Mary K Firestone

List of Publications by Year
in descending order

131 papers	19,790 citations	13332 70 h-index	17373 126 g-index
151 all docs	151 docs citations	151 times ranked	18481 citing authors

#	Article	IF	Citations
1	Conversion of marginal land into switchgrass conditionally accrues soil carbon but reduces methane consumption. ISME Journal, 2022, 16, 10-25.	4.4	4
2	Disentangling direct from indirect relationships in association networks. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	61
3	Belowground allocation and dynamics of recently fixed plant carbon in a California annual grassland. Soil Biology and Biochemistry, 2022, 165, 108519.	4.2	25
4	Life and death in the soil microbiome: how ecological processes influence biogeochemistry. Nature Reviews Microbiology, 2022, 20, 415-430.	13.6	282
5	Spectroscopic analysis reveals that soil phosphorus availability and plant allocation strategies impact feedstock quality of nutrient-limited switchgrass. Communications Biology, 2022, 5, 227.	2.0	1
6	Routes to roots: direct evidence of water transport by arbuscular mycorrhizal fungi to host plants. New Phytologist, 2022, 236, 210-221.	3.5	68
7	Managing Plant Microbiomes for Sustainable Biofuel Production. Phytobiomes Journal, 2021, 5, 3-13.	1.4	8
8	Protist diversity and community complexity in the rhizosphere of switchgrass are dynamic as plants develop. Microbiome, 2021, 9, 96.	4.9	54
9	Crop diversity enriches arbuscular mycorrhizal fungal communities in an intensive agricultural landscape. New Phytologist, 2021, 231, 447-459.	3.5	57
10	The Functional Significance of Bacterial Predators. MBio, 2021, 12, .	1.8	48
11	Fungal-Bacterial Cooccurrence Patterns Differ between Arbuscular Mycorrhizal Fungi and Nonmycorrhizal Fungi across Soil Niches. MBio, 2021, 12, .	1.8	31
12	Methane-derived carbon flows into hostâ€“virus networks at different trophic levels in soil. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	38
13	Soil Candidate Phyla Radiation Bacteria Encode Components of Aerobic Metabolism and Co-occur with Nanoarchaea in the Rare Biosphere of Rhizosphere Grassland Communities. MSystems, 2021, 6, e0120520.	1.7	24
14	Stable-Isotope-Informed, Genome-Resolved Metagenomics Uncovers Potential Cross-Kingdom Interactions in Rhizosphere Soil. MSphere, 2021, 6, e0008521.	1.3	34
15	Root Carbon Interaction with Soil Minerals Is Dynamic, Leaving a Legacy of Microbially Derived Residues. Environmental Science & Technology, 2021, 55, 13345-13355.	4.6	13
16	Rhizosphere Carbon Turnover from Cradle to Grave: The Role of Microbeâ€“Plant Interactions. Rhizosphere Biology, 2021, , 51-73.	0.4	33
17	Community RNA-Seq: multi-kingdom responses to living versus decaying roots in soil. ISME Communications, 2021, 1, .	1.7	8
18	Large losses of ammonium-nitrogen from a rice ecosystem under elevated CO ₂. Science Advances, 2020, 6, .	4.7	26

