PERSONAL INFORMATION

Mirko Cucina

Institute for Agricultural and Forest Systems in the Mediterranean (ISAFOM-CNR)

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Male | 23/12/1988 | 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

2023-current Permanent Researcher at ISAFOM-CNR – First researcher

2022 (Nov-Dec) Permanent Researcher at ISAFOM-CNR – Level III Researcher

2016-current Consultant for domestic composting and scientific communicator for G.S.A. (Gestione Servizi Ambientali) Srl, Perugia

2025 Winner of the CNR Ban for Short Term Mobility (STM) Programme 2025. The STM was carried out from September 20 to October 4 at the facilities of Polytechnic University of Catalunya (GEMMA Research Group, Department of Civil and Environmental Engineering, Barcelona, Spain), developing the project "Microbial community shifts in a degraded soil treated with digestate – Cambiamenti nella comunità microbica in un suolo degradato trattato con digestato".

2023 Winner of the CNR Ban for Short Term Mobility (STM) Programme 2023. The STM was carried out from September 9 to September 30 at the facilities of Polytechnic University of Catalunya (GEMMA Research Group, Department of Civil and Environmental Engineering, Barcelona, Spain), developing the project "Agronomic valorization of anaerobic digestates from low-tech digesters – Valorizzazione agronomica di digestati anaerobici da digestori low-tech"

2023 Invited Research Stay at Universidad Industrial de Santander (Bucaramanga, Colombia) (July 31 – August 06, 2023).

2021-2023 Contract professor at Department of Environmental Sciences and Policy, University of Milan for the course "Waste Management and Sustainability" – CdLM in "Environmental Changes and Global Sustainability"

2020-2022 Post-doc researcher at Gruppo Ricicla, Department of Agricultural and Environmental Sciences, University of Milan

2020-2023 Honorary fellow in Agricultural Chemistry at Department of Agricultural and Environmental Sciences, University of Milan

2018-2019 Post-doc researcher at Department of Civil and Environmental Engineering, University of Perugia

2018-2020 Honorary fellow in Agricultural Chemistry at Department of Civil and Environmental Engineering, University of Perugia

2018-2020 Honorary fellow in Agricultural Chemistry at Department of Agricultural, Environmental and Food Sciences, University of Perugia

2016-2017 Post-doc researcher at Department of Civil and Environmental Engineering, University of Perugia

2016-2022 Chemistry teacher at Italian High Schools

EDUCATION AND TRAINING

2015 PhD visiting student (Erasmus+ program) at Polytechnic University of Catalonia (Barcelona,

Spain).

2012-2016 PhD in “Environmental and Agricultural Sciences” at University of Perugia (SSD/AGR13, Agricultural Chemistry). Thesis’s title: “Assessing the energetic and agronomic reuse of a pharmaceutical organic waste”. Research activity conducted for the Environmental and Civil Engineering Department (Biomass chemistry Laboratory) at University of Perugia.

2010-2012 Master’s degree in “Environmental and Agricultural Biotechnologies” (LM-7) at University of Perugia (110/110 cum laude). Thesis’s title: “Anaerobic digestion of the solid organic fraction of municipal solid wastes: biogas production and molecular evolution of the process”. Research activity conducted for the Environmental and Civil Engineering Department (Biomass chemistry Laboratory) at University of Perugia.

2007-2010 Degree in “Biotechnologies” at University of Perugia (110/110 cum laude). Thesis’s title: “Microsatellites characterization in Cannabis sativa L.”. Research activity conducted for the Agricultural, Environmental and Food Department at University of Perugia (Agricultural genetics laboratory).

2007 High school diploma in “Industrial chemistry” at Technological Industrial Institute “A. Volta” of Perugia (100/100 cum laude).

WORK ACTIVITIES

Scientific impact

Research activities resulted in 106 publications
total Impact Factor (IF) (average IF/paper): 8,364
total number of citations: 1257 (SCOPUS), 1594 (Google Scholar)
H index: 20 (SCOPUS), 22 (Google Scholar)
publications in peer-review journals: 47
oral presentations in national and international conferences: 20
poster presentations in national and international conferences: 27
invited presentations (keynote speech): 5
technical reports: 4
books/chapters in books: 2

Academic qualifications

National Scientific qualification as Full Professor in the Italian higher education system, in the call 2021/2023 (Ministerial Decree n. 553/2021 and 589/2021) for the disciplinary field of 07/E1 – Agricultural chemistry, agricultural genetics and pedology) achieved on November the 21st 2023.

National Scientific qualification as Associate Professor in the Italian higher education system, in the call 2021/2023 (Ministerial Decree n. 553/2021 and 589/2021) for the disciplinary field of 07/E1 – Agricultural chemistry, agricultural genetics and pedology) achieved on May the 30th 2022.

