Andrew R Zimmerman

List of Publications by Citations

110 papers	14,326 citations	53 h-index	119 g-index
119 ext. papers	16,528 ext. citations	7.8 avg, IF	6.97 L-index

#	Paper	IF	Citations
110	Positive and negative carbon mineralization priming effects among a variety of biochar-amended soils. *Soil Biology and Biochemistry*, **2011**, 43, 1169-1179	7.5	897
109	Abiotic and microbial oxidation of laboratory-produced black carbon (biochar). *Environmental Science & Technology*, **2010**, 44, 1295-301	10.3	728
108	A review of biochar as a low-cost adsorbent for aqueous heavy metal removal. *Critical Reviews in Environmental Science and Technology*, **2016**, 46, 406-433	11.1	703
107	Surface chemistry variations among a series of laboratory-produced biochars. *Geoderma*, **2011**, 163, 247-255	6.7	699
106	Effect of biochar amendment on sorption and leaching of nitrate, ammonium, and phosphate in a sandy soil. *Chemosphere*, **2012**, 89, 1467-71	8.4	553
105	Removal of heavy metals from aqueous solution by biochars derived from anaerobically digested biomass. *Bioresource Technology*, **2012**, 110, 50-6	11	519
104	Corn growth and nitrogen nutrition after additions of biochars with varying properties to a temperate soil. *Biology and Fertility of Soils*, **2012**, 48, 271-284	6.1	456
103	Hydrogen peroxide modification enhances the ability of biochar (hydrochar) produced from hydrothermal carbonization of peanut hull to remove aqueous heavy metals: Batch and column tests. *Chemical Engineering Journal*, **2012**, 200-202, 673-680	14.7	451
102	Biochar derived from anaerobically digested sugar beet tailings: characterization and phosphate removal potential. *Bioresource Technology*, **2011**, 102, 6273-8	11	424
101	Removal of arsenic by magnetic biochar prepared from pinewood and natural hematite. *Bioresource Technology*, **2015**, 175, 391-5	11	410
100	Quantifying the total and bioavailable polycyclic aromatic hydrocarbons and dioxins in biochars. *Environmental Science & Technology*, **2012**, 46, 2830-8	10.3	410
99	Removal of phosphate from aqueous solution by biochar derived from anaerobically digested sugar beet tailings. *Journal of Hazardous Materials*, **2011**, 190, 501-7	12.8	395
98	Biochar application to low fertility soils: A review of current status, and future prospects. *Geoderma* , **2019**, 337, 536-554	6.7	357
97	Batch and column sorption of arsenic onto iron-impregnated biochar synthesized through hydrolysis. *Water Research*, **2015**, 68, 206-16	12.5	347
96	Organic carbon and nutrient release from a range of laboratory-produced biochars and biochar–soil mixtures. *Geoderma*, **2013**, 193-194, 122-130	6.7	337
95	Catechol and humic acid sorption onto a range of laboratory-produced black carbons (biochars). *Environmental Science & Technology*, **2010**, 44, 6189-95	10.3	329
94	Biochar from anaerobically digested sugarcane bagasse. *Bioresource Technology*, **2010**, 101, 8868-72	11	298

93	Effects of chemical, biological, and physical aging as well as soil addition on the sorption of pyrene to activated carbon and biochar. *Environmental Science & Technology*, **2011**, 45, 10445-53	10.3	283
92	Biochar-supported zerovalent iron for removal of various contaminants from aqueous solutions. *Bioresource Technology*, **2014**, 152, 538-42	11	275
91	Manganese oxide-modified biochars: preparation, characterization, and sorption of arsenate and lead. *Bioresource Technology*, **2015**, 181, 13-7	11	254
90	Taxa-specific changes in soil microbial community composition induced by pyrogenic carbon amendments. *Soil Biology and Biochemistry*, **2011**, 43, 385-392	7.5	250
89	Degradation and resilience in Louisiana salt marshes after the BP-Deepwater Horizon oil spill. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 11234-9	11.5	245
88	Sorption of heavy metals on chitosan-modified biochars and its biological effects. *Chemical Engineering Journal*, **2013**, 231, 512-518	14.7	241
87	An index-based approach to assessing recalcitrance and soil carbon sequestration potential of engineered black carbons (biochars). *Environmental Science & Technology*, **2012**, 46, 1415-21	10.3	239
86	A geochemical record of eutrophication and anoxia in Chesapeake Bay sediments: anthropogenic influence on organic matter composition. *Marine Chemistry*, **2000**, 69, 117-137	3.7	208
85	Adsorption of sulfamethoxazole on biochar and its impact on reclaimed water irrigation. *Journal of Hazardous Materials*, **2012**, 209-210, 408-13	12.8	198
84	Effects of ball milling on the physicochemical and sorptive properties of biochar: Experimental observations and governing mechanisms. *Environmental Pollution*, **2018**, 233, 54-63	9.3	188
83	Effects of biochar and other amendments on the physical properties and greenhouse gas emissions of an artificially degraded soil. *Science of the Total Environment*, **2014**, 487, 26-36	10.2	184
82	Enhanced Lead Sorption by Biochar Derived from Anaerobically Digested Sugarcane Bagasse. *Separation Science and Technology*, **2011**, 46, 1950-1956	2.5	179
81	Experimental and modeling investigations of ball-milled biochar for the removal of aqueous methylene blue. *Chemical Engineering Journal*, **2018**, 335, 110-119	14.7	160
80	Sparse pre-Columbian human habitation in western Amazonia. *Science*, **2012**, 336, 1429-31	33.3	151
79	Sorption of the antibiotic ofloxacin to mesoporous and nonporous alumina and silica. *Journal of Colloid and Interface Science*, **2005**, 283, 160-70	9.3	144
78	Hydrochars derived from plant biomass under various conditions: Characterization and potential applications and impacts. *Chemical Engineering Journal*, **2015**, 267, 253-259	14.7	141
77	Physicochemical and sorptive properties of biochars derived from woody and herbaceous biomass. *Chemosphere*, **2015**, 134, 257-62	8.4	140
76	Physicochemical changes in pyrogenic organic matter (biochar) after 15 months of field aging. *Solid Earth*, **2014**, 5, 693-704	3.3	120