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19	Quantifying the effects of switchgrass (<i>Panicum virgatum</i>) on deep organic C stocks using natural abundance ¹⁴C in three marginal soils. GCB Bioenergy, 2020, 12, 834-847.	2.5	26
20	Measurement Error and Resolution in Quantitative Stable Isotope Probing: Implications for Experimental Design. MSystems, 2020, 5, .	1.7	20
21	A quantitative framework reveals ecological drivers of grassland microbial community assembly in response to warming. Nature Communications, 2020, 11, 4717.	5.8	417
22	Taxon-specific microbial growth and mortality patterns reveal distinct temporal population responses to rewetting in a California grassland soil. ISME Journal, 2020, 14, 1520-1532.	4.4	67
23	Microbial extracellular polysaccharide production and aggregate stability controlled by switchgrass (Panicum virgatum) root biomass and soil water potential. Soil Biology and Biochemistry, 2020, 143, 107742.	4.2	69
24	Niche differentiation is spatially and temporally regulated in the rhizosphere. ISME Journal, 2020, 14, 999-1014.	4.4	135
25	Rewetting of soil: Revisiting the origin of soil CO2 emissions. Soil Biology and Biochemistry, 2020, 147, 107819.	4.2	87
26	Microbial functional diversity: From concepts to applications. Ecology and Evolution, 2019, 9, 12000-12016.	0.8	133
27	Metatranscriptomic reconstruction reveals RNA viruses with the potential to shape carbon cycling in soil. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 25900-25908.	3.3	165
28	Ecosystem Fabrication (EcoFAB) Protocols for The Construction of Laboratory Ecosystems Designed to Study Plant-microbe Interactions. Journal of Visualized Experiments, 2018, , .	0.2	32
29	Dynamic root exudate chemistry and microbial substrate preferences drive patterns in rhizosphere microbial community assembly. Nature Microbiology, 2018, 3, 470-480.	5.9	1,268
30	Plant roots alter microbial functional genes supporting root litter decomposition. Soil Biology and Biochemistry, 2018, 127, 90-99.	4.2	35
31	Microbial community assembly differs across minerals in a rhizosphere microcosm. Environmental Microbiology, 2018, 20, 4444-4460.	1.8	77
32	Stable isotope informed genome-resolved metagenomics reveals that Saccharibacteria utilize microbially-processed plant-derived carbon. Microbiome, 2018, 6, 122.	4.9	156
33	Using stable isotopes to explore root-microbe-mineral interactions in soil. Rhizosphere, 2017, 3, 244-253.	1.4	93
34	The interconnected rhizosphere: High network complexity dominates rhizosphere assemblages. Ecology Letters, 2016, 19, 926-936.	3.0	803
35	Climate and edaphic controllers influence rhizosphere community assembly for a wild annual grass. Ecology, 2016, 97, 1307-1318.	1.5	111
36	Fog as a source of nitrogen for redwood trees: evidence from fluxes and stable isotopes. Journal of Ecology, 2015, 103, 1397-1407.	1.9	33

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37	The soil matrix increases microbial C stabilization in temperate and tropical forest soils. Biogeochemistry, 2015, 122, 35-45.	1.7	48
38	Successional Trajectories of Rhizosphere Bacterial Communities over Consecutive Seasons. MBio, 2015, 6, e00746.	1.8	232
39	Changing precipitation pattern alters soil microbial community response to wet-up under a Mediterranean-type climate. ISME Journal, 2015, 9, 946-957.	4.4	166
40	Growth and death of bacteria and fungi underlie rainfallâ€induced carbon dioxide pulses from seasonally dried soil. Ecology, 2014, 95, 1162-1172.	1.5	161
41	Rhizosphere priming effects on soil carbon and nitrogen mineralization. Soil Biology and Biochemistry, 2014, 76, 183-192.	4.2	304
42	Responses of soil bacterial and fungal communities to extreme desiccation and rewetting. ISME Journal, 2013, 7, 2229-2241.	4.4	762
43	Evaluating rRNA as an indicator of microbial activity in environmental communities: limitations and uses. ISME Journal, 2013, 7, 2061-2068.	4.4	661
44	An arbuscular mycorrhizal fungus significantly modifies the soil bacterial community and nitrogen cycling during litter decomposition. Environmental Microbiology, 2013, 15, 1870-1881.	1.8	288
45	Influence of oxic/anoxic fluctuations on ammonia oxidizers and nitrification potential in a wet tropical soil. FEMS Microbiology Ecology, 2013, 85, 179-194.	1.3	62
46	Transcriptional Response of Nitrifying Communities to Wetting of Dry Soil. Applied and Environmental Microbiology, 2013, 79, 3294-3302.	1.4	110
47	Rainfall-induced carbon dioxide pulses result from sequential resuscitation of phylogenetically clustered microbial groups. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 10931-10936.	3.3	386
48	Annual grassland resource pools and fluxes: sensitivity to precipitation and dry periods on two contrasting soils. Ecosphere, 2012, 3, art70-art70.	1.0	5
49	The source of microbial C has little impact on soil organic matter stabilisation in forest ecosystems. Ecology Letters, 2012, 15, 1257-1265.	3.0	82
50	Phylogenetic Clustering of Soil Microbial Communities by 16S rRNA but Not 16S rRNA Genes. Applied and Environmental Microbiology, 2012, 78, 2459-2461.	1.4	28
51	Anaerobic oxidation of methane in tropical and boreal soils: Ecological significance in terrestrial methane cycling. Journal of Geophysical Research, 2012, 117, .	3.3	67
52	Interactions between an arbuscular mycorrhizal fungus and a soil microbial community mediating litter decomposition. FEMS Microbiology Ecology, 2012, 80, 236-247.	1.3	207
53	Abundance of microbial genes associated with nitrogen cycling as indices of biogeochemical process rates across a vegetation gradient in Alaska. Environmental Microbiology, 2012, 14, 993-1008.	1.8	353
54	Changes in microbial community characteristics and soil organic matter with nitrogen additions in two tropical forests. Ecology, 2011, 92, 621-632.	1.5	371

