Jeff R Powell

List of Publications by Year
in descending order

117 papers	7,145 citations	61984 43 h-index	64796 79 g-index
124 all docs	124 docs citations	124 times ranked	9463 citing authors

#	Article	IF	Citations
1	Invasive Plant Suppresses the Growth of Native Tree Seedlings by Disrupting Belowground Mutualisms. PLoS Biology, 2006, 4, e140.	5.6	621
2	Cycling of extracellular DNA in the soil environment. Soil Biology and Biochemistry, 2007, 39, 2977-2991.	8.8	382
3	Biodiversity of arbuscular mycorrhizal fungi and ecosystem function. New Phytologist, 2018, 220, 1059-1075.	7.3	288
4	From patterns to causal understanding: Structural equation modeling (SEM) in soil ecology. Pedobiologia, 2015, 58, 65-72.	1.2	287
5	Phylogenetic trait conservatism and the evolution of functional trade-offs in arbuscular mycorrhizal fungi. Proceedings of the Royal Society B: Biological Sciences, 2009, 276, 4237-4245.	2.6	283
6	Deterministic processes vary during community assembly for ecologically dissimilar taxa. Nature Communications, 2015, 6, 8444.	12.8	278
7	Plantâ€“microbe interactions: novel applications for exploitation in multipurpose remediation technologies. Trends in Biotechnology, 2012, 30, 416-420.	9.3	242
8	Plant pathogen protection by arbuscular mycorrhizas: A role for fungal diversity?. Pedobiologia, 2010, 53, 197-201.	1.2	228
9	The fate of carbon in a mature forest under carbon dioxide enrichment. Nature, 2020, 580, 227-231.	27.8	218
10	Interchange of entire communities: microbial community coalescence. Trends in Ecology and Evolution, 2015, 30, 470-476.	8.7	210
11	Introducing BASE: the Biomes of Australian Soil Environments soil microbial diversity database. GigaScience, 2016, 5, 21.	6.4	204
12	Elevated CO2 does not increase eucalypt forest productivity on a low-phosphorus soil. Nature Climate Change, 2017, 7, 279-282.	18.8	198
13	Abrupt rise in atmospheric CO2 overestimates community response in a model plantâ€“soil system. Nature, 2005, 433, 621-624.	27.8	171
14	Fungal functional ecology: bringing a traitâ€based approach to plantâ€associated fungi. Biological Reviews, 2020, 95, 409-433.	10.4	171
15	Ecological drivers of soil microbial diversity and soil biological networks in the Southern Hemisphere. Ecology, 2018, 99, 583-596.	3.2	152
16	Towards robust and repeatable sampling methods in <scp>eDNA</scp>â€based studies. Molecular Ecology Resources, 2018, 18, 940-952.	4.8	137
17	Branching out: Towards a trait-based understanding of fungal ecology. Fungal Biology Reviews, 2015, 29, 34-41.	4.7	118
18	Mycorrhizal responsiveness trends in annual crop plants and their wild relativesâ€"a meta-analysis on studies from 1981 to 2010. Plant and Soil, 2012, 355, 231-250.	3.7	116