Editorial activity

Member of the Editorial Board of Discover Environment, Springer Nature
Topic editor for Agronomy (MDPI) (Farming Sustainability)
Guest editor of 2 special issues in Agronomy (MDPI), 1 special issue in Recycling (MDPI) and 1 special issue in Sustainability (MDPI)
More than 90 verified papers reviewed for international journals (Elsevier: Waste Management, Journal of Water Process Engineering, Biomass & Bioenergy, Journal of Environmental Chemical Engineering, Science of the Total Environment, Bioresource Technology, Journal of Hazardous Materials, and others; Springer Nature: Scientific Reports, Nature Communications, and others; MDPI)

PERSONAL SKILLS

Mother tongue(s) ITALIAN

Other language(s) ENGLISH - C1 (self-assessment on listening, reading, writing, spoken interaction and production)
SPANISH - C1
GERMAN - A2

Job-related skills Ability to initiate and secure research funding amounting. Project manager skills. Leadership role in enhancing research activity. Expertise in preparing technical reports and scientific articles.

Advanced knowledge of the Windows operating system and software of Office pack.

Digital skills
Other skills Ability to project and realize small scale reactors for organic wastes and wastewaters treatment. Laboratory skills in chemistry and microbiology labs. Ability to carry out statistical analysis of data.

ADDITIONAL INFORMATION

Publications

Publications in international indexed journals:

1. Integration of biochar in psychrophilic anaerobic digestion: effects on the digestate quality. Muñoz Muñoz A., Castro L., Cucina M., Rodriguez-Lopez N.F., Borrero C., Cruz Y., Jaimes-Estévez J., Escalante H. (2026). Waste Management, 220, 115614.
2. Digestate from psychrophilic anaerobic digestion reshapes microbial communities and facilitates the recovery of degraded acidic soils under field conditions. M. Cucina, L. Massaccesi, A. Garfì, H. Escalante, L. Castro. (2026). Biology and Fertility of Soils.
3. Bioplastic composite films from cellulose acetate and grape pomace for agricultural mulching: biodegradation and potential contribution to soil fertility. Russo, N., Cucina, M., Oliviero, M., Pisano, L., Manna, P., & Monaco, E. (2026). Results in Engineering, 110786.
4. A Selective Thermal-Alkaline Hydrolysis Method for the Separation of Compostable and Conventional Plastics in Compost. Cucina, M., & Adani, F. (2026). ACS Sustainable Chemistry & Engineering.
5. Climatic implication in bioactive compounds and fatty acids profile of olive oil derived from new olive (Olea europaea L.) genotypes in Central Italy. Massaccesi, L., Cucina, M., Marinotti, A., Domesi, A., Orrico, E., Bozza, T., ... & Bufacchi, M. (2026). Discover Environment, 4(1), 184.
6. From waste to resource: Biosolids from sludge treatment wetlands as biofertilizers and biostimulants. Cano-Larrotta, A., Massaccesi, L., Uggetti, E., & Cucina, M. (2026). ACS Environmental Au.
7. The Mineralization Trap: Why Current Standards for Biodegradable Plastic Biodegradation Misread the Soil Carbon Cycle. Cucina, M., 2026. Environmental Science & Technology Letters, 13, 3, 322-323.
8. Cardarelli, A., Cucina, M., Agresti, G., Nicolini, A., Cavalaglio, G., & Barbanera, M. (2025). Optimizing co-hydrothermal carbonization of organic dairy manure and hemp stalks: a multi-criteria decision-making approach. Energy Nexus, 100533.
9. Unveiling amending properties of biosolids from constructed wetland systems: a comparative study. Cano-Larrotta, A., Massaccesi, L., Uggetti, E., Cucina, M., 2025. Science of The Total Environment, 999, 180365.
10. Preliminary Evaluation of the Nutraceutical Properties in Monovarietal Extra-Virgin Olive Oils and Monitoring Their Stability During Storage. Cossignani, L., Calderini, O., Marinotti, A., Orrico, E., Domesi, A., Massaccesi, L., Cucina, M., Bufacchi, M. (2025). Molecules, 30(15), 3143.
11. Microbial acclimation of thermophilic anaerobic digestate enhances biogas production and biodegradation of polylactic acid in combination with the organic fraction of municipal solid waste (OFMSW). Elboghdady, H. G. E., Clagnan, E., De Franceschi, V., Cucina, M., Dell'Orto, M., De Nisi, P., ... & Adani, F. (2025). Waste Management, 203, 114895.
12. Evaluating slow sand filtration for digestate post-treatment: A step toward safe agricultural reuse in rural communities in Colombia. Cucina, M., Castro, L., Escalante, H., Ferrer, I., Muñoz Muñoz, A., Santamaria Bravo, J.L., Murcia Ordoñez, A.F., Toro vidiella, E., Garfì, M. (2025). Journal of Water Process Engineering, 71, 107282.
13. Application of digestate from low-tech digesters for degraded soil restoration: Effects on soil fertility and carbon sequestration. Cucina, M., Massaccesi, L., Garfì, M., Sapnaro, V., Muñoz Muñoz, A., Escalante, H., Castro, L. (2025). Science of the total environment, 967, 178854.
14. The Performance of Biochar Waste-Derived Electrodes in Different Bio-Electrochemical Applications. Goglio, A., Carrara, A., Elboghdady, H. G. E., Cucina, M., Clagnan, E., Soggia, G., De Nisi, P. Adani, F. (2025). Journal of Power Sources, 625, 235623.
15. Vermifiltration as a green solution to promote digestate reuse in agriculture in small-scale farms. Cucina, M., Castro, L., Font-Pomarol, J., Escalante, H., Muñoz-Muñoz, A., Ferrer, I., & Garfí, M. (2024). Journal of Environmental Management, 368, 122164.
16. Effects of the application of microbiologically activated bio-based fertilizers derived from manures on tomato plants and their rhizospheric communities. Clagnan, E., Cucina, M., De Nisi, P., Dell'Orto, M., D'Imporzano, G., Kron-Morelli, R., ... & Adani, F. (2023). Scientific Reports, 13(1), 22478.
17. Microbial community acclimatization enhances bioplastics biodegradation and biogas production under thermophilic anaerobic digestion. Clagnan, E., Cucina, M., Sajgule, R. V., De Nisi, P., & Adani, F. (2023). Bioresource Technology, 390, 129889.
18. Integrating anaerobic digestion and composting to boost energy and material recovery from organic wastes in the Circular Economy framework in Europe: A review. Cucina, M. (2023). Bioresource Technology Reports, 101642.
19. *The lesser of two evils*: Enhancing biodegradable bioplastics use to fight plastic pollution requires policy makers interventions in Europe. Cucina, M. (2023). Environmental Impact Assessment Review, 103, 107230.
20. Thermo-alkaline pre-treatment operated by digestate improved biomethane production of bioplastic. Cucina, M., De Nisi, P., Adani, F. (2023). Bioresource Technology Reports, 101374.
21. Anaerobic digestion of organic waste allows recovering energy and enhancing the subsequent bioplastic degradation in soil. G. Papa, M. Cucina, P. De Nisi, K. Echchoucki, F. Adani. (2023). Resources, Conservation & Recycling, 188, 106694.
22. Evaluating Compost from Digestate as a Peat Substitute in Nursery for Olive and Hazelnut Trees. Calisti, R., Regni, L., Pezzolla, D., Cucina, M., Gigliotti, G., & Proietti, P. (2022). Sustainability, 15(1), 282.