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55	Microbial and environmental effects on avian egg viability: Do tropical mechanisms act in a temperate environment?. Ecology, 2011, 92, 1137-1145.	1.5	42
56	Effects of selected root exudate components on soil bacterial communities. FEMS Microbiology Ecology, 2011, 77, 600-610.	1.3	316
57	Rhizosphere priming of soil organic matter by bacterial groups in a grassland soil. Soil Biology and Biochemistry, 2011, 43, 718-725.	4.2	192
58	Microbial community response to addition of polylactate compounds to stimulate hexavalent chromium reduction in groundwater. Chemosphere, 2011, 85, 660-665.	4.2	50
59	Microbial and environmental effects on avian egg viability: Do tropical mechanisms act in a temperate environment?. Ecology, 2011, 92, 1137-1145.	1.5	15
60	Microbial communities acclimate to recurring changes in soil redox potential status. Environmental Microbiology, 2010, 12, 3137-3149.	1.8	294
61	Tropical forest soil microbial communities couple iron and carbon biogeochemistry. Ecology, 2010, 91, 2604-2612.	1.5	156
62	Avian Incubation Inhibits Growth and Diversification of Bacterial Assemblages on Eggs. PLoS ONE, 2009, 4, e4522.	1.1	82
63	Fog Water and Ecosystem Function: Heterogeneity in a California Redwood Forest. Ecosystems, 2009, 12, 417-433.	1.6	86
64	Selective progressive response of soil microbial community to wild oat roots. ISME Journal, 2009, 3, 168-178.	4.4	306
65	Bacterial quorum sensing and nitrogen cycling in rhizosphere soil. FEMS Microbiology Ecology, 2008, 66, 197-207.	1.3	126
66	Effects of Organic Carbon Supply Rates on Uranium Mobility in a Previously Bioreduced Contaminated Sediment. Environmental Science & Technology, 2008, 42, 7573-7579.	4.6	34
67	Influences of Organic Carbon Supply Rate on Uranium Bioreduction in Initially Oxidizing, Contaminated Sediment. Environmental Science & Technology, 2008, 42, 8901-8907.	4.6	25
68	In Situ Long-Term Reductive Bioimmobilization of Cr(VI) in Groundwater Using Hydrogen Release Compound. Environmental Science & Technology, 2008, 42, 8478-8485.	4.6	86
69	PLANT AND MICROBIAL CONTROLS ON NITROGEN RETENTION AND LOSS IN A HUMID TROPICAL FOREST. Ecology, 2008, 89, 3030-3040.	1.5	146
70	Sensitive Whole-Cell Biosensor Suitable for Detecting a Variety of N -Acyl Homoserine Lactones in Intact Rhizosphere Microbial Communities. Applied and Environmental Microbiology, 2007, 73, 3724-3727.	1.4	37
71	Root Interactions with Soil Microbial Communities and Processes. , 2007, , 1-29.		43
72	The role of ecological theory in microbial ecology. Nature Reviews Microbiology, 2007, 5, 384-392.	13.6	796

