

# David A Laird

## List of Publications by Citations

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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	Near-Infrared Reflectance Spectroscopy Principal Components Regression Analyses of Soil Properties. <i>Soil Science Society of America Journal</i> , <b>2001</b> , 65, 480-490	2.5	1164
62	Impact of biochar amendments on the quality of a typical Midwestern agricultural soil. <i>Geoderma</i> , <b>2010</b> , 158, 443-449	6.7	835
61	Bio-oil and bio-char production from corn cobs and stover by fast pyrolysis. <i>Biomass and Bioenergy</i> , <b>2010</b> , 34, 67-74	5.3	489
60	Review of the pyrolysis platform for coproducing bio-oil and biochar. <i>Biofuels, Bioproducts and Biorefining</i> , <b>2009</b> , 3, 547-562	5.3	473
59	The Charcoal Vision: A WinWinWin Scenario for Simultaneously Producing Bioenergy, Permanently Sequestering Carbon, while Improving Soil and Water Quality. <i>Agronomy Journal</i> , <b>2008</b> , 100, 178-181	2.2	366
58	Assessing potential of biochar for increasing water-holding capacity of sandy soils. <i>GCB Bioenergy</i> , <b>2013</b> , 5, 132-143	5.6	306
57	NEAR-INFRARED REFLECTANCE SPECTROSCOPIC ANALYSIS OF SOIL C AND N. <i>Soil Science</i> , <b>2002</b> , 167, 110-116	0.9	286
56	The Charcoal Vision: A WinWinWin Scenario for Simultaneously Producing Bioenergy, Permanently Sequestering Carbon, while Improving Soil and Water Quality. <i>Agronomy Journal</i> , <b>2008</b> , 100, 178	2.2	250
55	Influence of layer charge on swelling of smectites. <i>Applied Clay Science</i> , <b>2006</b> , 34, 74-87	5.2	250
54	Environmental benefits of biochar. <i>Journal of Environmental Quality</i> , <b>2012</b> , 41, 967-72	3.4	212
53	Characterization and quantification of biochar alkalinity. <i>Chemosphere</i> , <b>2017</b> , 167, 367-373	8.4	163
52	Arsenic sorption on zero-valent iron-biochar complexes. <i>Water Research</i> , <b>2018</b> , 137, 153-163	12.5	154
51	Sorption of atrazine on Soil Clay Components. <i>Environmental Science &amp; Technology</i> , <b>1994</b> , 28, 1054-61	6.3	140
50	Anion exchange capacity of biochar. <i>Green Chemistry</i> , <b>2015</b> , 17, 4628-4636	10	125
49	Biochar impact on Midwestern Mollisols and maize nutrient availability. <i>Geoderma</i> , <b>2014</b> , 230-231, 340-347		111
48	INFLUENCE OF SOIL MOISTURE ON NEAR-INFRARED REFLECTANCE SPECTROSCOPIC MEASUREMENT OF SOIL PROPERTIES. <i>Soil Science</i> , <b>2005</b> , 170, 244-255	0.9	98
47	Sorption of ammonium and nitrate to biochars is electrostatic and pH-dependent. <i>Scientific Reports</i> , <b>2018</b> , 8, 17627	4.9	93

