

Caroline Ann Masiello

List of Publications by Citations

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78
papers

9,334
citations

38
h-index

88
g-index

88
ext. papers

10,607
ext. citations

8.3
avg, IF

6.24
L-index

#	Paper	IF	Citations
78	Biochar effects on soil biota [A review]. <i>Soil Biology and Biochemistry</i> , 2011 , 43, 1812-1836	7.5	2707
77	New directions in black carbon organic geochemistry. <i>Marine Chemistry</i> , 2004 , 92, 201-213	3.7	549
76	Young organic matter as a source of carbon dioxide outgassing from Amazonian rivers. <i>Nature</i> , 2005 , 436, 538-41	50.4	447
75	Comparison of quantification methods to measure fire-derived (black/elemental) carbon in soils and sediments using reference materials from soil, water, sediment and the atmosphere. <i>Global Biogeochemical Cycles</i> , 2007 , 21, n/a-n/a	5.9	413
74	Black carbon in deep-Sea sediments. <i>Science</i> , 1998 , 280, 1911-3	33.3	383
73	Hydrologic properties of biochars produced at different temperatures. <i>Biomass and Bioenergy</i> , 2012 , 41, 34-43	5.3	326
72	New approaches to measuring biochar density and porosity. <i>Biomass and Bioenergy</i> , 2014 , 66, 176-185	5.3	315
71	Cycling and composition of organic matter in terrestrial and marine ecosystems. <i>Marine Chemistry</i> , 2004 , 92, 39-64	3.7	286
70	Temperature sensitivity of black carbon decomposition and oxidation. <i>Environmental Science & Technology</i> , 2010 , 44, 3324-31	10.3	283
69	Controls on black carbon storage in soils. <i>Global Biogeochemical Cycles</i> , 2007 , 21, n/a-n/a	5.9	232
68	Reburial of fossil organic carbon in marine sediments. <i>Nature</i> , 2004 , 427, 336-9	50.4	201
67	Towards a global assessment of pyrogenic carbon from vegetation fires. <i>Global Change Biology</i> , 2016 , 22, 76-91	11.4	189
66	Physical Disintegration of Biochar: An Overlooked Process. <i>Environmental Science and Technology Letters</i> , 2014 , 1, 326-332	11	177
65	Biochar-induced changes in soil hydraulic conductivity and dissolved nutrient fluxes constrained by laboratory experiments. <i>PLoS ONE</i> , 2014 , 9, e108340	3.7	163
64	Carbon isotope geochemistry of the Santa Clara River. <i>Global Biogeochemical Cycles</i> , 2001 , 15, 407-416	5.9	153
63	Aromaticity and degree of aromatic condensation of char. <i>Organic Geochemistry</i> , 2015 , 78, 135-143	3.1	150
62	Weathering controls on mechanisms of carbon storage in grassland soils. <i>Global Biogeochemical Cycles</i> , 2004 , 18, n/a-n/a	5.9	150

61	Biochar and microbial signaling: production conditions determine effects on microbial communication. <i>Environmental Science & Technology</i> , 2013 , 47, 11496-503	10.3	132
60	Biochar particle size, shape, and porosity act together to influence soil water properties. <i>PLoS ONE</i> , 2017 , 12, e0179079	3.7	126
59	Multiple Controls on the Chemical and Physical Structure of Biochars. <i>Industrial & Engineering Chemistry Research</i> , 2012 , 51, 3587-3597	3.9	120
58	Impacts of biochar concentration and particle size on hydraulic conductivity and DOC leaching of biochar and mixtures. <i>Journal of Hydrology</i> , 2016 , 533, 461-472	6	111
57	Thermal Treatment of Hydrocarbon-Impacted Soils: A Review of Technology Innovation for Sustainable Remediation. <i>Engineering</i> , 2016 , 2, 426-437	9.7	111
56	Earthworm avoidance of biochar can be mitigated by wetting. <i>Soil Biology and Biochemistry</i> , 2011 , 43, 1732-1737	7.5	110
55	Biochar physico-chemical properties as affected by environmental exposure. <i>Science of the Total Environment</i> , 2016 , 563-564, 237-46	10.2	80
54	White-rot basidiomycete-mediated decomposition of C60 fullerol. <i>Environmental Science & Technology</i> , 2009 , 43, 3162-8	10.3	78
53	Nitrogen, biochar, and mycorrhizae: Alteration of the symbiosis and oxidation of the char surface. <i>Soil Biology and Biochemistry</i> , 2013 , 58, 248-254	7.5	77
52	Aged black carbon in marine sediments and sinking particles. <i>Geophysical Research Letters</i> , 2014 , 41, 2427-2433	4.9	69
51	Carbon sequestration potential and physicochemical properties differ between wildfire charcoals and slow-pyrolysis biochars. <i>Scientific Reports</i> , 2017 , 7, 11233	4.9	67
50	Evaluating two experimental approaches for measuring ecosystem carbon oxidation state and oxidative ratio. <i>Journal of Geophysical Research</i> , 2008 , 113,		58
49	An ecosystem-scale radiocarbon tracer to test use of litter carbon by ectomycorrhizal fungi. <i>Soil Biology and Biochemistry</i> , 2006 , 38, 1077-1082	7.5	53
48	Pyrolytic Treatment and Fertility Enhancement of Soils Contaminated with Heavy Hydrocarbons. <i>Environmental Science & Technology</i> , 2016 , 50, 2498-506	10.3	50
47	Topographic controls on black carbon accumulation in Alaskan black spruce forest soils: implications for organic matter dynamics. <i>Biogeochemistry</i> , 2010 , 100, 39-56	3.8	47
46	Organic and black carbon ¹³ C and ¹⁴ C through the Santa Monica Basin sediment oxic-anoxic transition. <i>Geophysical Research Letters</i> , 2003 , 30,	4.9	47
45	An NMR study of porous rock and biochar containing organic material. <i>Microporous and Mesoporous Materials</i> , 2013 , 178, 94-98	5.3	42
44	Controls on the origin and cycling of riverine dissolved inorganic carbon in the Brazos River, Texas. <i>Biogeochemistry</i> , 2011 , 104, 275-291	3.8	42

