

Steven D Allison

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

123 papers	18,640 citations	60 h-index	136 g-index
137 ext. papers	23,021 ext. citations	7.9 avg, IF	7.13 L-index

#	Paper	IF	Citations
123	Exploring Trait Trade-Offs for Fungal Decomposers in a Southern California Grassland. <i>Frontiers in Microbiology</i> , 2021 , 12, 655987	5.7	1
122	Drought legacies mediated by trait trade-offs in soil microbiomes. <i>Ecosphere</i> , 2021 , 12, e03562	3.1	5
121	Carbon flux and forest dynamics: Increased deadwood decomposition in tropical rainforest tree-fall canopy gaps. <i>Global Change Biology</i> , 2021 , 27, 1601-1613	11.4	8
120	Microbial community response to a decade of simulated global changes depends on the plant community. <i>Elementa</i> , 2021 , 9,	3.6	2
119	Phenotypic plasticity of fungal traits in response to moisture and temperature. <i>ISME Communications</i> , 2021 , 1,		1
118	The age distribution of global soil carbon inferred from radiocarbon measurements. <i>Nature Geoscience</i> , 2020 , 13, 555-559	18.3	47
117	Embracing a new paradigm for temperature sensitivity of soil microbes. <i>Global Change Biology</i> , 2020 , 26, 3221-3229	11.4	22
116	A Bayesian approach to evaluation of soil biogeochemical models. <i>Biogeosciences</i> , 2020 , 17, 4043-4057	4.6	1
115	Drought and plant litter chemistry alter microbial gene expression and metabolite production. <i>ISME Journal</i> , 2020 , 14, 2236-2247	11.9	26
114	Carbon budgets for soil and plants respond to long-term warming in an Alaskan boreal forest. <i>Biogeochemistry</i> , 2020 , 150, 345-353	3.8	0
113	Defining trait-based microbial strategies with consequences for soil carbon cycling under climate change. <i>ISME Journal</i> , 2020 , 14, 1-9	11.9	169
112	Soil microbial communities with greater investment in resource acquisition have lower growth yield. <i>Soil Biology and Biochemistry</i> , 2019 , 132, 36-39	7.5	41
111	Traits track taxonomy. <i>Nature Ecology and Evolution</i> , 2019 , 3, 1001-1002	12.3	
110	Emergent properties of organic matter decomposition by soil enzymes. <i>Soil Biology and Biochemistry</i> , 2019 , 136, 107522	7.5	15
109	Phylogenetic conservation of bacterial responses to soil nitrogen addition across continents. <i>Nature Communications</i> , 2019 , 10, 2499	17.4	20
108	Building bottom-up aggregate-based models (ABMs) in soil systems with a view of aggregates as biogeochemical reactors. <i>Global Change Biology</i> , 2019 , 25, e6-e8	11.4	5
107	Carbon Cycle Implications of Soil Microbial Interactions. <i>Advances in Environmental Microbiology</i> , 2019 , 1-29	1.3	