46	Adsorption behaviour and mechanisms of cadmium and nickel on rice straw biochars in single- and binary-metal systems. <i>Chemosphere</i> , <b>2019</b> , 218, 308-318	8.4	88
45	Model for Crystalline Swelling of 2:1 Phyllosilicates. <i>Clays and Clay Minerals</i> , <b>1996</b> , 44, 553-559	2.1	84
44	Hysteresis in Crystalline Swelling of Smectites. <i>Journal of Colloid and Interface Science</i> , <b>1995</b> , 171, 240-245	4.3	82
43	Evaluation of modified boehm titration methods for use with biochars. <i>Journal of Environmental Quality</i> , <b>2013</b> , 42, 1771-8	3.4	71
42	Extent of pyrolysis impacts on fast pyrolysis biochar properties. <i>Journal of Environmental Quality</i> , <b>2012</b> , 41, 1115-22	3.4	70
41	Impact of Pyrolysis Temperature and Feedstock on Surface Charge and Functional Group Chemistry of Biochars. <i>Journal of Environmental Quality</i> , <b>2018</b> , 47, 452-461	3.4	68
40	Effect of Biochar on Soil Greenhouse Gas Emissions at the Laboratory and Field Scales. <i>Soil Systems</i> , <b>2019</b> , 3, 8	3.5	54
39	Relationship Between Cation Exchange Selectivity and Crystalline Swelling in Expanding 2:1 Phyllosilicates. <i>Clays and Clay Minerals</i> , <b>1997</b> , 45, 681-689	2.1	54
38	Macroporous Carbon Supported Zerovalent Iron for Remediation of Trichloroethylene. <i>ACS Sustainable Chemistry and Engineering</i> , <b>2017</b> , 5, 1586-1593	8.3	46
37	Distinguishing black carbon from biogenic humic substances in soil clay fractions. <i>Geoderma</i> , <b>2008</b> , 143, 115-122	6.7	44
36	Exchangeable Cation Hydration Properties Strongly Influence Soil Sorption of Nitroaromatic Compounds. <i>Soil Science Society of America Journal</i> , <b>2006</b> , 70, 1470-1479	2.5	44
35	Corn and soil response to biochar application and stover harvest. <i>Field Crops Research</i> , <b>2016</b> , 187, 96-106	5.5	40
34	Producing energy while sequestering carbon? The relationship between biochar and agricultural productivity. <i>Biomass and Bioenergy</i> , <b>2014</b> , 63, 167-176	5.3	40
33	Aluminum and iron biomass pretreatment impacts on biochar anion exchange capacity. <i>Carbon</i> , <b>2017</b> , 118, 422-430	10.4	39
32	Vertical Distribution of Corn Stover Dry Mass Grown at Several US Locations. <i>Bioenergy Research</i> , <b>2011</b> , 4, 11-21	3.1	37
31	Carbon Sequestration in Clay Mineral Fractions from <sup>14</sup> C-Labeled Plant Residues. <i>Soil Science Society of America Journal</i> , <b>2003</b> , 67, 1715-1720	2.5	37
30	Sustainable Pyrolytic Production of Zerovalent Iron. <i>ACS Sustainable Chemistry and Engineering</i> , <b>2017</b> , 5, 767-773	8.3	34
29	Spectroscopic study of carbaryl sorption on smectite from aqueous suspension. <i>Environmental Science &amp; Technology</i> , <b>2005</b> , 39, 9123-9	10.3	34

