Marcel G A Van Der Heijden

List of Publications by Year
in descending order

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103 papers	24,313 citations	26630 56 h-index	28297 105 g-index
115 all docs	115 docs citations	115 times ranked	18522 citing authors

#	Article	IF	Citations
1	The unseen majority: soil microbes as drivers of plant diversity and productivity in terrestrial ecosystems. Ecology Letters, 2008, 11, 296-310.	6.4	3,691
2	Mycorrhizal fungal diversity determines plant biodiversity, ecosystem variability and productivity. Nature, 1998, 396, 69-72.	27.8	2,907
3	Soil biodiversity and soil community composition determine ecosystem multifunctionality. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 5266-5270.	7.1	1,578
4	Keystone taxa as drivers of microbiome structure and functioning. Nature Reviews Microbiology, 2018, 16, 567-576.	28.6	1,516
5	Mycorrhizal ecology and evolution: the past, the present, and the future. New Phytologist, 2015, 205, 1406-1423.	7.3	1,390
6	An Underground Revolution: Biodiversity and Soil Ecological Engineering for Agricultural Sustainability. Trends in Ecology and Evolution, 2016, 31, 440-452.	8.7	879
7	Root exudate metabolites drive plant-soil feedbacks on growth and defense by shaping the rhizosphere microbiota. Nature Communications, 2018, 9, 2738.	12.8	861
8	Fungal-bacterial diversity and microbiome complexity predict ecosystem functioning. Nature Communications, 2019, 10, 4841.	12.8	773
9	Agricultural intensification reduces microbial network complexity and the abundance of keystone taxa in roots. ISME Journal, 2019, 13, 1722-1736.	9.8	716
10	Socialism in soil? The importance of mycorrhizal fungal networks for facilitation in natural ecosystems. Journal of Ecology, 2009, 97, 1139-1150.	4.0	486
11	Climate change effects on beneficial plant-microorganism interactions. FEMS Microbiology Ecology, 2010, 73, no-no.	2.7	443
12	Soil type and land use intensity determine the composition of arbuscular mycorrhizal fungal communities. Soil Biology and Biochemistry, 2010, 42, 724-738.	8.8	408
13	Agricultural diversification promotes multiple ecosystem services without compromising yield. Science Advances, 2020, 6, .	10.3	405
14	Cropping practices manipulate abundance patterns of root and soil microbiome members paving the way to smart farming. Microbiome, 2018, 6, 14.	11.1	399
15	A widespread plant-fungal-bacterial symbiosis promotes plant biodiversity, plant nutrition and seedling recruitment. ISME Journal, 2016, 10, 389-399.	9.8	315
16	Positive effects of organic farming on belowâ€ground mutualists: largeâ€scale comparison of mycorrhizal fungal communities in agricultural soils. New Phytologist, 2010, 186, 968-979.	7.3	301
17	Erosion reduces soil microbial diversity, network complexity and multifunctionality. ISME Journal, 2021, 15, 2474-2489.	9.8	273
18	Mycorrhizal fungal establishment in agricultural soils: factors determining inoculation success. New Phytologist, 2013, 197, 1104-1109.	7.3	266