43	Measurement of soil carbon oxidation state and oxidative ratio by ¹³ C nuclear magnetic resonance. <i>Journal of Geophysical Research</i> , 2009 , 114, n/a-n/a		42
42	Is carbon within the global terrestrial biosphere becoming more oxidized? Implications for trends in atmospheric O ₂ . <i>Global Change Biology</i> , 2006 , 12, 260-271	11.4	42
41	Charcoal Disrupts Soil Microbial Communication through a Combination of Signal Sorption and Hydrolysis. <i>ACS Omega</i> , 2016 , 1, 226-233	3.9	39
40	Dynamics of decadal cycling carbon in subsurface soils. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		38
39	Hydrocarbons in Lake Washington sediments. A 25-year retrospective in an urban lake. <i>Environmental Science & Technology</i> , 2004 , 38, 431-9	10.3	37
38	Species-specific measurements of ectomycorrhizal turnover under N-fertilization: combining isotopic and genetic approaches. <i>Oecologia</i> , 2004 , 138, 419-25	2.9	33
37	Sources of CO ₂ evasion from two subtropical rivers in North America. <i>Biogeochemistry</i> , 2010 , 100, 211-235	3.5	32
36	Physical controls on dissolved inorganic radiocarbon variability in the California Current. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 1998 , 45, 617-642	2.3	31
35	Final recommendations for reference materials in black carbon analysis. <i>Eos</i> , 2003 , 84, 582-582	1.5	30
34	Estimating the oxidative ratio of the global terrestrial biosphere carbon. <i>Biogeochemistry</i> , 2013 , 115, 23-32	3.8	29
33	Distributions of dissolved organic and inorganic carbon and radiocarbon in the eastern North Pacific continental margin. <i>Deep-Sea Research Part II: Topical Studies in Oceanography</i> , 1998 , 45, 689-713	2.3	29
32	Toward a "molecular thermometer" to estimate the charring temperature of wildland charcoals derived from different biomass sources. <i>Environmental Science & Technology</i> , 2013 , 47, 11490-5	10.3	26
31	Ecology. Fire in the ocean. <i>Science</i> , 2013 , 340, 287-8	33.3	25
30	Biochar in climate change mitigation. <i>Nature Geoscience</i> , 2021 , 14, 883-892	18.3	25
29	Charring and non-additive chemical reactions during ramped pyrolysis: Applications to the characterization of sedimentary and soil organic material. <i>Organic Geochemistry</i> , 2014 , 77, 106-114	3.1	24
28	Biochar interferes with kiwifruit Fe-nutrition in calcareous soil. <i>Geoderma</i> , 2016 , 272, 10-19	6.7	23
27	Policy support for biochar: Review and recommendations. <i>GCB Bioenergy</i> , 2019 , 11, 364-380	5.6	22
26	Soil organic matter attenuates the efficacy of flavonoid-based plant-microbe communication. <i>Science Advances</i> , 2020 , 6, eaax8254	14.3	22

