MATTEO DAINESE

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EDUCATION

UNIVERSITY OF PADOVA — Padova, IT
Degree, Forest and Environmental Sciences — 2005

UNIVERSITY OF PADOVA — Padova, IT
Ph.D., Environmental Agronomy — 2010

PROFESSIONAL CAREER

UNIVERSITY OF VERONA — Verona, IT
Associate Professor in Ecology (SSD BIOS-05/A), Department of Biotechnology — (10/2025 – current)

UNIVERSITY OF VERONA — Verona, IT
Assistant Professor in Ecology (SSD BIOS-05/A), Department of Biotechnology — (10/2022 – 09/2025)

EURAC RESEARCH — Bolzano, IT
Senior researcher, Institute for Alpine Environment — (02/2018 – 09/2022)

UNIVERSITY OF WÜRZBURG — Würzburg, DE
Post-doc, Department of Animal and Tropical Ecology — (09/2015 – 01/2018)

UNIVERSITY OF PADOVA — Padova, IT
Post-doc, DAFNAE — (01/2015 – 08/2015)

UNIVERSITY OF PADOVA — Padova, IT
Research grant, TESAF — (01/2012 – 12/2014)

UNIVERSITY OF PADOVA — Padova, IT
Research grant, TESAF — (04/2010 – 10/2011)

PROJECTS

Strengthening agricultural landscape multifunctionality through expansion of agroecological farming in Europe (SAFER)
2024 1st Co-funded Call Agroecology — 2025 – 2028
WP leader

Back to the future: Traditional agroforestry systems as NbS to face multiple societal challenges (TRANSFORM)
Biodiversa+ project under the 2023-2024 BiodivNBS joint call — 2025 – 2028
Project Coordinator

Generating new evidence and exploiting new technologies to strengthen the role of biodiversity in agriculture (REINFORCE)
Bando a cascata Spoke 2 - Agritech 2024 – 2025
WP leader

Accessible ecological data for resilient viticulture (AGATA)
Joint Project Università di Verona e Eurac Research 2023 – 2025
Project Coordinator

Improving agrobiodiversity for resilient pest control services across (IMPRESS)
SusCrop-ERA-NET FACCEJPI - 2022 Joint Call on Agrobiodiversity 2023 – 2025
National Partner & Task leader

Effects of air pressure on upwards shifting alpine ecosystems (UPSHIFT)
Joint Project Funding FWF-South Tyrol 2022 – 2024
Project Coordinator

Launching ecological research in terraXcube: first demonstration experiments (ECOCUBE)
Internal funding EURAC 2019 – 2021
Project Coordinator

Enhancing biodiversity-based ecosystem services to crops through optimized densities of green infrastructure in agricultural landscapes (ECODEAL)
Biodiversa+ project under the 2013 – 2014 BiodivAgri joint call 2015 – 2018
Scientific collaboration

Linking farmland biodiversity to ecosystem services effective eco-functional intensification (LIBERATION)
FP7 EU project 2013 – 2016
Scientific collaboration

PUBLICATIONS

1. Zanini, S., **Dainese, M.**, Obwegs, L., Guariento, E., Kopf, T., Anderle, M., Leitinger, G. and Tappeiner, U., 2026. Disentangling biodiversity and temperature effects on bees and pollination services in mountain agroecosystems. *Agriculture, Ecosystems & Environment*, *395*, 109945.

2. El Omari, B., Lembo, S., **Dainese, M.**, Illmer, P., Praeg, N., Meul, A., Asensio, D. and Niedrist, G., 2025. Eco-physiological responses of *Hieracium pilosella* and *Trifolium pratense* to reduced air pressure. *Plant Physiology*, kiaf631.

3. Rzehak, T., Praeg, N., Meul, A., Lembo, S., El Omari, B., **Dainese, M.**, Niedrist, G. and Illmer, P., 2025. Air pressure as a driver of plant-specific microbial responses in the rhizosphere. *Environmental Microbiome*, *20*(1), 145.

4. Danise, T., Goldoni, S.E., **Dainese, M**. and Zaccone, C. (2025). Influence of land management on soil organic matter pools, plant traits and enzymatic activity in mountain grasslands. *Journal of Environmental Management*, 387, 125846.