106	Bacterial Tradeoffs in Growth Rate and Extracellular Enzymes. <i>Frontiers in Microbiology</i> , 2019 , 10, 2956	5.7	25
105	Soil aggregates as biogeochemical reactors and implications for soil-atmosphere exchange of greenhouse gases-A concept. <i>Global Change Biology</i> , 2019 , 25, 373-385	11.4	51
104	Reduced carbon use efficiency and increased microbial turnover with soil warming. <i>Global Change Biology</i> , 2019 , 25, 900-910	11.4	36
103	Greenhouse gas fluxes under drought and nitrogen addition in a Southern California grassland. <i>Soil Biology and Biochemistry</i> , 2019 , 131, 19-27	7.5	18
102	Crowther et al. reply. <i>Nature</i> , 2018 , 554, E7-E8	50.4	11
101	Microbial decomposers not constrained by climate history along a Mediterranean climate gradient in southern California. <i>Ecology</i> , 2018 , 99, 1441-1452	4.6	9
100	Temperature sensitivities of extracellular enzyme V and K across thermal environments. <i>Global Change Biology</i> , 2018 , 24, 2884-2897	11.4	36
99	Temperature acclimation and adaptation of enzyme physiology in <i>Neurospora discreta</i> . <i>Fungal Ecology</i> , 2018 , 35, 78-86	4.1	7
98	The effects of increased snow depth on plant and microbial biomass and community composition along a precipitation gradient in temperate steppes. <i>Soil Biology and Biochemistry</i> , 2018 , 124, 134-141	7.5	10
97	Drought increases the frequencies of fungal functional genes related to carbon and nitrogen acquisition. <i>PLoS ONE</i> , 2018 , 13, e0206441	3.7	12
96	Decomposition responses to climate depend on microbial community composition. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 11994-11999	11.5	103
95	Growth response of environmental bacteria under exposure to nitramines from CO ₂ -capture. <i>International Journal of Greenhouse Gas Control</i> , 2018 , 79, 248-251	4.2	
94	Emergence of soil bacterial ecotypes along a climate gradient. <i>Environmental Microbiology</i> , 2018 , 20, 4112-4126	5.2	19
93	Evaluating soil microbial carbon use efficiency explicitly as a function of cellular processes: implications for measurements and models. <i>Biogeochemistry</i> , 2018 , 140, 269-283	3.8	34
92	Nitrogen enrichment shifts functional genes related to nitrogen and carbon acquisition in the fungal community. <i>Soil Biology and Biochemistry</i> , 2018 , 123, 87-96	7.5	6
91	Consequences of drought tolerance traits for microbial decomposition in the DEMENT model. <i>Soil Biology and Biochemistry</i> , 2017 , 107, 104-113	7.5	40
90	Building Predictive Models for Diverse Microbial Communities in Soil 2017 , 141-166		8
89	Soil microbes and their response to experimental warming over time: A meta-analysis of field studies. <i>Soil Biology and Biochemistry</i> , 2017 , 107, 32-40	7.5	123

88	Extracellular enzyme kinetics and thermodynamics along a climate gradient in southern California. <i>Soil Biology and Biochemistry</i> , 2017 , 114, 82-92	7.5	25
87	Effects of Drought Manipulation on Soil Nitrogen Cycling: A Meta-Analysis. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2017 , 122, 3260-3272	3.7	61
86	Microbial legacies alter decomposition in response to simulated global change. <i>ISME Journal</i> , 2017 , 11, 490-499	11.9	73
85	Effects of dispersal and selection on stochastic assembly in microbial communities. <i>ISME Journal</i> , 2017 , 11, 176-185	11.9	128
84	Phylogenetic conservation of substrate use specialization in leaf litter bacteria. <i>PLoS ONE</i> , 2017 , 12, e0174472	3.7	7
83	Decomposition of recalcitrant carbon under experimental warming in boreal forest. <i>PLoS ONE</i> , 2017 , 12, e0179674	3.7	21
82	Temperature response of soil respiration largely unaltered with experimental warming. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 13797-13802	11.5	206
81	Precipitation regime drives warming responses of microbial biomass and activity in temperate steppe soils. <i>Biology and Fertility of Soils</i> , 2016 , 52, 469-477	6.1	18
80	Toward more realistic projections of soil carbon dynamics by Earth system models. <i>Global Biogeochemical Cycles</i> , 2016 , 30, 40-56	5.9	251
79	Microbial response to simulated global change is phylogenetically conserved and linked with functional potential. <i>ISME Journal</i> , 2016 , 10, 109-18	11.9	80
78	Agroforestry Practices Promote Biodiversity and Natural Resource Diversity in Atlantic Nicaragua. <i>PLoS ONE</i> , 2016 , 11, e0162529	3.7	31
77	Interactive effects of precipitation manipulation and nitrogen addition on soil properties in California grassland and shrubland. <i>Applied Soil Ecology</i> , 2016 , 107, 144-153	5	21
76	Quantifying global soil carbon losses in response to warming. <i>Nature</i> , 2016 , 540, 104-108	50.4	560
75	Challenges in microbial ecology: building predictive understanding of community function and dynamics. <i>ISME Journal</i> , 2016 , 10, 2557-2568	11.9	380
74	Modeling Soil Processes: Review, Key Challenges, and New Perspectives. <i>Vadose Zone Journal</i> , 2016 , 15, vzj2015.09.0131	2.7	311
73	Radiocarbon constraints imply reduced carbon uptake by soils during the 21st century. <i>Science</i> , 2016 , 353, 1419-1424	33.3	119
72	Drying and substrate concentrations interact to inhibit decomposition of carbon substrates added to combusted Inceptisols from a boreal forest. <i>Biology and Fertility of Soils</i> , 2015 , 51, 525-533	6.1	6
71	Temporal variation overshadows the response of leaf litter microbial communities to simulated global change. <i>ISME Journal</i> , 2015 , 9, 2477-89	11.9	59