23. Recovery of Energy and Nutrients from Mycotoxin-Contaminated Food Products through Biological Treatments in a Circular Economy Perspective: A Review. Cucina, M., & Tacconi, C. (2022). Agronomy, 12(12), 3198.
24. Integration of anaerobic digestion and composting allows safety recovery of energy and nutrients from AFB1 contaminated corn. Cucina, M., Tacconi, C., Gigliotti, G., & Zadra, C. (2022). Journal of Environmental Chemical Engineering, 108356.
25. Degradation of biodegradable bioplastics under thermophilic anaerobic digestion: A full-scale approach. Cucina, M., Carlet, L., De Nisi, P., Somensi, C. A., Giordano, A., Adani, F. 2022. Journal of Cleaner Production, 133232.
26. Assessing the anaerobic degradability and the potential recovery of biomethane from different biodegradable bioplastics in a full-scale approach. Cucina M, Soggia G, De Nisi P, Giordano A, Adani F. 2022. Bioresource Technology (354), 127224.
27. New Advances on Nutrients Recovery from Agro-Industrial and Livestock Wastes for Sustainable Farming. Cucina M, Regni L. 2021. Agronomy. 11(11), 2308.
28. The Use of New Parameters to Optimize the Composting Process of Different Organic Wastes. Pezzolla, D., Cucina, M., Proietti, P., Calisti, R., Regni, L., Gigliotti, G. 2021. Agronomy, 11(10), 2090.
29. Benefits and risks of agricultural reuse of digestates from plastic tubular digesters in Colombia. Cucina, M., Castro, L., Escalante, H., Ferrer, I., Garfì, M. Waste Management, 2021, 134.
30. Degradation of bioplastics in organic waste by mesophilic anaerobic digestion, composting and soil incubation. Cucina, M., De Nisi, P., Trombino, L., Tambone, F., Adani, F. Waste Management, 2021, 134, pp. 67–77
31. Sewage sludge as N-fertilizers for crop production enabling the circular bioeconomy in agriculture: A Challenge for the New EU Regulation 1009/2019. Cucina, M., De Nisi, P., Sordi, S., & Adani, F. (2021). Sustainability, 13(23), 13165.
32. Anaerobic co-digestion of a lignocellulosic residue with different organic wastes: Relationship between biomethane yield, soluble organic matter and process stability. Cucina, M., Pezzolla, D., Tacconi, C., Gigliotti, G. Biomass and Bioenergy, 2021, 153, 106209
33. The role of waste management in reducing bioplastics' leakage into the environment: A review. Cucina, M., de Nisi, P., Tambone, F., Adani, F. Bioresource Technology, 2021, 337, 125459
34. Pretreatments for enhanced biomethane production from buckwheat hull: effects on organic matter degradation and process sustainability. Mirko Cucina, Daniela Pezzolla, Chiara Tacconi, Giovanni Gigliotti. Journal of Environmental Management (2021) 285, 112098.
35. Environmental consequences of the treatment of corn contaminated by aflatoxin B1 with co-digestion and co-composting in a life cycle perspective. Francesco Di Maria, Federico Sisani, Giovanni Gigliotti, Daniela Pezzolla, Chiara Tacconi, Mirko Cucina and Claudia Zadra. Environmental Science and Pollution Research, (2020). doi.org/10.1007/s11356-020-11372-0.
36. Benefits and risks of long-term recycling of pharmaceutical sewage sludge on agricultural soil. Cucina, M., Ricci, A., Zadra, C., Pezzolla, D., Tacconi, C., Sordi, S., Gigliotti, G. Science of The Total Environment, (2019), 695, 133762.
37. Plant nutrients recovery from aflatoxin B1 contaminated corn through co-composting. Tacconi, C., Cucina, M., Zadra, C., Gigliotti, G., Pezzolla, D. Journal of Environmental Chemical Engineering, (2019), 103046.
38. Effect of the mycotoxin aflatoxin B1 on a semi-continuous anaerobic digestion process. Tacconi, C., Cucina, M., Pezzolla, D., Zadra, C., Gigliotti, G. Waste Management 78 (2018), 468-473.
39. Valorization of a pharmaceutical organic sludge through different composting treatments. Cucina, M., Tacconi, C., Sordi, S., Pezzolla, D., Gigliotti, G., & Zadra, C. Waste Management 74 (2018), 203-212.
40. Evaluation of benefits and risks associated with the agricultural use of organic wastes of pharmaceutical origin. M. Cucina, C. Tacconi, A. Ricci, C. Zadra, S. Sordi, D. Pezzolla, G. Gigliotti. Science of the Total Environment 613-614 (2018), 773-782.
41. Recovery of energy and plant nutrients from a pharmaceutical fermentative biomass: Integration of anaerobic digestion and composting. M. Cucina, C. Zadra, M.C. Marcotullio, S. Sordi, M. Curini, G. Gigliotti. Journal of Environmental Chemical Engineering 5 (2017), 3051-3057.
42. Assessing the agricultural reuse of digestates from microalgae anaerobic digestion and co-digestion with sewage sludge. M. Solé, M. Cucina, M. Folch, J. Tapias, V. Matamoros, M. Garfì, G. Gigliotti, I. Ferrer. Science of the Total Environment 586 (2017), 1-9.
43. Assessing the aptitude of aflatoxin B1 contaminated corn to anaerobic digestion. C. Tacconi, A. Sordi, M. Cucina, C. Zadra, G. Gigliotti. International Society for Environmental Biotechnology, Proceedings of the 10th International Society for Environmental Biotechnology Conference; ISBN: 978-84-608-6277-2.
44. Assessing the composting aptitude of a pharmaceutical sludge. M. Cucina, C. Tacconi, A. Sordi, C. Zadra, S. Sordi, G. Gigliotti. International Society for Environmental Biotechnology, Proceedings of the 10th International Society for Environmental Biotechnology Conference; ISBN: 978-84-608-6277-2.
45. Co-digestion of increasing amounts of fruit and vegetable waste in sludge digesters: chemical and spectroscopic investigation by fluorescence and fourier transform infrared spectroscopy. Maria Rosaria Provenzano, Ornella Cavallo, Anna Daniela Malerba, Francesco Di Maria, Mirko Cucina, Luisa Massaccesi and Giovanni Gigliotti. Waste Management 50 (2016), 283-289.
46. Co-treatment of fruit and vegetable waste in sludge digesters. An analysis of the relationship among bio-methane generation, process stability and digestate phytotoxicity. Di Maria F, Sordi A,