5. Zanini S., **Dainese M.**, Kopf T., Obwegs L., Anderle M., Leitinger G. and Tappeiner U. (2025). New distribution records of wild bees (Hymenoptera, Apoidea) in South Tyrol (Italy): expanding the wild bee database. *Biodiversity Data Journal*, 13, e138625.

6. Wan N.F., Fu L., **Dainese M.**, Kiær L.P., Hu Y.Q., Xin F., Goulson, D. Woodcock B.A., Vanbergen A.J., Spurgeon D.J. and Shen S., 2025. Pesticides have negative effects on non-target organisms. *Nature Communications*, *16*(1), 1360.

7. Lembo S., Niedrist G., El Omari B., Illmer P., Praeg N., Meul A. and **Dainese M.** (2025). Short-term impact of low air pressure on plants' functional traits. *PloS one*, 20(1), e0317590.

8. **Dainese, M**., Crepaz, H., Bottarin, R., Fontana, V., Guariento, E., Hilpold, A., Obojes, N., Paniccia, C., Scotti, A., Seeber, J., Steinwandter, M., Tappeiner, U., & Niedrist, G. (2024) Global change experiments in mountain ecosystems: A systematic review. *Ecological Monographs*, e1632.

9. Wan, N. F., **Dainese, M.**, Wang, Y. Q., & Loreau, M. (2024). Cascading social-ecological benefits of biodiversity for agriculture. *Current Biology*, 34(12), R587-R603.

10. Zanini, S., **Dainese, M.**, Kopf, T., Leitinger, G., & Tappeiner, U. (2024). Maintaining habitat diversity at small scales benefits wild bees and pollination services in mountain apple orchards. *Ecological Solutions and Evidence*, 5(2), e12320.

11. Zou, Y., Zhao, P., Bianchi, F. J., Gong, S., Li, L., Li, J., …, **Dainese, M.**, ... & Wanger, T. C. (2024). Relationship between landscape complexity and ecosystem services from the perspective of smallholder agroecosystems in China—A review. *Cell Reports Sustainability*, 1(2), 100014.

12. Giménez-García, A., Allen-Perkins, A., Bartomeus, I., Balbi, S., Knapp, J. L., Hevia, V., …, **Dainese, M.**, ... & Magrach, A. (2023). Pollination supply models from a local to global scale. *Web Ecology*, 23(2), 99-129.

13. Engel, T., Bruelheide, H., Hoss, D., Sabatini, F. M., Altman, J., Arfin-Khan, M. A., ..., **Dainese, M.**, ... & Pillar, V. (2023). Traits of dominant plant species drive normalized difference vegetation index in grasslands globally. *Global Ecology and Biogeography*, 32(5), 695-706.

14. Díaz, S., Kattge, J., Cornelissen, J. H., Wright, I. J., Lavorel, S., Dray, S., ..., **Dainese, M.**, ... & Zotz, G. (2022). The global spectrum of plant form and function: enhanced species-level trait dataset. *Scientific Data*, 9(1), 755.

15. Wan, N. F., Fu, L., **Dainese, M**., Hu, Y. Q., Pødenphant Kiær, L., Isbell, F., & Scherber, C. (2022). Plant genetic diversity affects multiple trophic levels and trophic interactions. *Nature communications*, 13(1), 7312.

16. Wan, N. F., Cavalieri, A., Siemann, E., **Dainese, M.**, Li, W. W., & Jiang, J. X. (2022). Spatial aggregation of herbivores and predators enhances tri-trophic cascades in paddy fields: Rice monoculture versus rice-fish co-culture. *Journal of Applied Ecology*, 59(8), 2036-2045.

17. Alexandridis, N., Marion, G., Chaplin-Kramer, R., **Dainese, M**., Ekroos, J., Grab, H., ... & Martin, E. A. (2022). Archetype models upscale understanding of natural pest control response to land-use change. *Ecological Applications*, e2696.

18. Ji, X. Y., Wang, J. Y., **Dainese, M.**, Zhang, H., Chen, Y. J., Cavalieri, A., ... & Wan, N. F. (2022). Ground cover vegetation promotes biological control and yield in pear orchards. *Journal of Applied Entomology*, 146(3), 262-271.