28	A model for mechanistic and system assessments of biochar effects on soils and crops and trade-offs. <i>GCB Bioenergy</i> , <b>2016</b> , 8, 1028-1045	5.6	29
27	Soil carbon increased by twice the amount of biochar carbon applied after 6 years: Field evidence of negative priming. <i>GCB Bioenergy</i> , <b>2020</b> , 12, 240-251	5.6	28
26	Comparison of the Physical and Chemical Properties of Laboratory and Field-Aged Biochars. <i>Journal of Environmental Quality</i> , <b>2016</b> , 45, 1627-1634	3.4	24
25	Development of field mobile soil nitrate sensor technology to facilitate precision fertilizer management. <i>Precision Agriculture</i> , <b>2019</b> , 20, 40-55	5.6	24
24	Impact of Biochar Organic and Inorganic Carbon on Soil CO and NO Emissions. <i>Journal of Environmental Quality</i> , <b>2017</b> , 46, 505-513	3.4	23
23	Quantitative mechanisms of cadmium adsorption on rice straw- and swine manure-derived biochars. <i>Environmental Science and Pollution Research</i> , <b>2018</b> , 25, 32418-32432	5.1	23
22	Interactions Between Atrazine and Smectite Surfaces. <i>ACS Symposium Series</i> , <b>1996</b> , 86-100	0.4	22
21	Impact of six lignocellulosic biochars on C and N dynamics of two contrasting soils. <i>GCB Bioenergy</i> , <b>2017</b> , 9, 1279-1291	5.6	21
20	Long term biochar effects on corn yield, soil quality and profitability in the US Midwest. <i>Field Crops Research</i> , <b>2018</b> , 227, 30-40	5.5	21
19	Regenerating Agricultural Landscapes with Perennial Groundcover for Intensive Crop Production. <i>Agronomy</i> , <b>2019</b> , 9, 458	3.6	17
18	Estimating the organic oxygen content of biochar. <i>Scientific Reports</i> , <b>2020</b> , 10, 13082	4.9	16
17	Capture and Release of Orthophosphate by Fe-Modified Biochars: Mechanisms and Environmental Applications. <i>ACS Sustainable Chemistry and Engineering</i> , <b>2021</b> , 9, 658-668	8.3	13
16	Quantification and characterization of chemically-and thermally-labile and recalcitrant biochar fractions. <i>Chemosphere</i> , <b>2018</b> , 194, 247-255	8.4	13
15	Perennial biomass crop establishment, community characteristics, and productivity in the upper US Midwest: Effects of cropping systems seed mixtures and biochar applications. <i>European Journal of Agronomy</i> , <b>2018</b> , 101, 121-128	5	13
14	Temperature and reaction atmosphere effects on the properties of corn stover biochar. <i>Environmental Progress and Sustainable Energy</i> , <b>2017</b> , 36, 696-707	2.5	11
13	Triazine Soil Interactions <b>2008</b> , 275-299		11
12	Role of Smectite Quasicrystal Dynamics in Adsorption of Dinitrophenol. <i>Soil Science Society of America Journal</i> , <b>2008</b> , 72, 347-354	2.5	10
11	Establishment of Perennial Groundcovers for Maize-Based Bioenergy Production Systems. <i>Agronomy Journal</i> , <b>2017</b> , 109, 822-835	2.2	8

10	Comprehensive Study of Organic Contaminant Adsorption by Clays: Methodologies, Mechanisms, and Environmental Implications <b>2011</b> , 51-71		8
9	Quantitative Prediction of Biochar Soil Amendments by Near-Infrared Reflectance Spectroscopy. <i>Soil Science Society of America Journal</i> , <b>2013</b> , 77, 1784-1794	2.5	6
8	Living Mulch for Sustainable Maize Stover Biomass Harvest. <i>Crop Science</i> , <b>2017</b> , 57, 3273-3290	2.4	5
7	Strategic switchgrass ( <i>Panicum virgatum</i> ) production within row cropping systems: Regional-scale assessment of soil erosion loss and water runoff impacts. <i>GCB Bioenergy</i> , <b>2020</b> , 12, 955-967	5.6	5
6	Commentary on Current economic obstacles to biochar use in agriculture and climate change mitigation regarding uncertainty, context-specificity and alternative value sources. <i>Carbon Management</i> , <b>2017</b> , 8, 215-217	3.3	4
5	Vertical Distribution of Structural Components in Corn Stover. <i>Agriculture (Switzerland)</i> , <b>2014</b> , 4, 274-283		3
4	Real-time sensing of soil nitrate concentration in the parts per million range while the soil is in motion. <i>Applied Spectroscopy</i> , <b>2013</b> , 67, 1106-10	3.1	3
3	Enhancing Biochar as Scaffolding for Slow Release of Nitrogen Fertilizer. <i>ACS Sustainable Chemistry and Engineering</i> , <b>2021</b> , 9, 8222-8231	8.3	3
2	Perennial cover crop influences on soil C and N and maize productivity. <i>Nutrient Cycling in Agroecosystems</i> , <b>2020</b> , 116, 135-150	3.3	2
1	Temperature Effects on Properties of Rice Husk Biochar and Calcinated Burkina Phosphate Rock. <i>Agriculture (Switzerland)</i> , <b>2021</b> , 11, 432	3	1