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73	Arbuscular Mycorrhizal Assemblages in Native Plant Roots Change in the Presence of Invasive Exotic Grasses. Plant and Soil, 2006, 281, 369-380.	1.8	197
74	Redox Fluctuations Frame Microbial Community Impacts on N-cycling Rates in a Humid Tropical Forest Soil. Biogeochemistry, 2006, 81, 95-110.	1.7	152
75	Application of a High-Density Oligonucleotide Microarray Approach To Study Bacterial Population Dynamics during Uranium Reduction and Reoxidation. Applied and Environmental Microbiology, 2006, 72, 6288-6298.	1.4	404
76	Plant invasion alters nitrogen cycling by modifying the soil nitrifying community. Ecology Letters, 2005, 8, 976-985.	3.0	432
77	Plant and microbial N acquisition under elevated atmospheric CO2 in two mesocosm experiments with annual grasses. Global Change Biology, 2005, 11, 213-223.	4.2	41
78	Linking microbial community composition and soil processes in a California annual grassland and mixed-conifer forest. Biogeochemistry, 2005, 73, 395-415.	1.7	397
79	Two Novel Bacterial Biosensors for Detection of Nitrate Availability in the Rhizosphere. Applied and Environmental Microbiology, 2005, 71, 8537-8547.	1.4	89
80	Reoxidation of Bioreduced Uranium under Reducing Conditions. Environmental Science & Technology, 2005, 39, 6162-6169.	4.6	157
81	Uranium Reduction in Sediments under Diffusion-Limited Transport of Organic Carbon. Environmental Science & Technology, 2005, 39, 7077-7083.	4.6	22
82	Microbial community utilization of recalcitrant and simple carbon compounds: impact of oak-woodland plant communities. Oecologia, 2004, 138, 275-284.	0.9	262
83	Boundaries in Miniature: Two Examples from Soil. BioScience, 2003, 53, 739.	2.2	110
84	HOW DISTURBANCE BY FOSSORIAL MAMMALS ALTERS N CYCLING IN A CALIFORNIA ANNUAL GRASSLAND. Ecology, 2003, 84, 875-881.	1.5	43
85	NITROGEN DYNAMICS IN AN ANNUAL GRASSLAND: OAK CANOPY, CLIMATE, AND MICROBIAL POPULATION EFFECTS. , 2003, 13, 593-604.		51
86	In Situ Reduction of Chromium(VI) in Heavily Contaminated Soils through Organic Carbon Amendment. Journal of Environmental Quality, 2003, 32, 1641-1649.	1.0	81
87	Distribution of Chromium Contamination and Microbial Activity in Soil Aggregates. Journal of Environmental Quality, 2003, 32, 541-549.	1.0	41
88	Methodological variability in microbial community level physiological profiles. Soil Science Society of America Journal, 2002, 66, 519-523.	1.2	21
89	Methodological variability in microbial community level physiological profiles. Soil Science Society of America Journal, 2002, 66, 519.	1.2	7
90	DISSIMILATORY NITRATE REDUCTION TO AMMONIUM IN UPLAND TROPICAL FOREST SOILS. Ecology, 2001, 82, 2410-2416.	1.5	301

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91	Chromium Diffusion and Reduction in Soil Aggregates. Environmental Science & Technology, 2001, 35, 3169-3174.	4.6	70
92	Enhanced Phenanthrene Biodegradation in Soil by Slender Oat Root Exudates and Root Debris. Journal of Environmental Quality, 2001, 30, 1911-1918.	1.0	146
93	DISSIMILATORY NITRATE REDUCTION TO AMMONIUM IN UPLAND TROPICAL FOREST SOILS. , 2001, 82, 2410.		1
94	DISSIMILATORY NITRATE REDUCTION TO AMMONIUM IN UPLAND TROPICAL FOREST SOILS. , 2001, 82, 2410.		7
95	Phenanthreneâ€Degrader Community Dynamics in Rhizosphere Soil from a Common Annual Grass. Journal of Environmental Quality, 2000, 29, 584-592.	1.0	71
96	Release of Intracellular Solutes by Four Soil Bacteria Exposed to Dilution Stress. Soil Science Society of America Journal, 2000, 64, 1630-1637.	1.2	260
97	Differential Effects of Permeating and Nonpermeating Solutes on the Fatty Acid Composition of Pseudomonas putida. Applied and Environmental Microbiology, 2000, 66, 2414-2421.	1.4	83
98	The relative importance of autotrophic and heterotrophic nitrification in a conifer forest soil as measured by15N tracer and pool dilution techniques. Biogeochemistry, 1999, 44, 135-150.	1.7	113
99	Soil microbial feedbacks to atmospheric CO2 enrichment. Trends in Ecology and Evolution, 1999, 14, 433-437.	4.2	100
100	Title is missing!. Biogeochemistry, 1999, 44, 135-150.	1.7	36
101	Elevated Atmospheric CO2 and Soil Biota. , 1998, 281, 517d-517.		4
102	Soil Microorganisms in Soil Cleanup: How Can We Improve Our Understanding?. Journal of Environmental Quality, 1997, 26, 32-40.	1.0	73
103	Water stress effects on toluene biodegradation by Pseudomonas putida. Biodegradation, 1997, 8, 143-151.	1.5	47
104	Toluene diffusion and reaction in unsaturatedPseudomonas putida biofilms. , 1997, 56, 656-670.		55
105	N dynamics in the rhizosphere of Pinus ponderosa seedlings. Soil Biology and Biochemistry, 1996, 28, 351-362.	4.2	132
106	Kinetic characteristics of ammonium-oxidizer communities in a California oak woodland-annual grassland. Soil Biology and Biochemistry, 1996, 28, 1307-1317.	4.2	145
107	Isotopic Labeling of Soil Nitrate Pools Using Nitrogen-15-Nitric Oxide Gas. Soil Science Society of America Journal, 1995, 59, 844-847.	1.2	19
108	Nutritional Management of Microbial Polysaccharide Production and Aggregation in an Agricultural Soil. Soil Science Society of America Journal, 1995, 59, 1587-1594.	1.2	85