19. Allen-Perkins, A., Magrach, A., **Dainese, M**., Garibaldi, L. A., Kleijn, D., Rader, R., ... & Bartomeus, I. (2021). CropPol: a dynamic, open and global database on crop pollination *Ecology*, 103(3), e3614.

20. Wan, N.-F., **Dainese, M**., Zhu, F., Xiao, L.-B., Zhang, W., Ma, J., ... & Li, B. (2021). Decline of three farmland pest species in rapidly urbanizing landscapes. *iScienc*e, 24(9) 103002.

21. Alexandridis, N., Marion, G., Chaplin-Kramer, R., **Dainese, M**., Ekroos, J., Grab, H., ... & Poppenborg Martin, E. M. (2021). Models of natural pest control: towards predictions across agricultural landscapes. *Biological Control*, 163, 014761

22. Saiz, H., **Dainese, M.**, Chiarucci, A., & Nascimbene, J. (2021). Networks of epiphytic lichens and host trees along elevation gradients: Climate change implications in mountain ranges. *Journal of Ecology*, 109(3), 1122-1132.

23. Roy, J., Rineau, F., De Boeck, H. J., Nijs, I., Pütz, T., Abiven, S., ..., **Dainese, M.**, ... & Milcu, A. (2021). Ecotrons: powerful and versatile ecosystem analysers for ecology, agronomy and environmental science. *Global Change Biology*, 27(7), 1387-1407.

24. Tamburini, G., Santoiemma, G., E. O'Rourke, M., Bommarco, R., Chaplin-Kramer, R., **Dainese, M.**, ... & Marini, L. (2020). Species traits elucidate crop pest response to landscape composition: a global analysis. *Proceedings of the Royal Society B*, 287(1937), 20202116.

25. Albrecht, M., Kleijn, D., Williams, N. M., Tschumi, M., Blaauw, B. R., Bommarco, R., ..., **Dainese, M.**, ... & Sutter, L. (2020). The effectiveness of flower strips and hedgerows on pest control, pollination services and crop yield: a quantitative synthesis. *Ecology Letters*, 23(10), 1488-1498.

26. González-Chang, M., Wratten, S. D., Shields, M. W., Costanza, R., **Dainese, M.**, Gurr, G. M., ... & Zhou, W. (2020). Understanding the pathways from biodiversity to agro-ecological outcomes: A new, interactive approach. *Agriculture, Ecosystems & Environment*, 301, 107053.

27. Wan, N. F., Zheng, X. R., Fu, L. W., Kiær, L. P., Zhang, Z., Chaplin-Kramer, R., ..., **Dainese, M.**, ... & Li, B. (2020). Global synthesis of effects of plant species diversity on trophic groups and interactions. *Nature Plants*, 6(5), 503-510.

28. Thomas, H. J., Bjorkman, A. D., Myers-Smith, I. H., Elmendorf, S. C., Kattge, J., Diaz, S., ..., **Dainese, M.**, ... & De Vries, F. T. (2020). Global plant trait relationships extend to the climatic extremes of the tundra biome. *Nature Communications*, 11(1), 1-12.

29. Van der Sande, M. T., Bruelheide, H., Dawson, W., Dengler, J., Essl, F., Field, R., ..., **Dainese, M.**, ... & Knight, T. M. (2020). Similar factors underlie tree abundance in forests in native and alien ranges. *Global Ecology and Biogeography*, 29(2), 281-294.

30. Kattge, J., Bönisch, G., Díaz, S., Lavorel, S., Prentice, I. C., Leadley, P., ..., **Dainese, M.**, ... & Cuntz, M. (2020). TRY plant trait database–enhanced coverage and open access. *Global Change Biology*, 26(1), 119-188.

31. **Dainese, M.**, Martin, E. A., Aizen, M. A., Albrecht, M., Bartomeus, I., Bommarco, R., ... & Steffan-Dewenter, I. (2019). A global synthesis reveals biodiversity-mediated benefits for crop production. *Science Advances*, 5(10), eaax0121.

32. Chiarucci, A., Nascimbene, J., Campetella, G., Chelli, S., **Dainese, M.**, Giorgini, D., ... & Canullo, R. (2019). Exploring patterns of beta-diversity to test the consistency of biogeographical boundaries: A case study across forest plant communities of Italy. *Ecology and Evolution*, 9(20), 11716-11723.