25	Soil Carbon and Nitrogen Responses to Nitrogen Fertilizer and Harvesting Rates in Switchgrass Cropping Systems. <i>Bioenergy Research</i> , 2017 , 10, 456-464	3.1	21
24	Chemical and Isotopic Thresholds in Charring: Implications for the Interpretation of Charcoal Mass and Isotopic Data. <i>Environmental Science & Technology</i> , 2015 , 49, 14057-64	10.3	21
23	Biochemical suitability of crop residues for cellulosic ethanol: disincentives to nitrogen fertilization in corn agriculture. <i>Environmental Science & Technology</i> , 2011 , 45, 2013-20	10.3	20
22	Tree taxa and pyrolysis temperature interact to control the efficacy of pyrogenic organic matter formation. <i>Biogeochemistry</i> , 2016 , 130, 103-116	3.8	16
21	Valuing the Air Quality Effects of Biochar Reductions on Soil NO Emissions. <i>Environmental Science & Technology</i> , 2017 , 51, 9856-9863	10.3	15
20	Anhydrosugars as tracers in the Earth system. <i>Biogeochemistry</i> , 2019 , 146, 209-256	3.8	15
19	Effect of freeze-thaw cycling on grain size of biochar. <i>PLoS ONE</i> , 2018 , 13, e0191246	3.7	11
18	Volatile Gas Production by Methyl Halide Transferase: An In Situ Reporter Of Microbial Gene Expression In Soil. <i>Environmental Science & Technology</i> , 2016 , 50, 8750-9	10.3	10
17	Short-Term Changes in Physical and Chemical Properties of Soil Charcoal Support Enhanced Landscape Mobility. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2017 , 122, 3098-3107	3.7	10
16	Nutrient Transport in Soils Amended with Biochar: A Transient Model with Two Stationary Phases and Intraparticle Diffusion. <i>Industrial & Engineering Chemistry Research</i> , 2015 , 54, 4123-4135	3.9	10
15	Effect of environmental exposure on charcoal density and porosity in a boreal forest. <i>Science of the Total Environment</i> , 2017 , 592, 316-325	10.2	9
14	Forest soil carbon oxidation state and oxidative ratio responses to elevated CO ₂ . <i>Journal of Geophysical Research G: Biogeosciences</i> , 2015 , 120, 1797-1811	3.7	9
13	Controls on the oxidative ratio of net primary production in agricultural ecosystems. <i>Biogeochemistry</i> , 2014 , 121, 581-594	3.8	9
12	Ratiometric Gas Reporting: A Nondisruptive Approach To Monitor Gene Expression in Soils. <i>ACS Synthetic Biology</i> , 2018 , 7, 903-911	5.7	8
11	Translating New Synthetic Biology Advances for Biosensing Into the Earth and Environmental Sciences. <i>Frontiers in Microbiology</i> , 2020 , 11, 618373	5.7	7
10	Seasonal dynamics of CO ₂ profiles across a soil chronosequence, Santa Cruz, California. <i>Applied Geochemistry</i> , 2011 , 26, S132-S134	3.5	6
9	Plant-fungal symbiosis affects litter decomposition during primary succession. <i>Oikos</i> , 2017 , 126, 801-811	4	5
8	A Split Methyl Halide Transferase AND Gate That Reports by Synthesizing an Indicator Gas. <i>ACS Synthetic Biology</i> , 2020 , 9, 3104-3113	5.7	5

7	First interactions with the hydrologic cycle determine pyrogenic carbon's fate in the Earth system. <i>Earth Surface Processes and Landforms</i> , 2020 , 45, 2394-2398	3.7	4
6	Organic geochemical approaches to identifying formation processes for middens and charcoal-rich features. <i>Organic Geochemistry</i> , 2016 , 94, 1-11	3.1	4
5	Regional background O ₃ and NO _x in the Houston-Galveston-Brazoria (TX) region: a decadal-scale perspective. <i>Atmospheric Chemistry and Physics</i> , 2017 , 17, 6565-6581	6.8	4
4	Interdisciplinary intercomparison of black carbon analysis in soil and sediment. <i>Eos</i> , 2007 , 88, 344	1.5	3
3	Water cost savings from soil biochar amendment: A spatial analysis. <i>GCB Bioenergy</i> , 2021 , 13, 133-142	5.6	3
2	Plant species, not climate, controls aboveground biomass O ₂ :CO ₂ exchange ratios in deciduous and coniferous ecosystems. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2017 , 122, 2314-2324	3.7	2
1	A zero-dimensional view of atmospheric degradation of levoglucosan (LEVCHEM_v1) using numerical chamber simulations. <i>Geoscientific Model Development</i> , 2021 , 14, 907-921	6.3	1