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19	Circular linkages between soil biodiversity, fertility and plant productivity are limited to topsoil at the continental scale. New Phytologist, 2017, 215, 1186-1196.	7.3	103
20	Fine endophytes (<i>Glomus tenue</i>) are related to Mucoromycotina, not Glomeromycota. New Phytologist, 2017, 213, 481-486.	7.3	101
21	Deciphering the relative contributions of multiple functions within plantâ€"microbe symbioses. Ecology, 2010, 91, 1591-1597.	3.2	85
22	Evolutionary criteria outperform operational approaches in producing ecologically relevant fungal species inventories. Molecular Ecology, 2011, 20, 655-666.	3.9	76
23	AusTraits, a curated plant trait database for the Australian flora. Scientific Data, 2021, 8, 254.	5.3	73
24	Trade-Offs between Silicon and Phenolic Defenses may Explain Enhanced Performance of Root Herbivores on Phenolic-Rich Plants. Journal of Chemical Ecology, 2016, 42, 768-771.	1.8	71
25	Ecological understanding of root-infecting fungi using trait-based approaches. Trends in Plant Science, 2014, 19, 432-438.	8.8	68
26	High habitat-specificity in fungal communities in oligo-mesotrophic, temperate Lake Stechlin (North-East Germany). MycoKeys, 0, 16, 17-44.	1.9	68
27	Compositional divergence and convergence in arbuscular mycorrhizal fungal communities. Ecology, 2012, 93, 1115-1124.	3.2	65
28	Priorities for research in soil ecology. Pedobiologia, 2017, 63, 1-7.	1.2	64
29	Distinguishing Defensive Characteristics in the Phloem of Ash Species Resistant and Susceptible to Emerald Ash Borer. Journal of Chemical Ecology, 2011, 37, 450-459.	1.8	62
30	Accounting for uncertainty in species delineation during the analysis of environmental DNA sequence data. Methods in Ecology and Evolution, 2012, 3, 1-11.	5.2	62
31	Determinants of rootâ€associated fungal communities within <scp>A</scp>steraceae in a semiâ€arid grassland. Journal of Ecology, 2014, 102, 425-436.	4.0	62
32	Microbial functional diversity enhances predictive models linking environmental parameters to ecosystem properties. Ecology, 2015, 96, 1985-1993.	3.2	61
33	The role of stochasticity differs in the assembly of soil- and root-associated fungal communities. Soil Biology and Biochemistry, 2015, 80, 18-25.	8.8	61
34	Soil microbes and community coalescence. Pedobiologia, 2016, 59, 37-40.	1.2	61
35	Experimentally altered rainfall regimes and host root traits affect grassland arbuscular mycorrhizal fungal communities. Molecular Ecology, 2018, 27, 2152-2163.	3.9	58
36	Mycorrhizal fungi enhance nutrient uptake but disarm defences in plant roots, promoting plant-parasitic nematode populations. Soil Biology and Biochemistry, 2018, 126, 123-132.	8.8	58

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37	How novel are the chemical weapons of garlic mustard in North American forest understories?. Biological Invasions, 2010, 12, 3465-3471.	2.4	57
38	Unpredictable assembly of arbuscular mycorrhizal fungal communities. Pedobiologia, 2016, 59, 11-15.	1.2	57
39	Impact of forest management practices on soil bacterial diversity and consequences for soil processes. Soil Biology and Biochemistry, 2016, 94, 200-210.	8.8	56
40	Separating the effect of crop from herbicide on soil microbial communities in glyphosate-resistant corn. Pedobiologia, 2009, 52, 253-262.	1.2	53
41	Effects of genetically modified, herbicideâ€tolerant crops and their management on soil food web properties and crop litter decomposition. Journal of Applied Ecology, 2009, 46, 388-396.	4.0	53
42	Environmental and Geographical Factors Structure Soil Microbial Diversity in New Caledonian Ultramafic Substrates: A Metagenomic Approach. PLoS ONE, 2016, 11, e0167405.	2.5	49
43	Response of belowground communities to short-term phosphorus addition inÂa phosphorus-limited woodland. Plant and Soil, 2015, 391, 321-331.	3.7	47
44	Host plant colonisation by arbuscular mycorrhizal fungi stimulates immune function whereas high root silicon concentrations diminish growth in a soil-dwelling herbivore. Soil Biology and Biochemistry, 2017, 112, 117-126.	8.8	47
45	Mycorrhizal and Rhizobial Colonization of Genetically Modified and Conventional Soybeans. Applied and Environmental Microbiology, 2007, 73, 4365-4367.	3.1	46
46	Effect of glyphosate on the tripartite symbiosis formed by Glomus intraradices, Bradyrhizobium japonicum, and genetically modified soybean. Applied Soil Ecology, 2009, 41, 128-136.	4.3	44
47	Arbuscular mycorrhizal fungi promote silicon accumulation in plant roots, reducing the impacts of root herbivory. Plant and Soil, 2017, 419, 423-433.	3.7	43
48	Bridging reproductive and microbial ecology: a case study in arbuscular mycorrhizal fungi. ISME Journal, 2019, 13, 873-884.	9.8	43
49	An insect ecosystem engineer alleviates drought stress in plants without increasing plant susceptibility to an aboveâ€ground herbivore. Functional Ecology, 2016, 30, 894-902.	3.6	39
50	Dryland forest management alters fungal community composition and decouples assembly of root- and soil-associated fungal communities. Soil Biology and Biochemistry, 2017, 109, 14-22.	8.8	39
51	Variations in nitrogen use efficiency reflect the biochemical subtype while variations in water use efficiency reflect the evolutionary lineage of C₄ grasses at interâ€glacial CO₂. Plant, Cell and Environment, 2016, 39, 514-526.	5.7	36
52	Quantitation of Transgenic Plant DNA in Leachate Water:Â Real-Time Polymerase Chain Reaction Analysis. Journal of Agricultural and Food Chemistry, 2005, 53, 5858-5865.	5.2	35
53	Indigenous Arbuscular Mycorrhizal Fungal Assemblages Protect Grassland Host Plants from Pathogens. PLoS ONE, 2011, 6, e27381.	2.5	35
54	The effect of environmental and phylogenetic drivers on community assembly in an alpine meadow community. Ecology, 2012, 93, 2321-2328.	3.2	34