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19	A global meta-analysis of yield stability in organic and conservation agriculture. Nature Communications, 2018, 9, 3632.	12.8	265
20	Plantâ€"Soil Feedback: Bridging Natural and Agricultural Sciences. Trends in Ecology and Evolution, 2018, 33, 129-142.	8.7	249
21	The role of arbuscular mycorrhizas in reducing soil nutrient loss. Trends in Plant Science, 2015, 20, 283-290.	8.8	242
22	Mycorrhizal fungal identity and diversity relaxes plantâ€"plant competition. Ecology, 2011, 92, 1303-1313.	3.2	218
23	Impact of conservation tillage and organic farming on the diversity ofÂarbuscular mycorrhizal fungi. Soil Biology and Biochemistry, 2015, 84, 38-52.	8.8	211
24	Community assembly, species richness and nestedness of arbuscular mycorrhizal fungi in agricultural soils. Molecular Ecology, 2012, 21, 2341-2353.	3.9	203
25	MUTUALISTIC STABILITY IN THE ARBUSCULAR MYCORRHIZAL SYMBIOSIS: EXPLORING HYPOTHESES OF EVOLUTIONARY COOPERATION. Ecology, 2006, 87, 1627-1636.	3.2	199
26	Arbuscular mycorrhizal fungi as support systems for seedling establishment in grassland. Ecology Letters, 2004, 7, 293-303.	6.4	195
27	Cover crops support ecological intensification of arable cropping systems. Scientific Reports, 2017, 7, 41911.	3.3	193
28	Soil biota enhance agricultural sustainability by improving crop yield, nutrient uptake and reducing nitrogen leaching losses. Journal of Applied Ecology, 2015, 52, 228-239.	4.0	180
29	Regulation of resource exchange in the arbuscular mycorrhizal symbiosis. Nature Plants, 2015, 1, 15159.	9.3	178
30	Why farmers should manage the arbuscular mycorrhizal symbiosis. New Phytologist, 2019, 222, 1171-1175.	7.3	164
31	Symbiotic relationships between soil fungi and plants reduce N2O emissions from soil. ISME Journal, 2014, 8, 1336-1345.	9.8	156
32	Quantitative assessment of the differential impacts of arbuscular and ectomycorrhiza on soil carbon cycling. New Phytologist, 2015, 208, 280-293.	7.3	142
33	Shallow non-inversion tillage in organic farming maintains crop yields and increases soil C stocks: a meta-analysis. Agronomy for Sustainable Development, 2016, 36, 1.	5.3	138
34	Detecting macroecological patterns in bacterial communities across independent studies of global soils. Nature Microbiology, 2018, 3, 189-196.	13.3	136
35	Non-Mycorrhizal Plants: The Exceptions that Prove the Rule. Trends in Plant Science, 2018, 23, 577-587.	8.8	131
36	Mycorrhizal effects on nutrient cycling, nutrient leaching and N2O production in experimental grassland. Soil Biology and Biochemistry, 2015, 80, 283-292.	8.8	130

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37	Mycorrhizal fungi reduce nutrient loss from model grassland ecosystems. Ecology, 2010, 91, 1163-1171.	3.2	127
38	Widespread Occurrence of Pesticides in Organically Managed Agricultural Soilsâ€"the Ghost of a Conventional Agricultural Past?. Environmental Science & Technology, 2021, 55, 2919-2928.	10.0	125
39	Crop cover is more important than rotational diversity for soil multifunctionality and cereal yields in European cropping systems. Nature Food, 2021, 2, 28-37.	14.0	120
40	A closer look at the functions behind ecosystem multifunctionality: A review. Journal of Ecology, 2021, 109, 600-613.	4.0	115
41	Root surface as a frontier for plant microbiome research. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 2299-2300.	7.1	110
42	Agricultural practices indirectly influence plant productivity and ecosystem services through effects on soil biota. Ecological Applications, 2014, 24, 1842-1853.	3.8	108
43	Highâ€resolution community profiling of arbuscular mycorrhizal fungi. New Phytologist, 2016, 212, 780-791.	7.3	104
44	Organic and conservation agriculture promote ecosystem multifunctionality. Science Advances, 2021, 7, .	10.3	104
45	Diversity and asynchrony in soil microbial communities stabilizes ecosystem functioning. ELife, 2021, 10, .	6.0	100
46	Arbuscular mycorrhizal fungi reduce growth and infect roots of the nonâ€host plant <i><scp>A</scp>rabidopsis thaliana</i>. Plant, Cell and Environment, 2013, 36, 1926-1937.	5.7	97
47	Conservation tillage and organic farming reduce soil erosion. Agronomy for Sustainable Development, 2019, 39, 1.	5.3	96
48	Soil microbial diversity and agro-ecosystem functioning. Plant and Soil, 2013, 363, 1-5.	3.7	93
49	The impact of long-term organic farming on soil-derived greenhouse gas emissions. Scientific Reports, 2019, 9, 1702.	3.3	79
50	Phylotype diversity within soil fungal functional groups drives ecosystem stability. Nature Ecology and Evolution, 2022, 6, 900-909.	7.8	75
51	Provision of contrasting ecosystem services by soil communities from different agricultural fields. Plant and Soil, 2012, 350, 43-55.	3.7	74
52	Effects of titanium dioxide nanoparticles on soil microbial communities and wheat biomass. Soil Biology and Biochemistry, 2017, 111, 85-93.	8.8	73
53	Establishment and effectiveness of inoculated arbuscular mycorrhizal fungi in agricultural soils. Plant, Cell and Environment, 2016, 39, 136-146.	5.7	69
54	Arbuscular mycorrhizal mycelial respiration in a moist tropical forest. New Phytologist, 2010, 186, 957-967.	7.3	68

