Serita D. Frey

List of Publications by Year
in descending order

120 papers	19,224 citations	29994 54 h-index	20307 116 g-index
127 all docs	127 docs citations	127 times ranked	15123 citing authors

#	Article	IF	Citations
1	Stoichiometry of soil enzyme activity at global scale. Ecology Letters, 2008, 11, 1252-1264.	3.0	1,684
2	Bacterial and Fungal Contributions to Carbon Sequestration in Agroecosystems. Soil Science Society of America Journal, 2006, 70, 555-569.	1.2	1,541
3	Temperature and soil organic matter decomposition rates - synthesis of current knowledge and a way forward. Global Change Biology, 2011, 17, 3392-3404.	4.2	1,143
4	Direct evidence for microbial-derived soil organic matter formation and its ecophysiological controls. Nature Communications, 2016, 7, 13630.	5.8	954
5	Quantifying global soil carbon losses in response to warming. Nature, 2016, 540, 104-108.	13.7	879
6	NITROGEN ADDITIONS AND LITTER DECOMPOSITION: A META-ANALYSIS. Ecology, 2005, 86, 3252-3257.	1.5	842
7	Thermal adaptation of soil microbial respiration to elevated temperature. Ecology Letters, 2008, 11, 1316-1327.	3.0	690
8	Chronic nitrogen enrichment affects the structure and function of the soil microbial community in temperate hardwood and pine forests. Forest Ecology and Management, 2004, 196, 159-171.	1.4	657
9	The temperature response of soil microbial efficiency and its feedback to climate. Nature Climate Change, 2013, 3, 395-398.	8.1	604
10	Influence of dryâ€“wet cycles on the interrelationship between aggregate, particulate organic matter, and microbial community dynamics. Soil Biology and Biochemistry, 2001, 33, 1599-1611.	4.2	560
11	Long-term pattern and magnitude of soil carbon feedback to the climate system in a warming world. Science, 2017, 358, 101-105.	6.0	548
12	Bacterial and fungal abundance and biomass in conventional and no-tillage agroecosystems along two climatic gradients. Soil Biology and Biochemistry, 1999, 31, 573-585.	4.2	540
13	Influence of microbial populations and residue quality on aggregate stability. Applied Soil Ecology, 2001, 16, 195-208.	2.1	382
14	Microbial biomass, functional capacity, and community structure after 12 years of soil warming. Soil Biology and Biochemistry, 2008, 40, 2904-2907.	4.2	339
15	Bacterial and Fungal Cellâ€Wall Residues in Conventional and Noâ€Tillage Agroecosystems. Soil Science Society of America Journal, 1999, 63, 1188-1198.	1.2	318
16	The ecologist's field guide to sequenceâ€based identification of biodiversity. Methods in Ecology and Evolution, 2016, 7, 1008-1018.	2.2	316
17	Temperature response of soil respiration largely unaltered with experimental warming. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 13797-13802.	3.3	308
18	Chronic nitrogen additions suppress decomposition and sequester soil carbon in temperate forests. Biogeochemistry, 2014, 121, 305-316.	1.7	302