Cirulli G, Gigliotti G, Massaccesi L, Cucina M. Waste Management 34 (2014) 1603-1608.

47. Chemical characterisation of percolate and digestate during the hybrid solid anaerobic digestion batch process. L. Massaccesi, A. Sordi, C. Micale, M. Cucina, C. Zadra, F. Di Maria, G. Gigliotti. Process Biochemistry 48 (2013) 1361–1367.

Invited presentations:

1. Aplicaciòn de digestato de digestores de baja tecnologìa para la recuperaciòn de suelos degradados en Colombia. Keynote Speach. XVII Encuentro de la RedBioLAC, Juliaca, Perù, November, 3-6, 2025.
2. Uso agrícola del digestato de biodigestores de baja tecnología. Workshop. XVII Encuentro de la RedBioLAC, Juliaca, Perù, November, 3-6, 2025.
3. Waste as a global threat: the microplastics case. M. Cucina. Keynote speech. Environmental protection and restoration in post-conflict or crisis area. Centro di Eccellenza per la Tutela Ambientale dei Carabinieri Forestali, Sabaudia (LT), October, 8th, 2025.
4. Utilización agronómica del digerido de digestores de bajo costo en Latinoamérica: beneficios y riesgos. M. Cucina. Keynote speech. SemANAEROBIA: Un espacio para compartir experiencias sobre la gestión del digerido, Bucaramanga, Colombia, August, 01-04, 2023.
5. Utilizo agronomico del biol. M. Cucina. Keynote speech. XIV Encuentro de la RedBioLAC, Lima, Perù, November, 21-25, 2022.

