

Timothy R Filley

List of Publications by Year in descending order

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112
papers

7,408
citations

57758

44
h-index

56724

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112
all docs

112
docs citations

112
times ranked

8837
citing authors

#	ARTICLE	IF	CITATIONS
1	Primordial Carbonylated Iron-Sulfur Compounds and the Synthesis of Pyruvate. <i>Science</i> , 2000, 289, 1337-1340.	12.6	392
2	Organic C and N stabilization in a forest soil: Evidence from sequential density fractionation. <i>Soil Biology and Biochemistry</i> , 2006, 38, 3313-3324.	8.8	370
3	Selective adsorption of L- and D-amino acids on calcite: Implications for biochemical homochirality. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2001, 98, 5487-5490.	7.1	355
4	Old and stable soil organic matter is not necessarily chemically recalcitrant: implications for modeling concepts and temperature sensitivity. <i>Global Change Biology</i> , 2011, 17, 1097-1107.	9.5	318
5	Sequential density fractionation across soils of contrasting mineralogy: evidence for both microbial- and mineral-controlled soil organic matter stabilization. <i>Biogeochemistry</i> , 2009, 96, 209-231.	3.5	304
6	Lignin degradation in wood-feeding insects. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 12932-12937.	7.1	279
7	Lignin demethylation and polysaccharide decomposition in spruce sapwood degraded by brown rot fungi. <i>Organic Geochemistry</i> , 2002, 33, 111-124.	1.8	238
8	Sources of plant-derived carbon and stability of organic matter in soil: implications for global change. <i>Global Change Biology</i> , 2009, 15, 2003-2019.	9.5	215
9	Photodegradation of Decabromodiphenyl Ether Adsorbed onto Clay Minerals, Metal Oxides, and Sediment. <i>Environmental Science & Technology</i> , 2006, 40, 215-220.	10.0	214
10	Reductive Debromination of Polybrominated Diphenyl Ethers in Anaerobic Sediment and a Biomimetic System. <i>Environmental Science & Technology</i> , 2008, 42, 1157-1164.	10.0	209
11	Temporal variability in sources of dissolved organic carbon in the lower Mississippi river. <i>Geochimica Et Cosmochimica Acta</i> , 2004, 68, 959-967.	3.9	178
12	The role of hydrology in annual organic carbon loads and terrestrial organic matter export from a midwestern agricultural watershed. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 1448-1462.	3.9	161
13	Lignocellulosic polysaccharides and lignin degradation by wood decay fungi: the relevance of nonenzymatic Fenton-based reactions. <i>Journal of Industrial Microbiology and Biotechnology</i> , 2011, 38, 541-555.	3.0	155
14	Responses of enzymatic activities within soil aggregates to 9-year nitrogen and water addition in a semi-arid grassland. <i>Soil Biology and Biochemistry</i> , 2015, 81, 159-167.	8.8	140
15	Temporal variability in terrestrially-derived sources of particulate organic carbon in the lower Mississippi River and its upper tributaries. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 4425-4437.	3.9	136
16	Tetramethylammonium hydroxide (TMAH) thermochemolysis: proposed mechanisms based upon the application of ¹³ C-labeled TMAH to a synthetic model lignin dimer. <i>Organic Geochemistry</i> , 1999, 30, 607-621.	1.8	124
17	Photochemistry and nature of organic matter in Arctic and Antarctic snow. <i>Global Biogeochemical Cycles</i> , 2004, 18, n/a-n/a.	4.9	123
18	Soil microbial community dynamics over a maize (<i>Zea mays</i> L.) growing season under conventional- and no-tillage practices in a rainfed agroecosystem. <i>Soil and Tillage Research</i> , 2012, 124, 153-160.	5.6	122