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19	Long-term forest soil warming alters microbial communities in temperate forest soils. Frontiers in Microbiology, 2015, 6, 104.	1.5	270
20	Microbial carbon use efficiency: accounting for population, community, and ecosystem-scale controls over the fate of metabolized organic matter. Biogeochemistry, 2016, 127, 173-188.	1.7	249
21	Microbial physiology and necromass regulate agricultural soil carbon accumulation. Soil Biology and Biochemistry, 2015, 91, 279-290.	4.2	235
22	Mycorrhizal Fungi as Mediators of Soil Organic Matter Dynamics. Annual Review of Ecology, Evolution, and Systematics, 2019, 50, 237-259.	3.8	233
23	Reciprocal transfer of carbon and nitrogen by decomposer fungi at the soilâ€“litter interface. Soil Biology and Biochemistry, 2003, 35, 1001-1004.	4.2	230
24	Microbial diversity drives carbon use efficiency in a model soil. Nature Communications, 2020, 11, 3684.	5.8	217
25	Do growth yield efficiencies differ between soil microbial communities differing in fungal:bacterial ratios? Reality check and methodological issues. Soil Biology and Biochemistry, 2006, 38, 837-844.	4.2	215
26	Responses and feedbacks of coupled biogeochemical cycles to climate change: examples from terrestrial ecosystems. Frontiers in Ecology and the Environment, 2011, 9, 61-67.	1.9	214
27	Minerals in the rhizosphere: overlooked mediators of soil nitrogen availability to plants and microbes. Biogeochemistry, 2018, 139, 103-122.	1.7	203
28	Biotic interactions mediate soil microbial feedbacks to climate change. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 7033-7038.	3.3	201
29	Fungal translocation as a mechanism for soil nitrogen inputs to surface residue decomposition in a no-tillage agroecosystem. Soil Biology and Biochemistry, 2000, 32, 689-698.	4.2	187
30	Chronic nitrogen additions fundamentally restructure the soil fungal community in a temperate forest. Fungal Ecology, 2016, 23, 48-57.	0.7	172
31	Clarifying the interpretation of carbon use efficiency in soil through methods comparison. Soil Biology and Biochemistry, 2019, 128, 79-88.	4.2	164
32	Soil pH and organic C dynamics in tropical forest soils: Evidence from laboratory and simulation studies. Soil Biology and Biochemistry, 1995, 27, 1589-1599.	4.2	161
33	Seasonal dynamics of soil respiration and N mineralization in chronically warmed and fertilized soils. Ecosphere, 2011, 2, art36.	1.0	137
34	Decreased atmospheric nitrogen deposition in eastern North America: Predicted responses of forest ecosystems. Environmental Pollution, 2019, 244, 560-574.	3.7	133
35	Revisiting the hypothesis that fungalâ€toâ€bacterial dominance characterizes turnover of soil organic matter and nutrients. Ecological Monographs, 2015, 85, 457-472.	2.4	126
36	Preferential Accumulation of Microbial Carbon in Aggregate Structures of Noâ€Tillage Soils. Soil Science Society of America Journal, 2004, 68, 1249-1255.	1.2	124

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37	Temperature adaptation of bacterial communities in experimentally warmed forest soils. Global Change Biology, 2012, 18, 3252-3258.	4.2	111
38	Comparison of laboratory and modeling simulation methods for estimating soil carbon pools in tropical forest soils. Soil Biology and Biochemistry, 1994, 26, 935-944.	4.2	104
39	Microbial contributions to the aggregation of a cultivated grassland soil amended with starch. Soil Biology and Biochemistry, 1999, 31, 407-419.	4.2	100
40	EFFECTS OF MACROPHYTE FUNCTIONAL GROUP RICHNESS ON EMERGENT FRESHWATER WETLAND FUNCTIONS. Ecology, 2007, 88, 2903-2914.	1.5	92
41	Fast-decaying plant litter enhances soil carbon in temperate forests but not through microbial physiological traits. Nature Communications, 2022, 13, 1229.	5.8	92
42	Protozoan grazing affects estimates of carbon utilization efficiency of the soil microbial community. Soil Biology and Biochemistry, 2001, 33, 1759-1768.	4.2	90
43	Fungal community structure and function shifts with atmospheric nitrogen deposition. Global Change Biology, 2021, 27, 1349-1364.	4.2	90
44	Soil microbial communities vary as much over time as with chronic warming and nitrogen additions. Soil Biology and Biochemistry, 2015, 88, 19-24.	4.2	84
45	Soil respiration in a northeastern US temperate forest: a 22â€year synthesis. Ecosphere, 2013, 4, 1-28.	1.0	83
46	Fungal community homogenization, shift in dominant trophic guild, and appearance of novel taxa with biotic invasion. Ecosphere, 2017, 8, e01951.	1.0	82
47	The effect of experimental warming and precipitation change on proteolytic enzyme activity: positive feedbacks to nitrogen availability are not universal. Global Change Biology, 2012, 18, 2617-2625.	4.2	80
48	Diversity begets diversity in competition for space. Nature Ecology and Evolution, 2017, 1, 156.	3.4	79
49	Effects of Soil Carbon Amendment on Nitrogen Availability and Plant Growth in an Experimental Tallgrass Prairie Restoration. Restoration Ecology, 2004, 12, 568-574.	1.4	76
50	Soil warming and nitrogen deposition alter soil organic matter composition at the molecular-level. Biogeochemistry, 2015, 123, 391-409.	1.7	73
51	Modeling the Measurable or Measuring the Modelable: A Hierarchical Approach to Isolating Meaningful Soil Organic Matter Fractionations. , 1996, , 161-179.		71
52	Reduced carbon use efficiency and increased microbial turnover with soil warming. Global Change Biology, 2019, 25, 900-910.	4.2	70
53	Long-Term Warming Alters Carbohydrate Degradation Potential in Temperate Forest Soils. Applied and Environmental Microbiology, 2016, 82, 6518-6530.	1.4	68
54	Carbon budget of the Harvard Forest Longâ€Term Ecological Research site: pattern, process, and response to global change. Ecological Monographs, 2020, 90, e01423.	2.4	67