Contributions in national and international conferences (oral and poster presentations):

1. Valorisation of digestate from low-tech digester treating coffee waste: a strategy for sustainability under a circular economy approach. Juliana Jaramillo Hurtado, Liliana Castro, Mirko Cucina, Marianna Garfí. Visual poster presentation. 19th Internation water association (IWA) World conference on Anaerobic Digestion. June 9-13, 2026. Valencia, Spain.
2. Field-based evidence of psychrophilic digestate-driven soil recovery: linking digestate composition to soil organic matter stabilization and microbial dynamics. M. Cucina, L. Massaccesi, M. Garfí, H. Escalante, L. Castro. Visual poster presentation. 19th Internation water association (IWA) World conference on Anaerobic Digestion. June 9-13, 2026. Valencia, Spain.
3. Innovating Truffle Agroforestry for Sustainable Mediterranean Landscapes: The TAIE Project. Luisa Massaccesi, Alberto Agnelli, Sergi Garcia Barreda, Maria Asuncion Morte Gomez, Kemal Çelik, Gülden Göksen, Andrea Marchini, Piero Manna, Marialaura Bancheri, Mirko Cucina, Marina Bufacchi. Visual Poster presentation. The 23rd World Congress of Soil Science. June 7-12, 2026. Nanjing, China.
4. Co-Hydrothermal Carbonization of Brewery by-Products: Process Optimization and Densification Toward Upgraded Solid Biofuel. Cardarelli A., Agresti G., Buratti C., Cardelli C., Cucina M., Barbanera M. Visual poster presentation. 34th European Biomass Conference & Exhibition. The Hague, The Netherlands. May 19-22, 2026.
5. Valorizing Brewery and Winery Fermentation Waste as Novel Soil Fertilizers for Circular Agriculture. M. Cucina, M. Guerrieri, L. Massaccesi, K. Rosenblau, Y. Kashi. Visual poster presentation. 34th European Biomass Conference & Exhibition. The Hague, The Netherlands. May 19-22, 2026.
6. A rapid, robust, and reliable method to distinguish plastics and compostable bioplastics residues in compost. M. Cucina. Oral presentation. 20th Conference of European Bioplastics, 02-03 December, 2025. Berlin, Germany.
7. Sludge Treatment Wetlands: Biosolid Valorisation and Comparative Techno-Economic Analysis. A. Cano-Larrotta, M. Cucina, L. Massaccesi, G. Iglesias-Morera, E. Uggetti. Oral presentation. 13th International Conference of the International Ecological Engineering Society (IEES), 16-18 July 2025; Reykjavk, Iceland.
8. Advancing Renewable Energy Solutions through the Co-HTC of Cattle Manure and Hemp Stalk Residues. A. Cardarelli, A. Nicolini, M. Cucina, V. Vasic, M. Barbanera. Poster presentation. EUBCE - European Biomass Conference & Exhibition 2025, 9-12 June 2025, Valencia, Spain.
9. Sustainable Soil Management: the effects of bio-mulching on water conservation. A pot trial with grapevines. L. Pisano, N. Russo, M. Oliviero, M. Cucina, P. Manna, E. Monaco. Poster presentation. AISSA Under 40 Conference, 5-6 June 2025, Portici, Italy.
10. From pomace-waste to field reuse: a new biopolymer for mulching application. Maria Oliviero, Piero Manna, Lucio Pisano, Mirko Cucina, Nello Russo, Monaco Eugenia. Poster presentation. VINITALY, International Wine & Spirits Exhibition. 6-9 April 2025, Verona, Italy.
11. Composting different agri-industrial wastes with biochar: optimized lab-scale trials assessing ammonia emission and mass balance. Roberto Altieri, Vitale Stanzione, Mirko Cucina, Piero Ciccioli, Alessandro Esposito. Poster presentation. ECOMONDO, The green technology expo. 5-8 November 2024, Rimini, Italy.
12. Volatile Organic Compounds (VOCs) emitted during the composting phase of different agricultural wastes. Piero Ciccioli, Roberto Altieri, Vitale Stanzione, Mirko Cucina, Alessandro Esposito, Walter Stefanoni, Paolo Ciccioli, Emanuele Pallozzi. Poster presentation. ECOMONDO, The green technology expo. 5-8 November 2024, Rimini, Italy.
13. Lab-scale optimization of co-composting agri-industrial effluents with biochar to reduce ammonia emissions and save water and energy. Altieri Roberto, Cucina Mirko, Esposito Alessandro. Poster presentation. L'innovazione a servizio dell'economia circolare: lo Spoke 8 di Agritech. 6 September 2024, Milan, Italy.