33. Martin, E. A., **Dainese, M.**, Clough, Y., Báldi, A., Bommarco, R., Gagic, V., ... & Steffan-Dewenter, I. (2019). The interplay of landscape composition and configuration: new pathways to manage functional biodiversity and agroecosystem services across Europe. *Ecology Letters*, 22(7), 1083-1094.

34. Sitzia, T., Campagnaro, T., **Dainese, M.**, Dallabrida, F., Mattedi, S. M., & Portaccio, A. (2019). Altitudinal Shift of Tetrao urogallus in an Alpine Natura 2000 Site: Implications for Habitat Restoration. *Applied Sciences*, 9(6), 1164.

35. Thomas, H. J., Myers-Smith, I. H., Bjorkman, A. D., Elmendorf, S. C., Blok, D., Cornelissen, J. H., ..., **Dainese, M.**, ... & van Bodegom, P. M. (2019). Traditional plant functional groups explain variation in economic but not size-related traits across the tundra biome. *Global Ecology and Biogeography*, 28(2), 78-95.

36. Bruelheide, H., Dengler, J., Purschke, O., Lenoir, J., Jiménez-Alfaro, B., Hennekens, S. M., ..., **Dainese, M.**, ... & Jandt, U. (2018). Global trait–environment relationships of plant communities. *Nature Ecology & Evolution*, 2(12), 1906-1917.

37. Bjorkman, A. D., Myers-Smith, I. H., Elmendorf, S. C., Normand, S., Rüger, N., Beck, P. S., ..., **Dainese, M.**, ... & Weiher, E. (2018). Plant functional trait change across a warming tundra biome. *Nature*, 562(7725), 57-62.

38. **Dainese, M.**, Riedinger, V., Holzschuh, A., Kleijn, D., Scheper, J., & Steffan-Dewenter, I. (2018). Managing trap-nesting bees as crop pollinators: Spatiotemporal effects of floral resources and antagonists. *Journal of Applied Ecology*, 55(1), 195-204.

39. **Dainese, M.**, Aikio, S., Hulme, P. E., Bertolli, A., Prosser, F., & Marini, L. (2017). Human disturbance and upward expansion of plants in a warming climate. *Nature Climate Change*, 7(8), 577-580.

40. **Dainese, M.**, Isaac, N. J., Powney, G. D., Bommarco, R., Öckinger, E., Kuussaari, M., ... & Marini, L. (2017). Landscape simplification weakens the association between terrestrial producer and consumer diversity in Europe. *Global Change Biology*, 23(8), 3040-3051.

41. Sitzia, T., **Dainese, M.**, Krüsi, B. O., & McCollin, D. (2017). Landscape metrics as functional traits in plants: Perspectives from a glacier foreland. *PeerJ*, 5, e3552.

42. **Dainese, M.**, Schneider, G., Krauss, J., & Steffan-Dewenter, I. (2017). Complementarity among natural enemies enhances pest suppression. *Scientific Reports*, 7(1), 1-8.

43. Nascimbene, J., Mayrhofer, H., **Dainese, M.**, & Bilovitz, P. O. (2017). Assembly patterns of soil-dwelling lichens after glacier retreat in the European Alps. *Journal of Biogeography*, 44(6), 1393-1404.

44. **Dainese, M.**, Montecchiari, S., Sitzia, T., Sigura, M., & Marini, L. (2017). High cover of hedgerows in the landscape supports multiple ecosystem services in Mediterranean cereal fields. *Journal of Applied Ecology*, 54(2), 380-388.

45. Sitzia, T., Campagnaro, T., **Dainese, M.**, Cassol, M., Cortivo, M. D., Gatti, E., ... & Nascimbene, J. (2017). Contrasting multi-taxa diversity patterns between abandoned and non-intensively managed forests in the southern Dolomites. *iForest-Biogeosciences and Forestry*, 10(5), 845.

46. Nascimbene, J., Ackermann, S., **Dainese, M.**, Garbarino, M., & Carrer, M. (2016). Fine-scale population dynamics help to elucidate community assembly patterns of epiphytic lichens in alpine forests. *Fungal Ecology*, 24, 21-26.