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19	Flood pulse influences on terrestrial organic matter export from an agricultural watershed. <i>Journal of Geophysical Research</i> , 2005, 110, n/a-n/a.	3.3	118
20	Assaying the catalytic potential of transition metal sulfides for abiotic carbon fixation. <i>Geochimica Et Cosmochimica Acta</i> , 2004, 68, 2185-2196.	3.9	116
21	Increased belowground carbon inputs and warming promote loss of soil organic carbon through complementary microbial responses. <i>Soil Biology and Biochemistry</i> , 2014, 76, 57-69.	8.8	115
22	Late Quaternary vegetation history of southeast Africa: The molecular isotopic record from Lake Malawi. <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> , 2009, 275, 100-112.	2.3	106
23	The application of ¹³ C-labeled tetramethylammonium hydroxide (¹³ C-TMAH) thermochemolysis to the study of fungal degradation of wood. <i>Organic Geochemistry</i> , 2000, 31, 181-198.	1.8	105
24	Coupled response of soil carbon and nitrogen pools and enzyme activities to nitrogen and water addition in a semi-arid grassland of Inner Mongolia. <i>Plant and Soil</i> , 2014, 381, 323-336.	3.7	99
25	Chemical changes to nonaggregated particulate soil organic matter following grassland to woodland transition in a subtropical savanna. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	96
26	Is current biochar research addressing global soil constraints for sustainable agriculture?. <i>Agriculture, Ecosystems and Environment</i> , 2016, 226, 25-32.	5.3	96
27	White-Rot Basidiomycete-Mediated Decomposition of C ₆₀ Fullerol. <i>Environmental Science & Technology</i> , 2009, 43, 3162-3168.	10.0	89
28	Sources of Terrestrial Organic Carbon in the Mississippi Plume Region: Evidence for the Importance of Coastal Marsh Inputs. <i>Aquatic Geochemistry</i> , 2011, 17, 431-456.	1.3	87
29	Multi-proxy study of soil organic matter dynamics in permafrost peat deposits reveal vulnerability to climate change in the European Russian Arctic. <i>Chemical Geology</i> , 2014, 368, 104-117.	3.3	81
30	Ecosystem effects of non-native earthworms in Mid-Atlantic deciduous forests. <i>Biological Invasions</i> , 2011, 13, 1165-1182.	2.4	75
31	Critical transition in critical zone of intensively managed landscapes. <i>Anthropocene</i> , 2018, 22, 10-19.	3.3	72
32	An isotopic biogeochemical assessment of shifts in organic matter input to Holocene sediments from Mud Lake, Florida. <i>Organic Geochemistry</i> , 2001, 32, 1153-1167.	1.8	69
33	Gut anatomical properties and microbial functional assembly promote lignocellulose deconstruction and colony subsistence of a wood-feeding beetle. <i>Nature Microbiology</i> , 2019, 4, 864-875.	13.3	68
34	Lignocellulose modifications by brown rot fungi and their effects, as pretreatments, on cellulolysis. <i>Bioresource Technology</i> , 2012, 116, 147-154.	9.6	67
35	The contribution of polyhydroxyl aromatic compounds to tetramethylammonium hydroxide lignin-based proxies. <i>Organic Geochemistry</i> , 2006, 37, 711-727.	1.8	59
36	Biogeochemical controls on reaction of sedimentary organic matter and aqueous sulfides in holocene sediments of Mud Lake, Florida. <i>Geochimica Et Cosmochimica Acta</i> , 2002, 66, 937-954.	3.9	56

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37	Controls on soil carbon accumulation during woody plant encroachment: Evidence from physical fractionation, soil respiration, and $\delta^{13}\text{C}$ of respired CO_2 . <i>Soil Biology and Biochemistry</i> , 2011, 43, 1678-1687.	8.8	56
38	Size and variability of crop productivity both impacted by CO_2 enrichment and warming—A case study of 4 year field experiment in a Chinese paddy. <i>Agriculture, Ecosystems and Environment</i> , 2016, 221, 40-49.	5.3	56
39	Do the large carbon isotopic excursions in terrestrial organic matter across Paleocene–Eocene boundary in India indicate intensification of tropical precipitation?. <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> , 2013, 387, 91-103.	2.3	55
40	Residue Carbon Stabilization in Soil Aggregates of No-Till and Tillage Management of Dryland Cropping Systems. <i>Soil Science Society of America Journal</i> , 2008, 72, 507-513.	2.2	54
41	Earthworms, stand age, and species composition interact to influence particulate organic matter chemistry during forest succession. <i>Biogeochemistry</i> , 2009, 92, 61-82.	3.5	53
42	Land use, water quality, and the history of coral assemblages at Bocas del Toro, Panamá. <i>Marine Ecology - Progress Series</i> , 2014, 504, 159-170.	1.9	51
43	Assessment of lignin and (poly-)phenol transformations in oak (<i>Quercus robur</i>) dominated soils by ^{13}C -TMAH thermochemolysis. <i>Organic Geochemistry</i> , 2007, 38, 551-565.	1.8	50
44	Comparison of the chemical alteration trajectory of <i>Liriodendron tulipifera</i> L. leaf litter among forests with different earthworm abundance. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	49
45	Processes controlling the production of aromatic water-soluble organic matter during litter decomposition. <i>Soil Biology and Biochemistry</i> , 2013, 67, 133-139.	8.8	45
46	Nitrogen cycling by wood decomposing soft-rot fungi in the "King Midas tomb," Gordion, Turkey. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2001, 98, 13346-13350.	7.1	43
47	Oxidative enzymatic response of white-rot fungi to single-walled carbon nanotubes. <i>Environmental Pollution</i> , 2014, 193, 197-204.	7.5	42
48	Controls on wood and leaf litter incorporation into soil fractions in forests at different successional stages. <i>Soil Biology and Biochemistry</i> , 2014, 69, 212-222.	8.8	42
49	From soils to landscapes: A landscape-oriented approach to simulate soil organic carbon dynamics in intensively managed landscapes. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2015, 120, 2375-2401.	3.0	41
50	Comparison of two methods for the analysis of lignin in marine sediments: CuO oxidation versus tetramethylammonium hydroxide (TMAH) thermochemolysis. <i>Organic Geochemistry</i> , 2008, 39, 1454-1461.	1.8	39
51	Foliar uptake of atmospheric organic nitrates. <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	39
52	The effect of afforestation on the soil organic carbon (SOC) of a peaty gley soil using on-line thermally assisted hydrolysis and methylation (THM) in the presence of ^{13}C -labelled tetramethylammonium hydroxide (TMAH). <i>Journal of Analytical and Applied Pyrolysis</i> , 2009, 85, 417-425.	5.5	37
53	Enhanced conversion of newly-added maize straw to soil microbial biomass C under plastic film mulching and organic manure management. <i>Geoderma</i> , 2018, 313, 154-162.	5.1	36
54	A Self-Powered, Real-Time, LoRaWAN IoT-Based Soil Health Monitoring System. <i>IEEE Internet of Things Journal</i> , 2021, 8, 9278-9293.	8.7	36