14. Integration of biochar in psychrophilic anaerobic digestion: effect on the digestate. Alexander Muñoz, Cirley Borrero, Yely Cruz, Liliana Castro, Humberto Escalante, Nelson Rodríguez, Mirko Cucina. Oral presentation. 18th IWA World Conference on Anaerobic Digestion. 2-6 June 2024, Istanbul, Turkiye.
15. Application of digestate from rural anaerobic digesters for degraded soil restoration in Colombia. M. Cucina, L. Massaccesi, M. Garfì, D. Medina Medina, A. Munoz Munoz, H. Escalante, J. Martì-Herrero, L. Castro. Poster presentation. Centennial IUSS World Congress, 19-21 May 2024, Florence, Italy.
16. Characterization of bioplastic degrading microbial communities using biomolecular techniques. R.V. Sajgule, E. Clagnan, M. Cucina, F. Adani. Poster presentation. AGRIFOODPLAST, 1st International Conference on micro- and nano-plastics in the agri-food chains, 10-12 September 2023. Piacenza, Italy.
17. Impacts of microbiologically activated bio-based fertilziers derived from manure on tomato plants and their rhizospheric communities. E. Clagnan, M. Cucina, P. De Nisi, M. Dell'Orto, G. D'Imporzano, R.K. Morelli, F. Adani. Poster presentation. Bioresource Technology for bioenergy, Bioproducts & Environmental Sustainability 4th International Conference, 14-17 May 2023. Lake Garda, Italy.
18. Production and assessment of biological activated bio-based fertilizers in the frame of FERTIMANURE H2020 project. P. De Nisi, M. Cucina, E. Clagnan, F. Adani. Poster Presentation. XL Congress of Italian Society of Agricultural Chemistry, 5-7 September 2022. Pisa, Italy.
19. CO_2 electro-recycling and energy production: a comparison between naturally doped biochar-base electrodes. A. Goglio, H. Elboghdady, A. Carrara, M. Cucina, F. Adani. Poster presentation. ISMET8 - International Society for Microbial Electrochemistry and Technology - GLOBAL CONFERENCE, September 2022. Chania, Greece.
20. Characterization of digestates from low-cost digesters in Colombia. L. Castro, H. Escalante, A. Munoz, M. Cucina, I. Ferrer, M. Garfì. Poster presentation. 17th World Congress on Anaerobic Digestion, June 2022. Ann Arbor, Michigan, USA.
21. Current situation of manure production and management in EU. Nutrient imbalance analysis in six European countries. M. Zilio, M. Jorba, G. Ramis, M. Cucina, A. Herrera, E.A.N. Marks, F. Adani, C. van DijK, O. Schoumans. Oral presentation. International conference on manure management and valorization (MANUREOURCE), May 2022. Den Bosch, The Netherlands.
22. Calidad y propiedades de un digerido procedente de la digestión anaerobia de estiércol bovino en condiciones psicrófilas. A. Munoz, M. Cucina, L. Castro, H. Escalante, A. Garfì, I. Ferrer. Poster. First international congress in biotechnology and neotropical ecosystems, CIBEN 2021, 20-22 October 2021, Virtual Event.
23. The role of waste management in reducing bioplastics' leakage in the environment. M. Cucina, P. De Nisi, F. Tambone, F. Adani. Oral presentation. Second Joint Meeting on Soil and Plant System Sciences, 20-23 September 2021, Torino, Italy.
24. The increasing amount of bioplastics rises challenges in the management of organic municipal solid wastes through biological systems. M. Cucina, P. De Nisi, F. Tambone, F. Adani. Oral presentation. 5th MatER Meeting together + 6th International Conference on Final Sinks, 7-9 June 2021, Piacenza, Italy.
25. Compatibility of Bioplastic with Waste Management: an experimental approach. M. Cucina, P. De Nisi, F. Tambone, F. Adani. Presentazione orale. International Conference on Biotechnology for Sustainable Agriculture, Environment and Health (BSAEH-2021), 4-8 Aprile 2021, Jaipur, India.
26. Il trattamento anaerobico di biomasse agro-zootecniche per la produzione di energia e fertilizzanti organici. G. Gigliotti, M. Cucina, D. Pezzolla, C. Tacconi, A. Ricci. Oral presentation. "Consapevolezza del rischio e cultura della sicurezza", Consorzio Interfacoltà per l'ambiente, Giornata Mondiale dell'Ambiente, 5 June 2019. Isola Polvese, Perugia, Italy.
27. Le attività del Laboratorio di Chimica delle biomasse di uso agrario. G. Gigliotti, M. Cucina, D. Pezzolla, A. Ricci. Poster. "Consapevolezza del rischio e cultura della sicurezza", Consorzio Interfacoltà per l'ambiente, Giornata Mondiale dell'Ambiente, 5 June 2019. Isola Polvese, Perugia, Italy.
28. Digestione anaerobica della pula di grano saraceno: effetto di pretrattamenti e codigestione sulla resa di biometanazione. M. Cucina, C. Tacconi, A. Di Giorgio, O. Francioso, D. Pezzolla, C. Zadra, G. Gigliotti. Oral presentation. Italian Society of Agricultural Chemistry Congress (SICA), 2018. Reggio Calabria, Italy.
29. Benefits and risks of organic amendments obtained through biological treatment of wastes and by-products. D. Pezzolla, M. Cucina, C. Tacconi, A. Ricci, C. Zadra, G. Gigliotti. Oral presentation. European Geosciences Union (EGU) Congress, 2018. Wien, Austria.
30. Long term effects of pharmaceutical sludge application on soil properties: a 17 years long case of study. M. Cucina, D. Pezzolla, C. Tacconi, S. Sordi, C. Zadra, G. Gigliotti. Poster. European Geosciences Union (EGU) Congress, 2018. Wien, Austria.
31. Digestione anaerobica dello scarto di lavorazione del grano saraceno: effetto dei pretrattamenti e valutazioni energetiche. M. Cucina, C. Tacconi, A. Di Giorgio, D. Pezzolla, O. Francioso, G. Gigliotti. Poster. Italian Society of Agricultural Chemistry Congress (SICA), 2017. Udine, Italy.
32. Effetto di concentrazioni crescenti di AFB1 su un processo di digestione anaerobica semi-continuo: stabilità del processo, degradazione della micotossina e qualità del digestato. C. Tacconi, M. Cucina, D. Pezzolla, C. Zadra, G. Gigliotti. Oral presentation. Italian Society of Agricultural Chemistry Congress (SICA), 2017. Udine, Italy.
33. Valorization of Aflatoxin B1 contaminated corn through composting. C. Tacconi, M. Cucina, D.

