David A Laird

List of Publications by Year in Descending Order

63 papers	6,848 citations	34 h-index	63 g-index
63 ext. papers	7,651 ext. citations	4.9 avg, IF	6.39 L-index

#	Paper	IF	Citations
63	Temperature Effects on Properties of Rice Husk Biochar and Calcinated Burkina Phosphate Rock. *Agriculture (Switzerland)*, **2021**, 11, 432	3	1
62	Enhancing Biochar as Scaffolding for Slow Release of Nitrogen Fertilizer. *ACS Sustainable Chemistry and Engineering*, **2021**, 9, 8222-8231	8.3	3
61	Capture and Release of Orthophosphate by Fe-Modified Biochars: Mechanisms and Environmental Applications. *ACS Sustainable Chemistry and Engineering*, **2021**, 9, 658-668	8.3	13
60	Perennial cover crop influences on soil C and N and maize productivity. *Nutrient Cycling in Agroecosystems*, **2020**, 116, 135-150	3.3	2
59	Soil carbon increased by twice the amount of biochar carbon applied after 6 years: Field evidence of negative priming. *GCB Bioenergy*, **2020**, 12, 240-251	5.6	28
58	Strategic switchgrass (Panicum virgatum) production within row cropping systems: Regional-scale assessment of soil erosion loss and water runoff impacts. *GCB Bioenergy*, **2020**, 12, 955-967	5.6	5
57	Estimating the organic oxygen content of biochar. *Scientific Reports*, **2020**, 10, 13082	4.9	16
56	Regenerating Agricultural Landscapes with Perennial Groundcover for Intensive Crop Production. *Agronomy*, **2019**, 9, 458	3.6	17
55	Effect of Biochar on Soil Greenhouse Gas Emissions at the Laboratory and Field Scales. *Soil Systems*, **2019**, 3, 8	3.5	54
54	Development of field mobile soil nitrate sensor technology to facilitate precision fertilizer management. *Precision Agriculture*, **2019**, 20, 40-55	5.6	24
53	Adsorption behaviour and mechanisms of cadmium and nickel on rice straw biochars in single- and binary-metal systems. *Chemosphere*, **2019**, 218, 308-318	8.4	88
52	Arsenic sorption on zero-valent iron-biochar complexes. *Water Research*, **2018**, 137, 153-163	12.5	154
51	Impact of Pyrolysis Temperature and Feedstock on Surface Charge and Functional Group Chemistry of Biochars. *Journal of Environmental Quality*, **2018**, 47, 452-461	3.4	68
50	Long term biochar effects on corn yield, soil quality and profitability in the US Midwest. *Field Crops Research*, **2018**, 227, 30-40	5.5	21
49	Quantification and characterization of chemically-and thermally-labile and recalcitrant biochar fractions. *Chemosphere*, **2018**, 194, 247-255	8.4	13
48	Sorption of ammonium and nitrate to biochars is electrostatic and pH-dependent. *Scientific Reports*, **2018**, 8, 17627	4.9	93
47	Quantitative mechanisms of cadmium adsorption on rice straw- and swine manure-derived biochars. *Environmental Science and Pollution Research*, **2018**, 25, 32418-32432	5.1	23

46	Perennial biomass crop establishment, community characteristics, and productivity in the upper US Midwest: Effects of cropping systems seed mixtures and biochar applications. *European Journal of Agronomy*, **2018**, 101, 121-128	5	13
45	Impact of six lignocellulosic biochars on C and N dynamics of two contrasting soils. *GCB Bioenergy*, **2017**, 9, 1279-1291	5.6	21
44	Impact of Biochar Organic and Inorganic Carbon on Soil CO and NO Emissions. *Journal of Environmental Quality*, **2017**, 46, 505-513	3.4	23
43	Commentary on Current economic obstacles to biochar use in agriculture and climate change mitigation regarding uncertainty, context-specificity and alternative value sources. *Carbon Management*, **2017**, 8, 215-217	3.3	4
42	Establishment of Perennial Groundcovers for Maize-Based Bioenergy Production Systems. *Agronomy Journal*, **2017**, 109, 822-835	2.2	8
41	Aluminum and iron biomass pretreatment impacts on biochar anion exchange capacity. *Carbon*, **2017**, 118, 422-430	10.4	39
40	Macroporous Carbon Supported Zerovalent Iron for Remediation of Trichloroethylene. *ACS Sustainable Chemistry and Engineering*, **2017**, 5, 1586-1593	8.3	46
39	Temperature and reaction atmosphere effects on the properties of corn stover biochar. *Environmental Progress and Sustainable Energy*, **2017**, 36, 696-707	2.5	11
38	Characterization and quantification of biochar alkalinity. *Chemosphere*, **2017**, 167, 367-373	8.4	163
37	Sustainable Pyrolytic Production of Zerovalent Iron. *ACS Sustainable Chemistry and Engineering*, **2017**, 5, 767-773	8.3	34
36	Living Mulch for Sustainable Maize Stover Biomass Harvest. *Crop Science*, **2017**, 57, 3273-3290	2.4	5
35	Comparison of the Physical and Chemical Properties of Laboratory and Field-Aged Biochars. *Journal of Environmental Quality*, **2016**, 45, 1627-1634	3.4	24
34	Corn and soil response to biochar application and stover harvest. *Field Crops Research*, **2016**, 187, 96-106	5.5	40
33	A model for mechanistic and system assessments of biochar effects on soils and crops and trade-offs. *GCB Bioenergy*, **2016**, 8, 1028-1045	5.6	29
32	Anion exchange capacity of biochar. *Green Chemistry*, **2015**, 17, 4628-4636	10	125
31	Producing energy while sequestering carbon? The relationship between biochar and agricultural productivity. *Biomass and Bioenergy*, **2014**, 63, 167-176	5.3	40
30	Biochar impact on Midwestern Mollisols and maize nutrient availability. *Geoderma*, **2014**, 230-231, 340-347	4.7	111
29	Vertical Distribution of Structural Components in Corn Stover. *Agriculture (Switzerland)*, **2014**, 4, 274-287	3	3