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109	Flow and fate of soil nitrogen in an annual grassland and a young mixed-conifer forest. Soil Biology and Biochemistry, 1993, 25, 431-442.	4.2	111
110	Microbial activity-soil structure: Response to saline water irrigation. Soil Biology and Biochemistry, 1993, 25, 693-697.	4.2	35
111	Internal Cycling of Nitrate in Soils of a Mature Coniferous Forest. Ecology, 1992, 73, 1148-1156.	1.5	377
112	Decomposition and nutrient dynamics of ponderosa pine needles in a Mediterranean-type climate. Canadian Journal of Forest Research, 1992, 22, 306-314.	0.8	107
113	Relationship between Desiccation and Exopolysaccharide Production in a Soil <i>Pseudomonas</i> sp. Applied and Environmental Microbiology, 1992, 58, 1284-1291.	1.4	548
114	Cover Crop Management of Polysaccharideâ€Mediated Aggregation in an Orchard Soil. Soil Science Society of America Journal, 1991, 55, 734-739.	1.2	139
115	Soil chemical and microbial effects of simulated acid rain on clover and soft chess. Water, Air, and Soil Pollution, 1991, 60, 301-313.	1.1	10
116	Forest floor-mineral soil interactions in the internal nitrogen cycle of an old-growth forest. Biogeochemistry, 1991, 12, 103.	1.7	83
117	Metabolic Status of Bacteria and Fungi in the Rhizosphere of Ponderosa Pine Seedlings. Applied and Environmental Microbiology, 1991, 57, 1161-1167.	1.4	61
118	Carbon flow in the rhizosphere of ponderosa pine seedlings. Soil Biology and Biochemistry, 1990, 22, 449-455.	4.2	87
119	Spatial and temporal effects on plant-microbial competition for inorganic nitrogen in a california annual grassland. Soil Biology and Biochemistry, 1989, 21, 1059-1066.	4.2	250
120	Short-term partitioning of ammonium and nitrate between plants and microbes in an annual grassland. Soil Biology and Biochemistry, 1989, 21, 409-415.	4.2	345
121	Direct extraction of microbial biomass nitrogen from forest and grassland soils of california. Soil Biology and Biochemistry, 1989, 21, 773-778.	4.2	90
122	Nitrogen Incorporation and Flow Through a Coniferous Forest Soil Profile. Soil Science Society of America Journal, 1989, 53, 779-784.	1.2	74
123	Evaluation of three <i>in</i><i>situ</i> soil nitrogen availability assays. Canadian Journal of Forest Research, 1989, 19, 185-191.	0.8	78
124	Microbial biomass response to a rapid increase in water potential when dry soil is wetted. Soil Biology and Biochemistry, 1987, 19, 119-126.	4.2	737
125	Identification of Heterotrophic Nitrification in a Sierran Forest Soil. Applied and Environmental Microbiology, 1984, 48, 802-806.	1.4	206
126	Evaluation of accelerated H+applications in predicting soil chemical and microbial changes due to acid rain. Communications in Soil Science and Plant Analysis, 1982, 13, 995-1001.	0.6	6

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127	Nitric oxide as an intermediate in denitrification: Evidence from nitrogen-13 isotope exchange. Biochemical and Biophysical Research Communications, 1979, 91, 10-16.	1.0	115
128	Temporal Change in Nitrous Oxide and Dinitrogen from Denitrification Following Onset of Anaerobiosis. Applied and Environmental Microbiology, 1979, 38, 673-679.	1.4	146
129	The Acetylene Inhibition Method for Shortâ€term Measurement of Soil Denitrification and its Evaluation Using Nitrogenâ€13. Soil Science Society of America Journal, 1978, 42, 611-615.	1.2	138
130	A nitrilotriacetic acid monooxygenase with conditional NADH-oxidase activity. Archives of Biochemistry and Biophysics, 1978, 190, 617-623.	1.4	14
131	Biodegradation of Metal-Nitrilotriacetate Complexes by a <i>Pseudomonas</i> Species: Mechanism of Reaction. Applied Microbiology, 1975, 29, 758-764.	0.6	24