47. Holzschuh, A., **Dainese, M.**, González-Varo, J. P., Mudri-Stojnić, S., Riedinger, V., Rundlöf, M., ... & Steffan-Dewenter, I. (2016). Mass-flowering crops dilute pollinator abundance in agricultural landscapes across Europe. *Ecology Letters*, 19(10), 1228-1236.

48. Inclán, D. J., **Dainese, M.**, Cerretti, P., Paniccia, D., & Marini, L. (2016). Spillover of tachinids and hoverflies from different field margins. *Basic and Applied Ecology*, 17(1), 33-42.

49. **Dainese, M.**, Luna, D. I., Sitzia, T., & Marini, L. (2015). Testing scale-dependent effects of seminatural habitats on farmland biodiversity. *Ecological Applications*, 25(6), 1681-1690.

50. **Dainese, M.**, Lepš, J., & de Bello, F. (2015). Different effects of elevation, habitat fragmentation and grazing management on the functional, phylogenetic and taxonomic structure of mountain grasslands. *Perspectives in Plant Ecology, Evolution and Systematics*, 17(1), 44-53.

51. Nascimbene, J., Nimis, P. L., & **Dainese, M.** (2014). Epiphytic lichen conservation in the Italian Alps: the role of forest type. *Fungal Ecology*, 11, 164-172.

52. Nascimbene, J., Tretiach, M., Corana, F., Schiavo, F. L., Kodnik, D., **Dainese, M.**, & Mannucci, B. (2014). Patterns of traffic polycyclic aromatic hydrocarbon pollution in mountain areas can be revealed by lichen biomonitoring: A case study in the Dolomites (Eastern Italian Alps). *Science of the Total Environment*, 475, 90-96.

53. Sitzia, T., **Dainese, M.**, & McCollin, D. (2014). Environmental factors interact with spatial processes to determine herbaceous species richness in woody field margins. *Plant Ecology*, 215(11), 1323-1335.

54. Sitzia, T., Pizzeghello, D., **Dainese, M.**, Ertani, A., Carletti, P., Semenzato, P., ... & Cattaneo, D. (2014). Topsoil organic matter properties in contrasted hedgerow vegetation types. *Plant and Soil*, 383(1), 337-348.

55. Sitzia, T., **Dainese, M.**, Clementi, T., & Mattedi, S. (2014). Capturing cross-scalar variation of habitat selection with grid sampling: an example with hazel grouse (*Tetrastes bonasia* L.). *European Journal of Wildlife Research*, 60(2), 177-186.

56. **Dainese, M.**, Kühn, I., & Bragazza, L. (2014). Alien plant species distribution in the European Alps: influence of species' climatic requirements. *Biological Invasions*, 16(4), 815-831.

57. **Dainese, M.**, & Sitzia, T. (2013). Assessing the influence of environmental gradients on seed mass variation in mountain grasslands using a spatial phylogenetic filtering approach. *Perspectives in Plant Ecology, Evolution and Systematics*, 15(1), 12-19.

58. Nascimbene, J., **Dainese, M.**, & Sitzia, T. (2013). Contrasting responses of epiphytic and dead wood-dwelling lichen diversity to forest management abandonment in silver fir mature woodlands. *Forest Ecology and Management*, 289, 325-332.

59. **Dainese, M.** (2012). Using natural gradients to infer a potential response to climate change: an example on the reproductive performance of *Dactylis Glomerata* L. *Biology*, 1(3), 857-868.

60. Sitzia, T., Campagnaro, T., **Dainese, M.**, & Cierjacks, A. (2012). Plant species diversity in alien black locust stands: A paired comparison with native stands across a north-Mediterranean range expansion. *Forest Ecology and Management*, 285, 85-91.

61. **Dainese, M.**, & Poldini, L. (2012). Does residence time affect responses of alien species richness to environmental and spatial processes?. *NeoBiota*, 14, 47.

62. **Dainese, M.**, Scotton, M., Clementel, F., Pecile, A., & Lepš, J. (2012). Do climate, resource availability, and grazing pressure filter floristic composition and functioning in Alpine pastures?. *Community Ecology*, 13(1), 45-54.