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55	Is it time to include legumes in plant silicon research?. Functional Ecology, 2020, 34, 1142-1157.	3.6	34
56	Temporal dynamics of mycorrhizal fungal communities and coâ€associations with grassland plant communities following experimental manipulation of rainfall. Journal of Ecology, 2020, 108, 515-527.	4.0	32
57	Resource allocation to growth or luxury consumption drives mycorrhizal responses. Ecology Letters, 2019, 22, 1757-1766.	6.4	29
58	A critique of studies evaluating glyphosate effects on diseases associated withâ€,<i>Fusarium</i>â€,spp.. Weed Research, 2008, 48, 307-318.	1.7	27
59	Potentials and pitfalls in the analysis of bipartite networks to understand plantâ€"microbe interactions in changing environments. Functional Ecology, 2019, 33, 107-117.	3.6	24
60	Increases in aridity lead to drastic shifts in the assembly of dryland complex microbial networks. Land Degradation and Development, 2020, 31, 346-355.	3.9	23
61	Biogeography of arbuscular mycorrhizal fungal spore traits along an aridity gradient, and responses to experimental rainfall manipulation. Fungal Ecology, 2020, 46, 100899.	1.6	23
62	Detection of transgenic cp4 epsps genes in the soil food web. Agronomy for Sustainable Development, 2009, 29, 497-501.	5.3	22
63	Soil physico-chemical properties are critical for predicting carbon storage and nutrient availability across Australia. Environmental Research Letters, 2020, 15, 094088.	5.2	22
64	Improved <scp><i>Phytophthora</i></scp> resistance in commercial chickpea (<scp><i>Cicer) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 38 some varieties. Plant, Cell and Environment, 2016, 39, 1858-1869.	5.7	20
65	Plant trait effects on soil organisms and functions. Pedobiologia, 2017, 65, 1-4.	1.2	20
66	Assembly processes lead to divergent soil fungal communities within and among 12 forest ecosystems along a latitudinal gradient. New Phytologist, 2021, 231, 1183-1194.	7.3	20
67	Aboveground resource allocation in response to root herbivory as affected by the arbuscular mycorrhizal symbiosis. Plant and Soil, 2020, 447, 463-473.	3.7	19
68	Linking Soil Organisms Within Food Webs to Ecosystem Functioning and Environmental Change. Advances in Agronomy, 2007, , 307-350.	5.2	18
69	Good neighbors aplenty: fungal endophytes rarely exhibit competitive exclusion patterns across a span of woody habitats. Ecology, 2019, 100, e02790.	3.2	18
70	Recent trends and future strategies in soil ecological researchâ€"Integrative approaches at Pedobiologia. Pedobiologia, 2014, 57, 1-3.	1.2	17
71	A new tool of the trade: plant-trait based approaches in microbial ecology. Plant and Soil, 2013, 365, 35-40.	3.7	16
72	Endophyte community composition is associated with dieback occurrence in an invasive tree. Plant and Soil, 2016, 405, 311-323.	3.7	16