28	Assessing potential of biochar for increasing water-holding capacity of sandy soils. *GCB Bioenergy*, **2013**, 5, 132-143	5.6	306
27	Evaluation of modified boehm titration methods for use with biochars. *Journal of Environmental Quality*, **2013**, 42, 1771-8	3.4	71
26	Real-time sensing of soil nitrate concentration in the parts per million range while the soil is in motion. *Applied Spectroscopy*, **2013**, 67, 1106-10	3.1	3
25	Quantitative Prediction of Biochar Soil Amendments by Near-Infrared Reflectance Spectroscopy. *Soil Science Society of America Journal*, **2013**, 77, 1784-1794	2.5	6
24	Extent of pyrolysis impacts on fast pyrolysis biochar properties. *Journal of Environmental Quality*, **2012**, 41, 1115-22	3.4	70
23	Environmental benefits of biochar. *Journal of Environmental Quality*, **2012**, 41, 967-72	3.4	212
22	Comprehensive Study of Organic Contaminant Adsorption by Clays: Methodologies, Mechanisms, and Environmental Implications **2011**, 51-71		8
21	Vertical Distribution of Corn Stover Dry Mass Grown at Several US Locations. *Bioenergy Research*, **2011**, 4, 11-21	3.1	37
20	Impact of biochar amendments on the quality of a typical Midwestern agricultural soil. *Geoderma*, **2010**, 158, 443-449	6.7	835
19	Bio-oil and bio-char production from corn cobs and stover by fast pyrolysis. *Biomass and Bioenergy*, **2010**, 34, 67-74	5.3	489
18	Review of the pyrolysis platform for coproducing bio-oil and biochar. *Biofuels, Bioproducts and Biorefining*, **2009**, 3, 547-562	5.3	473
17	Distinguishing black carbon from biogenic humic substances in soil clay fractions. *Geoderma*, **2008**, 143, 115-122	6.7	44
16	The Charcoal Vision: A Win□Win□Win Scenario for Simultaneously Producing Bioenergy, Permanently Sequestering Carbon, while Improving Soil and Water Quality. *Agronomy Journal*, **2008** , 100, 178	2.2	250
15	The Charcoal Vision: A Win□Win□Win Scenario for Simultaneously Producing Bioenergy, Permanently Sequestering Carbon, while Improving Soil and Water Quality. *Agronomy Journal*, **2008** , 100, 178-181	2.2	366
14	Triazine Soil Interactions **2008**, 275-299		11
13	Role of Smectite Quasicrystal Dynamics in Adsorption of Dinitrophenol. *Soil Science Society of America Journal*, **2008**, 72, 347-354	2.5	10
12	Influence of layer charge on swelling of smectites. *Applied Clay Science*, **2006**, 34, 74-87	5.2	250
11	Exchangeable Cation Hydration Properties Strongly Influence Soil Sorption of Nitroaromatic Compounds. *Soil Science Society of America Journal*, **2006**, 70, 1470-1479	2.5	44

10	Spectroscopic study of carbaryl sorption on smectite from aqueous suspension. *Environmental Science & Technology*, **2005**, 39, 9123-9	10.3	34
9	INFLUENCE OF SOIL MOISTURE ON NEAR-INFRARED REFLECTANCE SPECTROSCOPIC MEASUREMENT OF SOIL PROPERTIES. *Soil Science*, **2005**, 170, 244-255	0.9	98
8	Carbon Sequestration in Clay Mineral Fractions from 14C-Labeled Plant Residues. *Soil Science Society of America Journal*, **2003**, 67, 1715-1720	2.5	37
7	NEAR-INFRARED REFLECTANCE SPECTROSCOPIC ANALYSIS OF SOIL C AND N. *Soil Science*, **2002**, 167, 110-116	0.9	286
6	Near-Infrared Reflectance Spectroscopy–Principal Components Regression Analyses of Soil Properties. *Soil Science Society of America Journal*, **2001**, 65, 480-490	2.5	1164
5	Relationship Between Cation Exchange Selectivity and Crystalline Swelling in Expanding 2:1 Phyllosilicates. *Clays and Clay Minerals*, **1997**, 45, 681-689	2.1	54
4	Model for Crystalline Swelling of 2:1 Phyllosilicates. *Clays and Clay Minerals*, **1996**, 44, 553-559	2.1	84
3	Interactions Between Atrazine and Smectite Surfaces. *ACS Symposium Series*, **1996**, 86-100	0.4	22
2	Hysteresis in Crystalline Swelling of Smectites. *Journal of Colloid and Interface Science*, **1995**, 171, 240-245	9.3	82
1	Sorption of atrazine on Soil Clay Components. *Environmental Science & Technology*, **1994**, 28, 1054-61	10.3	140