63. Sitzia, T., Trentanovi, G., **Dainese, M.**, Gobbo, G., Lingua, E., & Sommacal, M. (2012). Stand structure and plant species diversity in managed and abandoned silver fir mature woodlands. *Forest Ecology and Management*, 270, 232-238.

64. **Dainese, M.**, & Bragazza, L. (2012). Plant traits across different habitats of the Italian Alps: a comparative analysis between native and alien species. *Alpine Botany*, 122(1), 11-21.

65. **Dainese, M.**, & Poldini, L. (2012). Plant and animal diversity in a region of the Southern Alps: the role of environmental and spatial processes. *Landscape Ecology*, 27(3), 417-431.

66. **Dainese, M.** (2011). Impact of land use intensity and temperature on the reproductive performance of *Dactylis glomerata* populations in the southeastern Alps. *Plant Ecology*, 212(4), 651-661.

67. Semenzato, P., Cattaneo, D., & **Dainese, M.** (2011). Growth prediction for five tree species in an Italian urban forest. *Urban Forestry & Urban Greening*, 10(3), 169-176.

68. Scotton, M., Piccinin, L., **Dainese, M.**, & Sancin, F. (2009). Seed production of an Arrhenatherion elatioris hay-meadow in the eastern Italian Alps. *Grass and Forage Science*, 64(2), 208-218.

69. Scotton, M., Piccinin, L., **Dainese, M.**, & Sancin, F. (2009). Seed harvesting for ecological restoration: efficiency of haymaking and seed-stripping on different grassland types in the eastern Italian Alps. *Ecological Restoration*, 27(1), 66-75.

PROFESSIONAL SERVICE

Associate Editor in *Frontiers in Sustainable Food Systems* (2021–oggi) e Advisory Board Ecology & *Global Change Gateway - F1000 Research* (2022–oggi).

Reviewer: *Acta Oecologica; Agricultural and Forest Entomology; Agriculture, Ecosystems & Environment; Agricultural Systems; African Journal of Ecology; Alpine Botany; Ambio; Animal Conservation; Applied Vegetation Science; Basic and Applied Ecology; Biodiversity and Conservation;*

Biological Agriculture & Horticulture; Biological Conservation; Biological Reviews; Botanical Review; Community Ecology; Conservation Biology; Diversity; Diversity and Distributions; Ecography; Ecohydrology; Ecological Entomology; Ecological Applications; Ecological Modelling; Ecological Solutions and Evidence; Ecology and Evolution; Ecology Letters; Ecosphere; Ecosystem Services; Environmental and Experimental Botany; Environmental Management; Flora; Forest Ecology and Management; Forests; Genetics and Molecular Biology; Global Change Biology; Global Ecology and Biogeography; iForest; International Journal of Plant & Soil Science; Insect Conservation and Diversity; Insects; Journal of Applied Ecology; Journal of Biogeography; Journal of Ecology; Journal of Mountain Science; Journal of Pest Science; Journal of Vegetation Science; Landscape Ecology; Methods in Ecology and Evolution; Nature Communications; Nature Foods; NeoBiota; Oecologia; Oikos; PeerJ; Plant Biology; Plant Ecology; Plant Ecology & Diversity; PLoS ONE; PNAS; Proceedings of the Royal Society B: Biological Sciences; Science of the Total Environment; Trends in Ecology and Evolution.

Project evaluator: *BiodivERsA ERA-NET; ETAg (Estonian Research Council); FONDECYT (National Fund for Scientific and Technological Development of Chile); FWO (Research Foundation - Flanders); NOW (Dutch Research Council); SNSF (Swiss National Science Foundation).*

TEACHING ACTIVITY

UNIVERSITY OF VERONA — Verona, IT
Ecology (6 CFU) — (2022 – current)
Bachelor's degree in Biotechnology
Applied Ecology (6 CFU) — (2022 – current)
Master's degree in Biotechnology for bioresources and sustainable development

UNIVERSITY OF PADOVA — Padova, IT
Introduction to Biostatistical Analysis Using R — (2013 – 2014)
PhD Schools in Animal and Food Science, Crop Science, Land Environment Resources Health, Veterinary Sciences

Date 13/01/2026