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73	Interguild antagonism between biological controls: impact of entomopathogenic nematode application on an aphid predator, Aphidoletes aphidimyza (Diptera: Cecidomyiidae). Biological Control, 2004, 30, 110-118.	3.0	15
74	The Leinster and Cobbold indices improve inferences about microbial diversity. Fungal Ecology, 2014, 11, 1-7.	1.6	15
75	Climate warming negates arbuscular mycorrhizal fungal reductions in soil phosphorus leaching with tall fescue but not lucerne. Soil Biology and Biochemistry, 2021, 152, 108075.	8.8	15
76	Comparative Herbivory Rates and Secondary Metabolite Profiles in the Leaves of Native and Non-Native Lonicera Species. Journal of Chemical Ecology, 2015, 41, 1069-1079.	1.8	14
77	Triggering dieback in an invasive plant: endophyte diversity and pathogenicity. Australasian Plant Pathology, 2017, 46, 157-170.	1.0	14
78	Compositional Divergence and Convergence in Local Communities and Spatially Structured Landscapes. PLoS ONE, 2012, 7, e35942.	2.5	14
79	Real-Time Polymerase Chain Reaction Monitoring of Recombinant DNA Entry into Soil from Decomposing Roundup Ready Leaf Biomass. Journal of Agricultural and Food Chemistry, 2008, 56, 6339-6347.	5.2	13
80	Root type is not an important driver of mycorrhizal colonisation in Brachypodium distachyon. Pedobiologia, 2017, 65, 5-15.	1.2	13
81	Myristate and the ecology of AM fungi: significance, opportunities, applications and challenges. New Phytologist, 2020, 227, 1610-1614.	7.3	13
82	Intraspecific competition between ectomycorrhizal<i>Pisolithus microcarpus</i>isolates impacts plant and fungal performance under elevated CO₂and temperature. FEMS Microbiology Ecology, 2016, 92, fiw113.	2.7	12
83	Distributional shifts in ectomycorrizhal fungal communities lag behind climate-driven tree upward migration in a conifer forest-high elevation shrubland ecotone. Soil Biology and Biochemistry, 2019, 137, 107545.	8.8	12
84	Conservation by translocation: establishment of Wollemi pine and associated microbial communities in novel environments. Plant and Soil, 2017, 411, 209-225.	3.7	11
85	Silicon enrichment alters functional traits in legumes depending on plant genotype and symbiosis with nitrogenâ€fixing bacteria. Functional Ecology, 2021, 35, 2856-2869.	3.6	11
86	Quantification and Persistence of Recombinant DNA of Roundup Ready Corn and Soybean in Rotation. Journal of Agricultural and Food Chemistry, 2007, 55, 10226-10231.	5.2	10
87	Tree diversity modifies distanceâ€dependent effects on seedling emergence but not plantâ€“soil feedbacks of temperate trees. Ecology, 2015, 96, 1529-1539.	3.2	10
88	Soil microbial communities influence seedling growth of a rare conifer independent of plantâ€“soil feedback. Ecology, 2016, 97, 3346-3358.	3.2	10
89	Variation in soil microbial communities associated with critically endangered Wollemi pine affects fungal, but not bacterial, assembly within seedling roots. Pedobiologia, 2016, 59, 61-71.	1.2	10
90	Delving into the dark ecology: A continent-wide assessment of patterns of composition in soil fungal communities from Australian tussock grasslands. Fungal Ecology, 2019, 39, 356-370.	1.6	8