70	Explicitly representing soil microbial processes in Earth system models. <i>Global Biogeochemical Cycles</i> , 2015 , 29, 1782-1800	5.9	197
69	Resource allocation by the marine cyanobacterium <i>Synechococcus</i> WH8102 in response to different nutrient supply ratios. <i>Limnology and Oceanography</i> , 2015 , 60, 1634-1641	4.8	15
68	Ultraviolet photodegradation facilitates microbial litter decomposition in a Mediterranean climate. <i>Ecology</i> , 2015 , 96, 1994-2003	4.6	72
67	Quantum Dots Reveal Shifts in Organic Nitrogen Uptake by Fungi Exposed to Long-Term Nitrogen Enrichment. <i>PLoS ONE</i> , 2015 , 10, e0138158	3.7	6
66	Substrate concentration constraints on microbial decomposition. <i>Soil Biology and Biochemistry</i> , 2014 , 79, 43-49	7.5	52
65	Accelerated microbial turnover but constant growth efficiency with warming in soil. <i>Nature Climate Change</i> , 2014 , 4, 903-906	21.4	192
64	Elemental stoichiometry of Fungi and Bacteria strains from grassland leaf litter. <i>Soil Biology and Biochemistry</i> , 2014 , 76, 278-285	7.5	99
63	Phosphate supply explains variation in nucleic acid allocation but not C : P stoichiometry in the western North Atlantic. <i>Biogeosciences</i> , 2014 , 11, 1599-1611	4.6	13
62	Extracellular enzyme production and cheating in <i>Pseudomonas fluorescens</i> depend on diffusion rates. <i>Frontiers in Microbiology</i> , 2014 , 5, 169	5.7	24
61	Changes in soil organic carbon storage predicted by Earth system models during the 21st century. <i>Biogeosciences</i> , 2014 , 11, 2341-2356	4.6	201
60	Cellulolytic potential under environmental changes in microbial communities from grassland litter. <i>Frontiers in Microbiology</i> , 2014 , 5, 639	5.7	48
59	Modeling adaptation of carbon use efficiency in microbial communities. <i>Frontiers in Microbiology</i> , 2014 , 5, 571	5.7	77
58	Phylogenetic constraints on elemental stoichiometry and resource allocation in heterotrophic marine bacteria. <i>Environmental Microbiology</i> , 2014 , 16, 1398-410	5.2	50
57	Soil carbon sensitivity to temperature and carbon use efficiency compared across microbial-ecosystem models of varying complexity. <i>Biogeochemistry</i> , 2014 , 119, 67-84	3.8	73
56	Global soil carbon projections are improved by modelling microbial processes. <i>Nature Climate Change</i> , 2013 , 3, 909-912	21.4	580
55	Microbial abundance and composition influence litter decomposition response to environmental change. <i>Ecology</i> , 2013 , 94, 714-25	4.6	251
54	Measuring phenol oxidase and peroxidase activities with pyrogallol, l-DOPA, and ABTS: Effect of assay conditions and soil type. <i>Soil Biology and Biochemistry</i> , 2013 , 67, 183-191	7.5	115
53	Microdiversity of extracellular enzyme genes among sequenced prokaryotic genomes. <i>ISME Journal</i> , 2013 , 7, 1187-99	11.9	135