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55	A holistic framework integrating plant-microbe-mineral regulation of soil bioavailable nitrogen. Biogeochemistry, 2021, 154, 211-229.	1.7	63
56	Manganese limitation as a mechanism for reduced decomposition in soils under atmospheric nitrogen deposition. Soil Biology and Biochemistry, 2018, 127, 252-263.	4.2	60
57	Changes in litter quality caused by simulated nitrogen deposition reinforce the Nâ€induced suppression of litter decay. Ecosphere, 2015, 6, 1-16.	1.0	55
58	Residue Carbon Stabilization in Soil Aggregates of Noâ€Till and Tillage Management of Dryland Cropping Systems. Soil Science Society of America Journal, 2008, 72, 507-513.	1.2	54
59	Carbon Use Efficiency and Its Temperature Sensitivity Covary in Soil Bacteria. MBio, 2020, 11, .	1.8	52
60	Terrestrial and marine perspectives on modeling organic matter degradation pathways. Global Change Biology, 2016, 22, 121-136.	4.2	50
61	Physiological and molecular characterisation of microbial communities associated with different water-stable aggregate size classes. Soil Biology and Biochemistry, 2005, 37, 2007-2016.	4.2	48
62	Global environmental change and the nature of aboveground net primary productivity responses: insights from long-term experiments. Oecologia, 2015, 177, 935-947.	0.9	48
63	Effects of long-term nitrogen addition on phosphorus cycling in organic soil horizons of temperate forests. Biogeochemistry, 2018, 141, 167-181.	1.7	48
64	Multivariate approach to characterizing soil microbial communities in pristine and agricultural sites in Northwest Argentina. Applied Soil Ecology, 2011, 47, 176-183.	2.1	45
65	Adjustment of Forest Ecosystem Root Respiration as Temperature Warms. Journal of Integrative Plant Biology, 2008, 50, 1467-1483.	4.1	44
66	Fungi exposed to chronic nitrogen enrichment are less able to decay leaf litter. Ecology, 2017, 98, 5-11.	1.5	44
67	Simulated nitrogen deposition favors stress-tolerant fungi with low potential for decomposition. Soil Biology and Biochemistry, 2018, 125, 75-85.	4.2	43
68	Species associations overwhelm abiotic conditions to dictate the structure and function of woodâ€decay fungal communities. Ecology, 2018, 99, 801-811.	1.5	42
69	Longâ€term changes in forest carbon under temperature and nitrogen amendments in a temperate northern hardwood forest. Global Change Biology, 2013, 19, 2389-2400.	4.2	41
70	The role of spatial and temporal scale in colonization and spread of invasive shrubs in early successional habitats. Forest Ecology and Management, 2006, 228, 124-134.	1.4	39
71	Bacterial growth and growth-limiting nutrients following chronic nitrogen additions to a hardwood forest soil. Soil Biology and Biochemistry, 2013, 59, 32-37.	4.2	39
72	Nitrogen Mineralization in Humid Tropical Forest Soils: Mineralogy, Texture, and Measured Nitrogen Fractions. Soil Science Society of America Journal, 1995, 59, 1168-1175.	1.2	37