Pezzolla, C. Zadra, G. Gigliotti. Poster. International Society of Humic Substances Congress (ISHS). 06-09 June 2017. Siracusa, Italy.

34. Recovery of energy and plant nutrients from Aflatoxin B1 contaminated corn through biological treatments. D. Pezzolla, C. Tacconi, M. Cucina, C. Zadra, G. Gigliotti. International Society of Humic Substances Congress (ISHS). 06-09 June 2017. Siracusa, Italy.
35. Il ruolo dell'analisi elementare del C in soluzione nella valutazione di processi biotecnologici per il trattamento dei rifiuti. M. Cucina. Oral presentation. Conference: "Determinazione di CHNS: elementi fondamentali nel laboratorio analitico". 30 May 2017. Mosciano Sant'Angelo (TE), Italia.
36. Ammendamento pluriennale con fanghi di depurazione di origine farmaceutica: influenza sulle proprietà chimiche e biochimiche del suolo. M. Cucina, C. Tacconi, C. Zadra, S. Sordi, V. Piergianni, G. Gigliotti. Poster. Italian Society of Agricultural Chemistry Congress (SICA), 2016. Perugia, Italy.
37. Ammendanti organici derivati da un rifiuto organico di origine farmaceutica: rischi e benefici. M. Cucina, C. Tacconi, D. Pezzolla, C. Zadra, S. Sordi, G. Gigliotti. Poster. Italian Society of Agricultural Chemistry Congress (SICA), 2016. Perugia, Italy.
38. Valutazione dell'attitudine al compostaggio di fanghi di depurazione di origine farmaceutica. M. Cucina, C. Tacconi, D. Pezzolla, C. Zadra, S. Sordi, V. Piergianni, G. Gigliotti. Poster. Italian Society of Agricultural Chemistry Congress (SICA), 2016. Perugia, Italy.
39. Valutazione della possibilità di recupero di mais contamintato da aflatossina B1 attraverso la digestione anaerobica. C. Tacconi, A. Sordi, D. Pezzolla, M. Cucina, C. Zadra, G. Gigliotti. Poster. Italian Society of Agricultural Chemistry Congress (SICA), 2016. Perugia, Italy.
40. Assessing the aptitude of aflatoxin B1 contaminated corn to anaerobic digestion. C. Tacconi, A. Sordi, M. Cucina, C. Zadra, G. Gigliotti. Poster. International Society of Environmental Biotechnology (ISEB) Congress. 1-3 June 2016. Barcelona, Spain.
41. Assessing the composting aptitude of a pharmaceutical sludge. M. Cucina, C. Tacconi, A. Sordi, C. Zadra, S. Sordi, G. Gigliotti. Poster. International Society of Environmental Biotechnology (ISEB) Congress. 1-3 June 2016. Barcelona, Spain.
42. Agricultural reuse of the digestate from micro-algae anaerobic digestion and co-digestion with sewage sludge. Solé M, Cucina M, Folch M, Tàpies J, Matamoros V, Garfí M, Ferrer I. Oral presentation. Recycling of Agricultural, Municipal and Industrial Residues in Agriculture Network (RAMIRAN) Congress. 8-10 September 2015. Hamburg, Germany.
43. Organic amendments derived from a pharmaceutical by-product: benefits and risks. Gigliotti G., Cucina M., Zadra C., Pezzolla D., Sordi S., Marcotullio M.C., Curini M. Oral presentation. European Geosciences Union Congress (EGU), 2015. Wien, Austria.
44. Ottenimento di un ammendante compostato misto da sottoprodotti dell'Industria Farmaceutica: problematiche ed opportunità. M. Cucina, C. Zadra, M. Marcotullio, M. Curini, G. Gigliotti. Oral presentation. Italian Society of Agricultural Chemistry Congress (SICA), 2014. Bolzano, Italy.
45. Co-digestion of sewage sludge and organic fraction of municipal solid waste (OFMSW): analysis of biogas production and digestate and ingestate organic quality. F. Di Maria, G. Gigliotti, A. Sordi, G. Cirulli, M. Cucina, L. Massaccesi. Oral presentation. Congress BCD, 2013. Bari, Italy.
46. Caratterizzazione chimica del percolato e del digestato durante un processo di digestione anaerobica ibrida in batch (HSADB). L. Massaccesi, A. Sordi, C. Micale, M. Cucina, C. Zadra, F. Di Maria, G. Gigliotti. Poster. Italian Society of Agricultural Chemistry Congress (SICA), 2013. Bari, Italy.
47. Variazioni nelle caratteristiche chimiche della sostanza organica solubile in acqua durante un processo di digestione anaerobica allo stato solido in batch. L. Massaccesi, A. Sordi, M. Cucina, C. Zadra, F. Di Maria, G. Gigliotti. Oral presentation. Italian Society of Agricultural Chemistry Congress (SICA), 2012. Milan, Italy.