52	Microbial enzymatic responses to drought and to nitrogen addition in a southern California grassland. <i>Soil Biology and Biochemistry</i> , 2013 , 64, 68-79	7.5	133
51	Environmental impacts on the diversity of methane-cycling microbes and their resultant function. <i>Frontiers in Microbiology</i> , 2013 , 4, 225	5.7	55
50	A model for variable phytoplankton stoichiometry based on cell protein regulation. <i>Biogeosciences</i> , 2013 , 10, 4341-4356	4.6	30
49	Ectomycorrhizal-dominated boreal and tropical forests have distinct fungal communities, but analogous spatial patterns across soil horizons. <i>PLoS ONE</i> , 2013 , 8, e68278	3.7	53
48	Causes of variation in soil carbon simulations from CMIP5 Earth system models and comparison with observations. <i>Biogeosciences</i> , 2013 , 10, 1717-1736	4.6	474
47	Response to Steen and Ziervogel's comment on Optimization of hydrolytic and oxidative enzyme methods to ecosystem studies[Soil Biology & Biochemistry 43: 1387-1397]. <i>Soil Biology and Biochemistry</i> , 2012 , 48, 198-199	7.5	2
46	A trait-based approach for modelling microbial litter decomposition. <i>Ecology Letters</i> , 2012 , 15, 1058-70	10	250
45	The Michaelis-Menten kinetics of soil extracellular enzymes in response to temperature: a cross-latitudinal study. <i>Global Change Biology</i> , 2012 , 18, 1468-1479	11.4	232
44	Meta-analysis of environmental impacts on nitrous oxide release in response to N amendment. <i>Frontiers in Microbiology</i> , 2012 , 3, 272	5.7	23
43	Cooperation, competition, and coalitions in enzyme-producing microbes: social evolution and nutrient depolymerization rates. <i>Frontiers in Microbiology</i> , 2012 , 3, 338	5.7	46
42	A framework for representing microbial decomposition in coupled climate models. <i>Biogeochemistry</i> , 2012 , 109, 19-33	3.8	149
41	Temperature sensitivity of soil enzyme kinetics under N-fertilization in two temperate forests. <i>Global Change Biology</i> , 2012 , 18, 1173-1184	11.4	174
40	Fine-scale temporal variation in marine extracellular enzymes of coastal southern california. <i>Frontiers in Microbiology</i> , 2012 , 3, 301	5.7	32
39	Fundamentals of microbial community resistance and resilience. <i>Frontiers in Microbiology</i> , 2012 , 3, 417	5.7	759
38	Climate change feedbacks to microbial decomposition in boreal soils. <i>Fungal Ecology</i> , 2011 , 4, 362-374	4.1	65
37	Substrate concentration and enzyme allocation can affect rates of microbial decomposition. <i>Ecology</i> , 2011 , 92, 1471-80	4.6	96
36	Optimization of hydrolytic and oxidative enzyme methods for ecosystem studies. <i>Soil Biology and Biochemistry</i> , 2011 , 43, 1387-1397	7.5	505
35	Drivers of bacterial beta-diversity depend on spatial scale. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 7850-4	11.5	491