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73	Warming alters fungal communities and litter chemistry with implications for soil carbon stocks. Soil Biology and Biochemistry, 2019, 132, 120-130.	4.2	36
74	Stoichiometrically coupled carbon and nitrogen cycling in the MIcrobial-MIneral Carbon Stabilization model version 1.0 (MIMICS-CN v1.0). Geoscientific Model Development, 2020, 13, 4413-4434.	1.3	35
75	Assessing microbial residues in soil as a potential carbon sink and moderator of carbon use efficiency. Biogeochemistry, 2020, 151, 237-249.	1.7	33
76	The effect of nitrogen addition on soil organic matter dynamics: a model analysis of the Harvard Forest Chronic Nitrogen Amendment Study and soil carbon response to anthropogenic N deposition. Biogeochemistry, 2014, 117, 431-454.	1.7	32
77	No-net-loss not met for nutrient function in freshwater marshes: recommendations for wetland mitigation policies. Ecosphere, 2011, 2, art82.	1.0	31
78	Effect of pH on competition for nodule occupancy by type I and type II strains ofRhizobium leguminosarum bv.phaseoli. Plant and Soil, 1994, 163, 157-164.	1.8	30
79	Soil aggregate-mediated microbial responses to long-term warming. Soil Biology and Biochemistry, 2021, 152, 108055.	4.2	30
80	Slowed Biogeochemical Cycling in Sub-arctic Birch Forest Linked to Reduced Mycorrhizal Growth and Community Change after a Defoliation Event. Ecosystems, 2017, 20, 316-330.	1.6	29
81	Soil Macroinvertebrate Presence Alters Microbial Community Composition and Activity in the Rhizosphere. Frontiers in Microbiology, 2019, 10, 256.	1.5	28
82	Increasing the spatial and temporal impact of ecological research: A roadmap for integrating a novel terrestrial process into an Earth system model. Global Change Biology, 2022, 28, 665-684.	4.2	27
83	Plant Community Composition More Predictive than Diversity of Carbon Cycling in Freshwater Wetlands. Wetlands, 2011, 31, 965-977.	0.7	25
84	Predicting decadal trends and transient responses of radiocarbon storage and fluxes in a temperate forest soil. Biogeosciences, 2012, 9, 3013-3028.	1.3	24
85	Guidelines and considerations for designing field experiments simulating precipitation extremes in forest ecosystems. Methods in Ecology and Evolution, 2018, 9, 2310-2325.	2.2	24
86	Plant invasion impacts on fungal community structure and function depend on soil warming and nitrogen enrichment. Oecologia, 2020, 194, 659-672.	0.9	22
87	Linking Genes to Traits in Fungi. Microbial Ecology, 2021, 82, 145-155.	1.4	22
88	Management effects on the dynamics and storage rates of organic matter in long-term crop rotations. Canadian Journal of Soil Science, 2004, 84, 49-61.	0.5	21
89	Tree seedling responses to multiple environmental stresses: Interactive effects of soil warming, nitrogen fertilization, and plant invasion. Forest Ecology and Management, 2017, 403, 44-51.	1.4	20
90	Decreased mass specific respiration under experimental warming is robust to the microbial biomass method employed. Ecology Letters, 2009, 12, E15.	3.0	19