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55	Arbuscular mycorrhizal fungal species differ in their effect on nutrient leaching. Soil Biology and Biochemistry, 2016, 94, 191-199.	8.8	66
56	Symbiotic soil fungi enhance ecosystem resilience to climate change. Global Change Biology, 2017, 23, 5228-5236.	9.5	63
57	Linking diversity, synchrony and stability in soil microbial communities. Functional Ecology, 2018, 32, 1280-1292.	3.6	63
58	Options of partners improve carbon for phosphorus trade in the arbuscular mycorrhizal mutualism. Ecology Letters, 2016, 19, 648-656.	6.4	62
59	Specific and conserved patterns of microbiota-structuring by maize benzoxazinoids in the field. Microbiome, 2021, 9, 103.	11.1	57
60	Effect of nanoparticles on red clover and its symbiotic microorganisms. Journal of Nanobiotechnology, 2016, 14, 36.	9.1	55
61	Agricultural management and pesticide use reduce the functioning of beneficial plant symbionts. Nature Ecology and Evolution, 2022, 6, 1145-1154.	7.8	54
62	Assessing the environmental impacts of cropping systems and cover crops: Life cycle assessment of FAST, a long-term arable farming field experiment. Agricultural Systems, 2017, 157, 39-50.	6.1	52
63	Molecular dialogue between arbuscular mycorrhizal fungi and the nonhost plant <i>Arabidopsis thaliana</i> switches from initial detection to antagonism. New Phytologist, 2019, 223, 867-881.	7.3	49
64	Humidity and high temperature are important for predicting fungal disease outbreaks worldwide. New Phytologist, 2022, 234, 1553-1556.	7.3	49
65	Land-use intensification differentially affects bacterial, fungal and protist communities and decreases microbiome network complexity. Environmental Microbiomes, 2022, 17, 1.	5.0	48
66	Community Profiling of Fusarium in Combination with Other Plant-Associated Fungi in Different Crop Species Using SMRT Sequencing. Frontiers in Plant Science, 2017, 8, 2019.	3.6	46
67	Combined Field Inoculations of Pseudomonas Bacteria, Arbuscular Mycorrhizal Fungi, and Entomopathogenic Nematodes and their Effects on Wheat Performance. Frontiers in Plant Science, 2017, 8, 1809.	3.6	45
68	Intraspecific and intergenerational differences in plantâ€“soil feedbacks. Oikos, 2015, 124, 994-1004.	2.7	44
69	Improvement of soil structure through organic crop management, conservation tillage and grass-clover ley. Soil and Tillage Research, 2018, 180, 1-9.	5.6	44
70	Establishment success and crop growth effects of an arbuscular mycorrhizal fungus inoculated into Swiss corn fields. Agriculture, Ecosystems and Environment, 2019, 273, 13-24.	5.3	43
71	Microbiome-on-a-Chip: New Frontiers in Plantâ€“Microbiota Research. Trends in Microbiology, 2017, 25, 610-613.	7.7	42
72	Drought modulates interactions between arbuscular mycorrhizal fungal diversity and barley genotype diversity. Scientific Reports, 2019, 9, 9650.	3.3	42

