747-754.
3. Sillo F., Savino E., Giordano L., Girometta C., Astegiano D., Picco A.M., Gonthier P., 2016. *Analysis of genotypic diversity provides a first glimpse on the patterns of spread of the wood decay fungus Perenniporia fraxinea in an urban park in northern Italy*. J. Plant Pathology, 98 (3): 617-624. <http://dx.doi.org/10.4454/JPP.V98I3.005>
4. Brandalise F., Cesaroni V., Gregori A., Repetti M., Romano C., Orrù G., Botta L., Girometta C., Guglielminetti M.L., Savino E., Rossi P., 2017. *Dietary supplementation of Hericium erinaceus increases mossy fiber-CA3 hippocampal neurotransmission and recognition memory in wild-type mice*. Evidence-Based Complementary and Alternative Medicine, vol. 2017: 1-13. <https://doi.org/10.1155/2017/3864340>
5. Sturini M., Girometta C., Maraschi F., Savino E., Profumo A., 2017. *A preliminary investigation on metal bioaccumulation by Perenniporia fraxinea*. Bulletin of Environmental Contamination and Toxicology, 98: 508-512. <https://doi.org/10.1007/s00128-017-2038-1>
6. **Girometta C.**, Zeffiro A., Malagodi M., Savino E., Doria E., Nielsen E., Buttafava A., Dondi D., 2017. *Pretreatment of alfalfa stems by wood decay fungus Perenniporia meridionalis improves cellulose degradation and minimizes the use of chemicals*. Cellulose, 24(9): 3803-3813. <https://doi.org/10.1007/s10570-017-1395-6>
7. Rossi P., Cesaroni V., Brandalise F., Occhinegro A., Ratto D., Perrucci F., Lanaia V., Girometta C., Orrù G., and Savino E., 2018. *Dietary supplementation of Hericium erinaceus on spatial memory in wild-type mice*. International Journal of Medicinal Mushrooms, 20(5): 485-494. DOI: 10.1615/IntJMedMushrooms.2018026241
8. **Girometta C.***, 2019. *Antimicrobial properties of Fomitopsis officinalis in the light of its bioactive metabolites: a review*. Mycology, 10(1): 32-39. <https://doi.org/10.1080/21501203.2018.1536680>
9. Perna S., Spadaccini D., Botteri L., Girometta C., Riva A., Allegrini P., Petrangolini G., Infantino V., Rondanelli M., 2018. *Efficacy of bergamot: from anti-inflammatory and anti-oxidative mechanisms to clinical applications as preventive agent for cardiovascular morbidity, skin diseases and for mood alterations*. Food Science & Nutrition, 7(2): 369-384. <https://doi.org/10.1002/fsn3.903>