Technical reports:

1. Mass and energy balance of the on-farm pilots to WP5. M. Cucina, F. Adani, X. You, J.M. de Gregorio, N. Guerra, M. Mora, L. Llenas, I. Sigurnjak, R. Vingerhoets, E. Meers, O. Schoumans, K. Van Dijk, N. Thevenin, L. Ruidavets, S. Schönfeld. FERTIMANURE H2020 project deliverable (D2.3) (June 2022).
2. Report on the nutrient imbalance analysis. M. Cucina, F. Adani, M. Zilio, A. Herrera. FERTIMANURE H2020 project deliverable (D1.4) (January 2021).
3. BBFs production and characterization vs. time (list, average composition and composition variability). M. Cucina, F. Adani. FERTIMANURE H2020 project deliverable (D2.2) (December 2020).
4. Process and technologies specification and set up to produce BBFs from animal manure. M. Cucina, F. Adani. FERTIMANURE H2020 project deliverable (D2.1) (December 2020).

Books/Chapters in books:

1. New Advances on Nutrients Recovery from Agro-Industrial and Livestock Wastes for Sustainable Farming. Ed. Mirko Cucina, Luca Regni. Editore MDPI Agronomy, December 2021. ISBN 978-3-0365-2564-8.
2. Relazione botanica ambientale e chimica agraria. G. Gigliotti, A. Ranfa, D. Pezzolla, A. Ricci, M. Cucina, L. Ruga. In "Monumento funerario della sacerdotessa Mamia a Pompei", pp. 99-106. Editore "L'Erma" di Bretschneider. ISBN: 9788891321831.

Projects

1. PRIMA Fundation Call 2024, Section 2. Coordination team for CNR-ISAFOM. Project: “Truffle Agroforestry Innovate & Empower” (TAIE). 2025-2027. Budget: 2,000,000 €.
2. Centre de Cooperaciò per el Desenvolupament – Universitat Politecnica de Catalunya. Principal investigator for CNR-ISAFOM. Project: “From waste to resources: low-tech digesters for bioenergy and biofertilizer production in rural areas of Colombia and Kenya (Waste2Bio)”, 2025-2027. Budget: 24.000 €
3. Bando scientifico MAECI-MOST 2024-2026. Coordinator and Principal Investigator for CNR-ISAFOM. Project: “Novel advanced biofertilizers from spent FERmentative BIOmasses for enhancing agriculture circularity and SOIL health – FERBIOSOIL”, 2025-2027. Budget: 300.000,00 €
4. European Commission H2020 call MSCA-RISE-2020. Coordination team for CNR-ISAFOM. Project: “INnovation in Truffle cultivation, preservAtion, proCessing and wild truffle resources management – INTACT”, 2025. Budget: 1.357.000,00 €
5. Centre de Cooperaciò per el Desenvolupament – Universitat Politecnica de Catalunya (CCD2023-B001). Principal investigator for CNR-ISAFOM. Project: “Sustainability assessment of low-tech digesters for biogas and biofertilizer production in Colombia”, 2023-2024. Budget: 16.500 €
6. European Commission H2020 call 3.2.4.1 Project manager for University of Milan. Project: “Innovative nutrient recovery from secondary sources – Production of high-added value FERTIlisers from animal MANURE (FERTIMANURE)”, 2020-2022. Budget: 8.394.170,75 €
7. Centre de Cooperaciò per el Desenvolupament – Universitat Politecnica de Catalunya (CCD2021-J004). Principal investigator for University of Milan. Project: “Resources recovery from wastewater: small-scale digesters for biogas and biofertilizer production in Colombia”, 2021-2022. Budget: 11.500 €
8. Centre de Cooperaciò per el Desenvolupament – Universitat Politecnica de Catalunya (CCD2018-U003). Principal investigator for University of Milan. Project: “Improving sustainable sanitation and energy access in rural areas of Peru and Colombia: constructed wetlands and small-scale digesters”, 2020-2021. Budget: 10.948 €
9. Regione Umbria - Programma di Sviluppo Rurale 2014-2020. Project manager for Department of Civil and Environmental Engineering, University of Perugia. Project: “Valorizzazione delle risorse legnose e dei sottoprodotti agricoli e forestali, attraverso la creazione di un modello di piattaforme logistiche per la produzione e la commercializzazione di prodotti energetici (AGREEGREEN)”, 2018-2019. Budget: 199.988,55 €

Other Relevant Information

1. Co-Supervisor of 5 master thesis at Italian Universities.
2. Co-Supervisor of 1 PhD student (Doctorate school University of Milan, 2023-2025).
3. Member of the Network for Biodigesters in Latin America and the Caribbean (RedBioLAC).
4. Member of the Working Group “How to improve the technology and management of low-tech anaerobic digesters” of the International Water Association (IWA).
5. Scientific responsible for CNR of the framework agreement of collaboration between CNR-ISAFOM and GSA srl for the development of scientific, consultancy, communication and environmental teaching activities signed on 02/20/2023, renewed on 09/12/2024.
6. Scientific responsible for CNR of the framework agreement of collaboration between CNR-ISAFOM and BIOREPACK for the development of scientific activities and research on the topic of bioplastics degradation during waste management and in soi signed on 10/22/2024.
7. Evaluator of 1 Master Thesis and 1 PhD Thesis at Colombian Universities.

Perugia, March 31th, 2026

Dr. Mirko Cucina