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55	Belowground competition among invading detritivores. <i>Ecology</i> , 2016, 97, 160-170.	3.2	35
56	The combined controls of land use legacy and earthworm activity on soil organic matter chemistry and particle association during afforestation. <i>Organic Geochemistry</i> , 2013, 58, 56-68.	1.8	33
57	Changes to soil organic N dynamics with leguminous woody plant encroachment into grasslands. <i>Biogeochemistry</i> , 2013, 113, 307-321.	3.5	31
58	A study of lignin degradation in leaf and needle litter using ¹³ C-labelled tetramethylammonium hydroxide (TMAH) thermochemolysis: Comparison with CuO oxidation and van Soest methods. <i>Organic Geochemistry</i> , 2011, 42, 1271-1278.	1.8	29
59	Long-term changes in land use impact the accumulation of microbial residues in the particle-size fractions of a Mollisol. <i>Biology and Fertility of Soils</i> , 2017, 53, 281-286.	4.3	29
60	Revealing the Thermal Safety of Prussian Blue Cathode for Safer Nonaqueous Batteries. <i>Advanced Energy Materials</i> , 2021, 11, 2101764.	19.5	29
61	Simultaneous analysis of tannin and lignin signatures in soils by thermally assisted hydrolysis and methylation using ¹³ C-labeled TMAH. <i>Journal of Analytical and Applied Pyrolysis</i> , 2008, 83, 227-231.	5.5	28
62	Chronic N deposition does not apparently alter the biochemical composition of forest floor and soil organic matter. <i>Soil Biology and Biochemistry</i> , 2012, 54, 7-13.	8.8	28
63	Long-term incubations of size and density separated soil fractions to inform soil organic carbon decay dynamics. <i>Soil Biology and Biochemistry</i> , 2013, 57, 496-503.	8.8	28
64	Weathering of pyrogenic organic matter induces fungal oxidative enzyme response in single culture inoculation experiments. <i>Organic Geochemistry</i> , 2016, 92, 32-41.	1.8	26
65	Biomimetic oxidative treatment of spruce wood studied by pyrolysis-molecular beam mass spectrometry coupled with multivariate analysis and ¹³ C-labeled tetramethylammonium hydroxide thermochemolysis: implications for fungal degradation of wood. <i>Journal of Biological Inorganic Chemistry</i> , 2009, 14, 1253-1263.	2.6	24
66	Fungal diversity and deterioration in mummified woods from the ad Astra Ice Cap region in the Canadian High Arctic. <i>Polar Biology</i> , 2009, 32, 751-758.	1.2	24
67	Microbial activity promoted with organic carbon accumulation in macroaggregates of paddy soils under long-term rice cultivation. <i>Biogeosciences</i> , 2016, 13, 6565-6586.	3.3	23
68	Tree taxa and pyrolysis temperature interact to control the efficacy of pyrogenic organic matter formation. <i>Biogeochemistry</i> , 2016, 130, 103-116.	3.5	22
69	Changes in northeast African hydrology and vegetation associated with Pliocene-Pleistocene sapropel cycles. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2016, 371, 20150243.	4.0	22
70	Inconsistencies between ¹⁴ C and short-lived radionuclides-based sediment accumulation rates: Effects of long-term remineralization. <i>Journal of Environmental Radioactivity</i> , 2017, 174, 10-16.	1.7	22
71	Control of tillage disturbance on the chemistry and proportion of raindrop-liberated particles from soil aggregates. <i>Geoderma</i> , 2018, 330, 19-29.	5.1	22
72	Controls on soil organic carbon stability and temperature sensitivity with increased aboveground litter input in deciduous forests of different forest ages. <i>Soil Biology and Biochemistry</i> , 2019, 134, 90-99.	8.8	22