10. Zuccotti E., Oliveri M., Girometta C., Ratto D., Di Iorio C., Occhinegro A., Rossi P., 2018. *Nutritional strategies for psoriasis: current scientific evidence in clinical trials*. European Review for Medical and Pharmacological Sciences, 22: 9537-9551. doi: 10.26355/eurrev_201812_16554
11. Orrù G., Muggironi F., Mameli A., Demontis C., Arcadu B., Scano A., Denotti G., Piras V., Girometta C., Zeza B. and Pilloni A., 2018. *BAX Gene Overexpression in the Tongue Could Warn of Infection Risk due to Periodontal Pathogens*. The Open Dentistry Journal, 12(1): 1070-1078. DOI: 10.2174/1874210601812011070.
12. **Girometta C.**, Picco A.M., Baiguera R.M., Dondi D., Babbini S., Cartabia M., Pellegrini M., Savino E., 2019. *Physico-Mechanical and Thermodynamic Properties of Mycelium-Based Biocomposites: A Review*. Sustainability, 11 (281). <https://doi.org/10.3390/su11010281>
13. Gasparri, C., Perna, S., Spadaccini, D., Alalwan, T., Girometta, C., Infantino, V., & Rondanelli, M. (2019). *Is vitamin D-fortified yogurt a value-added strategy for improving human health? A systematic review and meta-analysis of randomized trials*. Journal of dairy science, 102(10): 8587-8603. <https://doi.org/10.3168/jds.2018-16046>
14. Scano A., Serafia G., Faisa S., Bomboia S., Peria M., Ibbaa M., Girometta C., Orrù G., Rossi P., Sanna P., Coghed F., Liciardie M., 2019. *Antimicrobial susceptibility pattern to disinfectants in pseudomonas aeruginosa strains isolated from dairy sheep breeds in Sardinia*. Large animal review, 25(1): 11-15.
15. Scano, A., Orrù, G., Serafi, G., Occhinegro, A., Ratto, D., Girometta, C., & Rossi, P. (2018). *Long non-coding RNAs: possible parallel paths by E-cadherin expression in colon cancer development as well as in Pseudomonas aeruginosa infection*. European Review for Medical and Pharmacological Sciences, 22(16): 5053-5055. doi:10.26355/eurrev_201808_15696
16. Ratto D., Corana F., Mannucci B., Priori E.C., Cobelli F., Roda E., Ferrari B., Occhinegro A., Di Iorio C., De Luca F., Cesaroni V., Girometta C., Bottone M.G., Savino E., Kawagishi H., Rossi P, 2019. *Hericium erinaceus improves recognition memory and induces hippocampal and cerebellar neurogenesis in frail mice during aging*. Nutrients, 11(4): 715. <https://doi.org/10.3390/nu11040715>
17. Vigna L., Morelli F., Agnelli G.M., Napolitano F., Ratto D., Occhinegro A., Di Iorio C., Savino E., Girometta C., Brandalise F., Rossi P., 2019. *Hericium erinaceus improves mood and sleep disorders in patients affected by overweight or obesity: could circulating pro-bdnf and bdnf be potential biomarkers? Evidence-Based Complementary and Alternative Medicine*, Vol. 2019: 7861297. <https://doi.org/10.1155/2019/7861297>
18. Angelini P., Girometta C., Tirillini B., Moretti S., Covino S., Cipriani M., D'Ellena E., Angeles G., Federici E., Savino E., Cruciani G., Venanzoni R., 2019. *A comparative study of the antimicrobial and antioxidant activities of Inonotus hispidus fruit and their mycelia extracts*. International Journal of Food Properties, 22(1): 768-783. <https://doi.org/10.1080/10942912.2019.1609497>
19. Cesaroni V., Brusoni M., Cusaro C.M., Girometta C., Perini C., Picco A.M., Rossi P., Salerni E., Savino E., 2019. *Phylogenetic Comparison between Italian and Worldwide Hericium Species (Agaricomycetes)*. International Journal of Medicinal Mushrooms, 21(10): 943-954. DOI: 10.1615/IntJMedMushrooms.2019032561
20. Corana F., Cesaroni V., Mannucci B., Baiguera R.M., Picco A.M., Savino E., Ratto D., Perini C., Kawagishi H., Girometta C.E., Rossi, P., 2019. *Array of Metabolites in Italian Hericium erinaceus Mycelium, Primordium, and Sporophore*. Molecules, 24(19): 3511. <https://doi.org/10.3390/molecules24193511>
21. Daccò C., **Girometta C.***, Asemoloye M.D., Carpani G., Picco A.M., Tosi, S., 2020. *Key fungal degradation patterns, enzymes and their applications for the removal of aliphatic hydrocarbons in polluted soils: A review*. International Biodeterioration & Biodegradation, 147:104866. <https://doi.org/10.1016/j.ibiod.2019.104866>
22. **Girometta C.**, Dondi D., Baiguera R.M., Bracco F., Branciforti D.S., Buratti S., Lazzaroni S., Savino E., 2020. *Characterization of mycelia from wood-decay species by TGA and IR spectroscopy*. Cellulose, 27: 6133-6148. <https://doi.org/10.1007/s10570-020-03208-4>
23. **Girometta C.E.***, Bernicchia A., Baiguera R.M., Bracco F., Buratti S., Cartabia M., Picco A.M., Savino E. (2020). *An Italian research culture collection of wood decay fungi*. Diversity, 12(2): 58. <https://doi.org/10.3390/d12020058>
24. Garzoli L., Bozzetta E., Varello K., Cappelleri A., Patriarca E., Debernardi P., Riccucci M., Boggero A., Girometta C., Picco A.M. (2021). *White-Nose Syndrome Confirmed in Italy: A Preliminary Assessment of Its Occurrence in Bat Species*. Journal of Fungi, 7(3): 192. <https://doi.org/10.3390/jof7030192>
25. Landínez-Torres A.Y., Pérez Fagua C., Sanabria López A.C., Deaquiz Oyola Y.A, **Girometta C.E.*** (2021). *Evaluation of pruning wastes from fruit trees as a substrate for the production of Pleurotus ostreatus*. Acta Mycologica, 56: 568. DOI: 10.5586/am.568