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91	Finding fungal ecological strategies: Is recycling an option?. Fungal Ecology, 2020, 46, 100902.	1.6	8
92	Metabarcoding mites: Three years of elevated CO2 has no effect on oribatid assemblages in a Eucalyptus woodland. Pedobiologia, 2020, 81-82, 150667.	1.2	8
93	THE ECOLOGY OF PLANTâ€"MICROBIAL MUTUALISMS. , 2007, , 257-281.		7
94	An empirical approach to target DNA quantification in environmental samples using real-time polymerase chain reactions. Soil Biology and Biochemistry, 2007, 39, 1956-1967.	8.8	7
95	Factors Affecting the Presence and Persistence of Plant DNA in the Soil Environment in Corn and Soybean Rotations. Weed Science, 2008, 56, 767-774.	1.5	7
96	Method or madness: does <scp>OTU</scp> delineation bias our perceptions of fungal ecology?. New Phytologist, 2014, 202, 1095-1097.	7.3	7
97	Relationships between mycorrhizal type and leaf flammability in the Australian flora. Pedobiologia, 2017, 65, 43-49.	1.2	7
98	The mycobiome of Australian tree hollows in relation to theCryptococcus gattiiandC.Âneoformansspecies complexes. Ecology and Evolution, 2019, 9, 9684-9700.	1.9	7
99	When to cut your losses: Dispersal allocation in an asexual filamentous fungus in response to competition. Ecology and Evolution, 2019, 9, 4129-4137.	1.9	7
100	Interactions between silicon and alkaloid defences in endophyteâ€infected grasses and the consequences for a folivore. Functional Ecology, 2022, 36, 249-261.	3.6	7
101	Benefits of silicon-enhanced root nodulation in a model legume are contingent upon rhizobial efficacy. Plant and Soil, 2022, 477, 201-217.	3.7	7
102	Impacts of elevated carbon dioxide on carbon gains and losses from soil and associated microbes in a Eucalyptus woodland. Soil Biology and Biochemistry, 2020, 143, 107734.	8.8	6
103	The influence of roots on mycorrhizal fungi, saprotrophic microbes and carbon dynamics in a lowâ€phosphorus Eucalyptus forest under elevated CO 2. Functional Ecology, 2021, 35, 2056-2071.	3.6	6
104	Species but not genotype diversity strongly impacts the establishment of rare colonisers. Functional Ecology, 2017, 31, 1462-1470.	3.6	5
105	Reciprocal Effects of Silicon Supply and Endophytes on Silicon Accumulation and EpichloÃ« Colonization in Grasses. Frontiers in Plant Science, 2020, 11, 593198.	3.6	5
106	A soil fungal metacommunity perspective reveals stronger and more localised interactions above the tree line of an alpine/subalpine ecotone. Soil Biology and Biochemistry, 2019, 135, 1-9.	8.8	4
107	Ecological stoichiometry and fungal community turnover reveal variation among mycorrhizal partners in their responses to warming and drought. Molecular Ecology, 2023, 32, 229-243.	3.9	4
108	Silicon accumulation suppresses arbuscular mycorrhizal fungal colonisation in the model grass Brachypodium distachyon. Plant and Soil, 2022, 477, 219-232.	3.7	4

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109	Roundup ReadyÃ‚Â®soybean gene concentrations in field soil aggregate size classes. FEMS Microbiology Letters, 2009, 291, 175-179.	1.8	3
110	First report of oomycetes associated with the invasive tree Parkinsonia aculeata (Family: Fabaceae). Australasian Plant Pathology, 2017, 46, 313-321.	1.0	3
111	A review of peer-review for Pedobiologia â€“ Journal of Soil Ecology. Pedobiologia, 2019, 77, 150588.	1.2	3
112	Environmental cues for dispersal in a filamentous fungus in simulated islands. Oikos, 2020, 129, 1084-1092.	2.7	2
113	Advances in understanding arbuscular mycorrhizal fungal effects on soil nutrient cycling. Burleigh Dodds Series in Agricultural Science, 2021, , 195-212.	0.2	2
114	Extraction and Purification of DNA from Wood at Various Stages of Decay for Metabarcoding of Wood-Associated Fungi. Methods in Molecular Biology, 2021, 2232, 113-122.	0.9	2
115	Initial wood trait variation overwhelms endophyte community effects for explaining decay trajectories. Functional Ecology, 2022, 36, 1243-1257.	3.6	2
116	Arbuscular mycorrhizal fungal-mediated reductions in N2O emissions were not impacted by experimental warming for two common pasture species. Pedobiologia, 2021, 87-88, 150744.	1.2	1
117	Resolution of respect for Ekkehard von TÃ¶rne (1925â€“2017). Pedobiologia, 2017, 64, 40-41.	1.2	0