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73	Grassland to woodland transitions: Dynamic response of microbial community structure and carbon use patterns. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2016, 121, 1675-1688.	3.0	21
74	Degradation and Microbial Uptake of C ₆₀ Fullerenes in Contrasting Agricultural Soils. <i>Environmental Science & Technology</i> , 2017, 51, 1387-1394.	10.0	21
75	Litter quality, dispersal and invasion drive earthworm community dynamics and forest soil development. <i>Oecologia</i> , 2018, 188, 237-250.	2.0	21
76	Assessment of Fungal Wood Decay by Lignin Analysis Using Tetramethylammonium Hydroxide (TMAH) and ¹³ C-Labeled TMAH Thermochemolysis. <i>ACS Symposium Series</i> , 2003, , 119-139.	0.5	20
77	Colocalizing incipient reactions in wood degraded by the brown rot fungus <i>Postia placenta</i> . <i>International Biodeterioration and Biodegradation</i> , 2013, 83, 56-62.	3.9	20
78	Applicability of a ¹⁵ N Multi-Stage Pulse Labeling Approach to Phenotype N Dynamics in Maize Plant Components during the Growing Season. <i>Frontiers in Plant Science</i> , 2017, 8, 1360.	3.6	20
79	Birnessite mediated debromination of decabromodiphenyl ether. <i>Chemosphere</i> , 2006, 64, 1801-1807.	8.2	19
80	Validation of PyMBMS as a High-throughput Screen for Lignin Abundance in Lignocellulosic Biomass of Grasses. <i>Bioenergy Research</i> , 2014, 7, 899-908.	3.9	19
81	Warming yields distinct accumulation patterns of microbial residues in dry and wet alpine grasslands on the Qinghai-Tibetan Plateau. <i>Biology and Fertility of Soils</i> , 2020, 56, 881-892.	4.3	19
82	Crop Nitrogen Uptake and Soil Phenols Accumulation under Continuous Rice Cropping in Arkansas. <i>Soil Science Society of America Journal</i> , 2009, 73, 952-960.	2.2	18
83	A comparative study of the molecular composition of a grassland soil with adjacent unforested and afforested moorland ecosystems. <i>Organic Geochemistry</i> , 2012, 42, 1519-1528.	1.8	18
84	Tillage-induced surface soil roughness controls the chemistry and physics of eroded particles at early erosion stage. <i>Soil and Tillage Research</i> , 2021, 207, 104807.	5.6	18
85	Patterns of woody plant-derived soil carbon losses and persistence after brush management in a semi-arid grassland. <i>Plant and Soil</i> , 2016, 406, 277-293.	3.7	16
86	Soil microbial response to photo-degraded C ₆₀ fullerenes. <i>Environmental Pollution</i> , 2016, 211, 338-345.	7.5	16
87	The Role of Hydraulic Connectivity and Management on Soil Aggregate Size and Stability in the Clear Creek Watershed, Iowa. <i>Geosciences (Switzerland)</i> , 2018, 8, 470.	2.2	16
88	Changes of microbial residues after wetland cultivation and restoration. <i>Biology and Fertility of Soils</i> , 2019, 55, 405-409.	4.3	16
89	Degree of woody encroachment into grasslands controls soil carbohydrate and amino compound changes during long term laboratory incubation. <i>Organic Geochemistry</i> , 2012, 52, 23-31.	1.8	14
90	Effects of elevated CO ₂ on the extractable amino acids of leaf litter and fine roots. <i>New Phytologist</i> , 2014, 202, 1257-1266.	7.3	14