26. **Girometta C.E.***, Rovelli L., Bracco F., Brescia F., Baiguera R.M., Chiatante G., Picco A.M., Savino E. (2021). *The medicinal wood-decay species Laricifomes officinalis in the Alpe Veglia-Alpe Devero Natural Park (Italian Alps): spatial analysis and growth tests of pure cultures*. Acta Mycologica, 56: 569. DOI: 10.5586/am.569
27. Cartabia M., **Girometta, C.E.***, Milanese C., Baiguera R.M., Buratti S., Branciforti D.S., Dhanalakshmi V., Girella A., Babbini S., Savino E., Dondi D. (2021). *Collection and characterization of wood decay fungal strains for developing pure mycelium mats*. Journal of Fungi, 7(12):1008. <https://doi.org/10.3390/jof7121008>
28. Angelini P.*, Abdel-Azeem A.M., **Girometta C.E.*** (2022). *Editorial: Bioactive Compounds With Potential Medicinal Properties Derived From Fungi: Recent and Future Developments in Microbial Biotechnology*. Frontiers in Microbiology 13:837586. doi: 10.3389/fmicb.2022.837586
29. Buratti, S., Girometta, C. E., Baiguera, R. M., Barucco, B., Bernardi, M., De Girolamo, G., ... & Savino, E. (2022). *Fungal Diversity in Two Wastewater Treatment Plants in North Italy*. Microorganisms, 10(6), 1096.
30. Cartabia, M., Girometta, C. E., Baiguera, R. M., Buratti, S., Babbini, S., Bernicchia, A., & Savino, E. (2022). *Lignicolous Fungi Collected in Northern Italy: Identification and Morphological Description of Isolates*. Diversity, 14(5), 413.
31. Angeles Flores G.†, **Girometta C.E.†**, Cusumano G., Angelini P., Tirillini B., Ianni F., Blasi F., Cossignani L., Pellegrino R.M., Emiliani C., Venanzoni R., Venturella G., Colasuonno P., Cirlincione F., Gargano M.L., Zengin G., Acquaviva A., Di Simone S.C., Orlando G., Menghini L., Ferrante, C. (2022). *Untargeted Metabolomics Used to Describe the Chemical Composition, Antioxidant and Antimicrobial Effects of Extracts from Pleurotus spp. Mycelium Grown in Different Culture Media*. Antibiotics, 11(11), 1468.
32. Temporiti M.E.E., Nicola L.*, Girometta C.E., Roversi A., Daccò C., Tosi S. (2022). *Fungal biodiversity in plastic-polluted soils*. Journal of Fungi, 22(8):1247.
33. Angeles Flores G., **Girometta C.E.***, Cusumano G., Pellegrino R.M., Silviani S., Bistocchi G., Arcangeli A., Ianni F., Blasi F., Cossignani L., Rubini A., Tirillini B., Emiliani C., Menghini L., Ferrante C., Venanzoni R., Angelini P. (2023). *Diversity of Pleurotus spp. (Agaricomycetes) and their metabolites of nutraceutical and therapeutic importance*. International Journal of Medicinal Mushrooms, DOI: 10.1615/IntJMedMushrooms.2023048295
34. Buratti S., Rinaldi F., Calleri E., Bernardi M., Oliva D., Margaretti M., De Girolamo G., Barucco B., Girometta C.E., Savino E. (2023). *Ganoderma resinaceum and Perenniporia fraxinea: two promising wood decay fungi for pharmaceutical degradation*. Journal of Fungi, 9:555. <https://doi.org/10.3390/jof9050555>
35. Turchetti B., Bevivino, A., Casella P., Coleine C., Felis G.E., Girometta C.E., Molino A., Perugini I., Pollio A., Prigione V., Selbmann L., Varese G.C., Buzzini, P. (2023). *Selected Case Studies on Fastidious Eukaryotic Microorganisms: Issues and Investigation Strategies*. Diversity, 15(7), 862.
36. Buratti S., **Girometta C.E.***, Savino E., Gorjón S.P. (2023). *An Example of the Conservation of Wood Decay Fungi: The New Research Culture Collection of Corticioid and Polyporoid Strains of the University of Salamanca (Spain)*. Forests, 14(10), 2029.

Monography:

Girometta C.E., Floccia F., Leonardi M., Bianco P.M. (2023). *Linee guida per il censimento e il monitoraggio dei macromiceti in Italia*. Manuali e Linee Guida 203/2023. ISPRA – Istituto Superiore per la Protezione e la Ricerca Ambientale, Roma. ISBN: 978-88-448-1175-4.

Chapter in book:

Angelini P., **Girometta C.E.***, Venanzoni R., Bertuzzi G. (2022). *Anti-Aging Properties of Medicinal Mushrooms in Systemic Aesthetic Medicine*. In *Biology, Cultivation and Applications of Mushrooms* (pp. 185-202). Singapore: Springer Singapore.

Carolina Elena Girometta



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