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73	Plant endophytes and arbuscular mycorrhizal fungi alter plant competition. Functional Ecology, 2018, 32, 1168-1179.	3.6	41
74	Mycorrhizal fungi reduce the negative effects of nitrogen enrichment on plant community structure in dune grassland. Global Change Biology, 2008, 14, 2626-2635.	9.5	39
75	Complementarity in both plant and mycorrhizal fungal communities are not necessarily increased by diversity in the other. Journal of Ecology, 2015, 103, 1233-1244.	4.0	39
76	Linking microbial coâ€occurrences to soil ecological processes across a woodlandâ€grassland ecotone. Ecology and Evolution, 2018, 8, 8217-8230.	1.9	38
77	FORUM: Sustaining ecosystem functions in a changing world: a call for an integrated approach. Journal of Applied Ecology, 2013, 50, 1124-1130.	4.0	37
78	Petunia- and Arabidopsis-Specific Root Microbiota Responses to Phosphate Supplementation. Phytobiomes Journal, 2019, 3, 112-124.	2.7	37
79	Evolving insights to understanding mycorrhizas. New Phytologist, 2015, 205, 1369-1374.	7.3	31
80	Reply to â€˜Can we predict microbial keystones?â€™. Nature Reviews Microbiology, 2019, 17, 194-194.	28.6	29
81	Impact of land use type and organic farming on the abundance, diversity, community composition and functional properties of soil nematode communities in vegetable farming. Agriculture, Ecosystems and Environment, 2021, 318, 107488.	5.3	28
82	Ancient lineages of arbuscular mycorrhizal fungi provide little plant benefit. Mycorrhiza, 2021, 31, 559-576.	2.8	27
83	Lower relative abundance of ectomycorrhizal fungi under a warmer and drier climate is linked to enhanced soil organic matter decomposition. New Phytologist, 2021, 232, 1399-1413.	7.3	27
84	Impact of organic and conventional farming systems on wheat grain uptake and soil bioavailability of zinc and cadmium. Science of the Total Environment, 2018, 639, 608-616.	8.0	24
85	No evidence for allelopathic effects of arbuscular mycorrhizal fungi on the non-host plant Stellaria media. Plant and Soil, 2012, 360, 319-331.	3.7	23
86	Continuum of rootâ€“fungal symbioses for plant nutrition. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 11574-11576.	7.1	22
87	A coumarin exudation pathway mitigates arbuscular mycorrhizal incompatibility in Arabidopsis thaliana. Plant Molecular Biology, 2021, 106, 319-334.	3.9	22
88	Soil Communities Promote Temporal Stability and Species Asynchrony in Experimental Grassland Communities. PLoS ONE, 2016, 11, e0148015.	2.5	22
89	Sebacinales, but not total root associated fungal communities, are affected by landâ€use intensity. New Phytologist, 2014, 203, 1036-1040.	7.3	18
90	Relative qPCR to quantify colonization of plant roots by arbuscular mycorrhizal fungi. Mycorrhiza, 2021, 31, 137-148.	2.8	18

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91	Potential of indicators to unveil the hidden side of cropping system classification: Differences and similarities in cropping practices between conventional, no-till and organic systems. European Journal of Agronomy, 2019, 109, 125920.	4.1	17
92	Diversity of archaea and niche preferences among putative ammoniaâ€oxidizing Nitrososphaeria dominating across European arable soils. Environmental Microbiology, 2022, 24, 341-356.	3.8	15
93	Application of Mycorrhiza and Soil from a Permaculture System Improved Phosphorus Acquisition in Naranjilla. Frontiers in Plant Science, 2017, 8, 1263.	3.6	13
94	Underground networking. Science, 2016, 352, 290-291.	12.6	12
95	Reply to â€˜Misconceptions on the application of biological market theory to the mycorrhizal symbiosisâ€™. Nature Plants, 2016, 2, 16062.	9.3	11
96	Conservation tillage and organic farming induce minor variations in Pseudomonas abundance, their antimicrobial function and soil disease resistance. FEMS Microbiology Ecology, 2018, 94, .	2.7	10
97	Crop yield, weed cover and ecosystem multifunctionality are not affected by the duration of organic management. Agriculture, Ecosystems and Environment, 2019, 284, 106596.	5.3	8
98	Soil composition and plant genotype determine benzoxazinoidâ€mediated plantâ€“soil feedbacks in cereals. Plant, Cell and Environment, 2021, 44, 3732-3744.	5.7	8
99	Contrasting Responses of Arbuscular Mycorrhizal Fungal Families to Simulated Climate Warming and Drying in a Semiarid Shrubland. Microbial Ecology, 2022, 84, 941-944.	2.8	8
100	Pedoclimatic factors and management determine soil organic carbon and aggregation in farmer fields at a regional scale. Geoderma, 2022, 409, 115632.	5.1	8
101	Strategies for Environmentally Sound Soil Ecological Engineering: A Reply to Machado et al.. Trends in Ecology and Evolution, 2017, 32, 10-12.	8.7	6
102	Arbuscular mycorrhizal inoculation and plant response strongly shape bacterial and eukaryotic soil community trajectories. Soil Biology and Biochemistry, 2022, 165, 108524.	8.8	6
103	Severe drought rather than cropping system determines litter decomposition in arable systems. Agriculture, Ecosystems and Environment, 2022, 338, 108078.	5.3	1