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91	Incipient changes of lignin and substituted fatty acids under N addition in a Chinese forest soil. <i>Organic Geochemistry</i> , 2015, 79, 14-20.	1.8	13
92	Conversion of grassland into cropland affects microbial residue carbon retention in both surface and subsurface soils of a temperate agroecosystem. <i>Biology and Fertility of Soils</i> , 2020, 56, 137-143.	4.3	12
93	Plastic film mulching and nitrogen fertilization enhance the conversion of newly-added maize straw to water-soluble organic carbon. <i>Soil and Tillage Research</i> , 2020, 197, 104527.	5.6	12
94	Aboveground litter addition for five years changes the chemical composition of soil organic matter in a temperate deciduous forest. <i>Soil Biology and Biochemistry</i> , 2021, 161, 108381.	8.8	12
95	Photooxidation of pyrogenic organic matter reduces its reactive, labile C pool and the apparent soil oxidative microbial enzyme response. <i>Geoderma</i> , 2017, 293, 10-18.	5.1	11
96	Three-dimensional Modeling of the Coevolution of Landscape and Soil Organic Carbon. <i>Water Resources Research</i> , 2019, 55, 1218-1241.	4.2	11
97	Signatures of an abiotic decomposition pathway in temperate forest leaf litter. <i>Biogeochemistry</i> , 2021, 153, 177-190.	3.5	11
98	Novel molecular proxies for inferring pyrogenic black carbon oxidation state using thermally assisted hydrolysis and methylation (THM-GC-MS) with ¹³ C-labeled tetramethylammonium hydroxide (TMAH). <i>Journal of Analytical and Applied Pyrolysis</i> , 2016, 121, 146-154.	5.5	9
99	Interacting Controls of Pyrolysis Temperature and Plant Taxa on the Degradability of PyOM in Fire-Prone Northern Temperate Forest Soil. <i>Soil Systems</i> , 2018, 2, 48.	2.6	9
100	Compound-Specific Isotope Analyses of Products from Carbonization of a Fluid Catalytic Cracking Decant Oil Doped with ¹³ C-Enriched 4-Methylthiophene. <i>Energy & Fuels</i> , 1997, 11, 637-646.	5.1	8
101	Quantitative analysis of diverse sporomorph-derived sporopollenins. <i>Phytochemistry</i> , 2019, 162, 207-215.	2.9	8
102	A new dynamic wetness index (DWI) predicts soil moisture persistence and correlates with key indicators of surface soil geochemistry. <i>Geoderma</i> , 2020, 368, 114239.	5.1	8
103	The impact of tillage row orientation on physical and chemical sediment enrichment. , 2020, 3, e20007.		8
104	Noninvasive assessment of microbial activity by realtime monitoring degradation of cellulose acetate via electrochemical impedance measurement. <i>Sensors and Actuators A: Physical</i> , 2021, 321, 112543.	4.1	8
105	Carbon isotope relationships between sulfide-bound steroids and proposed functionalized lipid precursors in sediments from the Santa Barbara Basin, California. <i>Organic Geochemistry</i> , 1996, 25, 367-377.	1.8	7
106	Tree taxa and pyrolysis temperature interact to control pyrogenic organic matter induced native soil organic carbon priming. <i>Soil Biology and Biochemistry</i> , 2018, 119, 174-183.	8.8	7
107	Occurrence and probabilistic health risk assessment (PRA) of dissolved metals in surface water sources in Southern Peru. <i>Environmental Advances</i> , 2021, 5, 100102.	4.8	6
108	Carbon isotopic composition of lignin biomarkers: Evidence of grassland over the Gangetic plain during LGM. <i>Quaternary International</i> , 2015, 355, 194-201.	1.5	5

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109	The Spatiotemporal Evolution of Storm Pulse Particulate Organic Carbon in a Low Gradient, Agriculturally Dominated Watershed. <i>Frontiers in Water</i> , 2021, 3, .	2.3	5
110	Bi-national research and education cooperation in the U.S.-China EcoPartnership for Environmental Sustainability. <i>Journal of Renewable and Sustainable Energy</i> , 2015, 7, 041512.	2.0	2
111	Using Remote Sensing to Discover Historic Context of Humanâ€Environmental Water Resource Dynamics. <i>Journal of Contemporary Water Research and Education</i> , 2020, 171, 74-92.	0.7	2
112	Background and Research Prospect of Geoâ€ecological Survey and Monitor in the Critical Zone of Black Soil. <i>Acta Geologica Sinica</i> , 2019, 93, 126-129.	1.4	0