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91	Molecular-level changes in soil organic matter composition after 10Âyears of litter, root and nitrogen manipulation in a temperate forest. Biogeochemistry, 2018, 141, 183-197.	1.7	19
92	Optimization of an oxygen-based approach for community-level physiological profiling of soils. Soil Biology and Biochemistry, 2008, 40, 2960-2969.	4.2	17
93	SoDaH: the SOils DAta Harmonization database, an open-source synthesis of soil data from research networks, version 1.0. Earth System Science Data, 2021, 13, 1843-1854.	3.7	17
94	Fungal community response to longâ€term soil warming with potential implications for soil carbon dynamics. Ecosphere, 2021, 12, e03460.	1.0	17
95	Effects of filter type and extraction efficiency on nitrogen mineralization measurements using the aerobic leaching soil incubation method. Biology and Fertility of Soils, 1995, 20, 197-204.	2.3	16
96	Indolic glucosinolate pathway provides resistance to mycorrhizal fungal colonization in a nonâ€host Brassicaceae. Ecosphere, 2020, 11, e03100.	1.0	16
97	SPATIAL DISTRIBUTION OF SOIL ORGANISMS. , 2007, , 283-300.		15
98	Overyielding and the role of complementary use of nitrogen in wetland plant communities. Aquatic Botany, 2012, 97, 1-9.	0.8	15
99	Examining N-limited soil microbial activity using community-level physiological profiling based on O2 consumption. Soil Biology and Biochemistry, 2012, 47, 46-52.	4.2	14
100	Winter soil respiration in a humid temperate forest: The roles of moisture, temperature, and snowpack. Journal of Geophysical Research G: Biogeosciences, 2016, 121, 3072-3088.	1.3	14
101	Fungal communities do not recover after removing invasive Alliaria petiolata (garlic mustard). Biological Invasions, 2019, 21, 3085-3099.	1.2	14
102	Root control of fungal communities and soil carbon stocks in a temperate forest. Soil Biology and Biochemistry, 2021, 161, 108390.	4.2	14
103	Biogeochemical evolution of soil organic matter composition after a decade of warming and nitrogen addition. Biogeochemistry, 2021, 156, 161-175.	1.7	13
104	Plant community structure mediates potential methane production and potential iron reduction in wetland mesocosms. Ecosphere, 2013, 4, 1-17.	1.0	12
105	Soil respiration does not acclimatize to warmer temperatures when modeled over seasonal timescales. Biogeochemistry, 2013, 112, 555-570.	1.7	12
106	Application of the hexokinase-glucose-6-phosphate dehydrogenase enzymatic assay for measurement of glucose in amended soil. Soil Biology and Biochemistry, 1999, 31, 933-935.	4.2	11
107	Responses of nonâ€native earthworms to experimental eradication of garlic mustard and implications for native vegetation. Ecosphere, 2018, 9, e02353.	1.0	7
108	Regional Patterns of Floristic Diversity and Composition in Forests Invaded by Garlic Mustard (<i>Alliaria petiolata</i>). Northeastern Naturalist, 2018, 25, 399-417.	0.1	7

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109	Functional, temporal and spatial complementarity in mammalâ€fungal spore networks enhances mycorrhizal dispersal following forest harvesting. Functional Ecology, 2021, 35, 2072-2083.	1.7	7
110	Fungal community and functional responses to soil warming are greater than for soil nitrogen enrichment. Elementa, 2021, 9, .	1.1	7
111	Synergies Among Environmental Science Research and Monitoring Networks: A Research Agenda. Earth's Future, 2021, 9, e2020EF001631.	2.4	5
112	Physical protection regulates microbial thermal responses to chronic soil warming. Soil Biology and Biochemistry, 2021, 159, 108298.	4.2	5
113	Patterns and trends of organic matter processing and transport: Insights from the US long-term ecological research network. Climate Change Ecology, 2021, 2, 100025.	0.9	3
114	Chronic nitrogen enrichment affects the structure and function of the soil microbial community in temperate hardwood and pine forests. Forest Ecology and Management, 2004, 196, 159-159.	1.4	2
115	Reply to Veresoglou: Overdependence on â€œsignificanceâ€• testing in biology. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E5114-E5114.	3.3	2
116	Illuminating next steps for NEON. Science, 2015, 349, 1176-1177.	6.0	1
117	Microbial responses to experimental soil warming: Five testable hypotheses. , 2019, , 141-156.		1
118	Effects of an introduced mustard, Thlaspi arvense, on soil fungal communities in subalpine meadows. Fungal Ecology, 2022, 56, 101135.	0.7	1
119	Soil volatile organic compound emissions in response to soil warming and nitrogen deposition. Elementa, 2022, 10, .	1.1	1
120	Evidence for a genetic basis in functional trait tradeoffs with microbial growth rate but not growth yield. Soil Biology and Biochemistry, 2022, 172, 108765.	4.2	0