34	Soil-carbon response to warming dependent on microbial physiology. <i>Nature Geoscience</i> , 2010 , 3, 336-340.3	880
33	Functional diversity in resource use by fungi. <i>Ecology</i> , 2010 , 91, 2324-32	4.6 101
32	Controls on the Temperature Sensitivity of Soil Enzymes: A Key Driver of In Situ Enzyme Activity Rates. <i>Soil Biology</i> , 2010 , 245-258	1 38
31	Nitrogen alters carbon dynamics during early succession in boreal forest. <i>Soil Biology and Biochemistry</i> , 2010 , 42, 1157-1164	7.5 69
30	Resistance of microbial and soil properties to warming treatment seven years after boreal fire. <i>Soil Biology and Biochemistry</i> , 2010 , 42, 1872-1878	7.5 63
29	Functional diversity in resource use by fungi 2010 , 91, 2324	1
28	Evolutionary-Economic Principles as Regulators of Soil Enzyme Production and Ecosystem Function. <i>Soil Biology</i> , 2010 , 229-243	1 66
27	Low levels of nitrogen addition stimulate decomposition by boreal forest fungi. <i>Soil Biology and Biochemistry</i> , 2009 , 41, 293-302	7.5 150
26	Plant traits and wood fates across the globe: rotted, burned, or consumed?. <i>Global Change Biology</i> , 2009 , 15, 2431-2449	11.4 244
25	Decreased mass specific respiration under experimental warming is robust to the microbial biomass method employed. <i>Ecology Letters</i> , 2009 , 12, E15-E18	10 18
24	Plant species traits are the predominant control on litter decomposition rates within biomes worldwide. <i>Ecology Letters</i> , 2008 , 11, 1065-71	10 1605
23	Stoichiometry of soil enzyme activity at global scale. <i>Ecology Letters</i> , 2008 , 11, 1252-1264	10 1158
22	Decomposers in disguise: mycorrhizal fungi as regulators of soil C dynamics in ecosystems under global change. <i>Functional Ecology</i> , 2008 , 22, 955-963	5.6 366
21	Microbial activity and soil respiration under nitrogen addition in Alaskan boreal forest. <i>Global Change Biology</i> , 2008 , 14, 1156-1168	11.4 260
20	Warming and drying suppress microbial activity and carbon cycling in boreal forest soils. <i>Global Change Biology</i> , 2008 , 14, 2898-2909	11.4 382
19	Uptake of an amino acid by ectomycorrhizal fungi in a boreal forest. <i>Soil Biology and Biochemistry</i> , 2008 , 40, 1964-1966	7.5 10
18	Colloquium paper: resistance, resilience, and redundancy in microbial communities. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008 , 105 Suppl 1, 11512-9	11.5 1594
17	Fungal Taxa Target Different Carbon Sources in Forest Soil. <i>Ecosystems</i> , 2008 , 11, 1157-1167	3.9 141

16	Nitrogen fertilization reduces diversity and alters community structure of active fungi in boreal ecosystems. <i>Soil Biology and Biochemistry</i> , 2007 , 39, 1878-1887	7.5	199
15	Elevated enzyme activities in soils under the invasive nitrogen-fixing tree <i>Falcataria moluccana</i> . <i>Soil Biology and Biochemistry</i> , 2006 , 38, 1537-1544	7.5	92
14	Activities of extracellular enzymes in physically isolated fractions of restored grassland soils. <i>Soil Biology and Biochemistry</i> , 2006 , 38, 3245-3256	7.5	268
13	Brown ground: a soil carbon analogue for the green world hypothesis?. <i>American Naturalist</i> , 2006 , 167, 619-27	3.7	80
12	Soil minerals and humic acids alter enzyme stability: implications for ecosystem processes. <i>Biogeochemistry</i> , 2006 , 81, 361-373	3.8	201
11	Cheaters, diffusion and nutrients constrain decomposition by microbial enzymes in spatially structured environments. <i>Ecology Letters</i> , 2005 , 8, 626-635	10	345
10	Responses of extracellular enzymes to simple and complex nutrient inputs. <i>Soil Biology and Biochemistry</i> , 2005 , 37, 937-944	7.5	651
9	Biochemical responses of chestnut oak to a galling cynipid. <i>Journal of Chemical Ecology</i> , 2005 , 31, 151-66	7	72
8	Extracellular Enzyme Activities and Carbon Chemistry as Drivers of Tropical Plant Litter Decomposition. <i>Biotropica</i> , 2004 , 36, 285-296	2.3	99
7	Physical Damage in Relation to Carbon Allocation Strategies of Tropical Forest Tree Saplings. <i>Biotropica</i> , 2004 , 36, 410-413	2.3	2
6	Differential activity of peroxidase isozymes in response to wounding, gypsy moth, and plant hormones in northern red oak (<i>Quercus rubra</i> L.). <i>Journal of Chemical Ecology</i> , 2004 , 30, 1363-79	2.7	52
5	Rapid nutrient cycling in leaf litter from invasive plants in Hawai'i. <i>Oecologia</i> , 2004 , 141, 612-9	2.9	267
4	Erosion and the Rejuvenation of Weathering-derived Nutrient Supply in an Old Tropical Landscape. <i>Ecosystems</i> , 2003 , 6, 762-772	3.9	105
3	Defining trait-based microbial strategies with consequences for soil carbon cycling under climate change		6
2	Physiological adaptations of leaf litter microbial communities to long-term drought		3
1	Microbes, memory and moisture: Predicting microbial moisture responses and their impact on carbon cycling. <i>Functional Ecology</i> ,	5.6	2