75	Bulk Organic Matter and Lipid Biomarker Composition of Chesapeake Bay Surficial Sediments as Indicators of Environmental Processes. *Estuarine, Coastal and Shelf Science*, **2001**, 53, 319-341	2.9	111
74	Sorption and cosorption of lead and sulfapyridine on carbon nanotube-modified biochars. *Environmental Science and Pollution Research*, **2015**, 22, 1868-76	5.1	106
73	Protection of mesopore-adsorbed organic matter from enzymatic degradation. *Environmental Science & Technology*, **2004**, 38, 4542-8	10.3	96
72	Sediment geochemical records of eutrophication in the mesohaline Chesapeake Bay. *Limnology and Oceanography*, **2002**, 47, 1084-1093	4.8	96
71	Sorption of lead and methylene blue onto hickory biochars from different pyrolysis temperatures: Importance of physicochemical properties. *Journal of Industrial and Engineering Chemistry*, **2016**, 37, 261-267	6.3	90
70	Rapid degradation of Deepwater Horizon spilled oil by indigenous microbial communities in Louisiana saltmarsh sediments. *Environmental Science & Technology*, **2013**, 47, 13303-12	10.3	89
69	Mineral mesopore effects on nitrogenous organic matter adsorption. *Organic Geochemistry*, **2004**, 35, 355-375	3.1	87
68	Radiocarbon Dating, Chronologic Framework, and Changes in Accumulation Rates of Holocene Estuarine Sediments from Chesapeake Bay. *Quaternary Research*, **2002**, 57, 58-70	1.9	71
67	Surface Charge of Variable Porosity Al2O3(s) and SiO2(s) Adsorbents. *Journal of Porous Materials*, **2002**, 9, 243-256	2.4	68
66	Ball milled biochar effectively removes sulfamethoxazole and sulfapyridine antibiotics from water and wastewater. *Environmental Pollution*, **2020**, 258, 113809	9.3	68
65	Spatial and temporal scales of pre-Columbian disturbance associated with western Amazonian lakes. *Holocene*, **2012**, 22, 131-141	2.6	67
64	Sorption and cosorption of lead (II) and methylene blue on chemically modified biomass. *Bioresource Technology*, **2014**, 167, 569-73	11	63
63	Solvent-free synthesis of magnetic biochar and activated carbon through ball-mill extrusion with FeO nanoparticles for enhancing adsorption of methylene blue. *Science of the Total Environment*, **2020**, 722, 137972	10.2	62
62	Sorption of arsenic onto Ni/Fe layered double hydroxide (LDH)-biochar composites. *RSC Advances*, **2016**, 6, 17792-17799	3.7	62
61	Carbon Mineralization and Labile Organic Carbon Pools in the Sandy Soils of a North Florida Watershed. *Ecosystems*, **2009**, 12, 672-685	3.9	62
60	Biochar-supported zerovalent iron reclaims silver from aqueous solution to form antimicrobial nanocomposite. *Chemosphere*, **2014**, 117, 801-5	8.4	57
59	A 700 year record of combustion-derived pollution in northern Spain: tools to identify the Holocene/Anthropocene transition in coastal environments. *Science of the Total Environment*, **2014**, 470-471, 240-7	10.2	56
58	Novel biochar-impregnated calcium alginate beads with improved water holding and nutrient retention properties. *Journal of Environmental Management*, **2018**, 209, 105-111	7.9	54

57	A Pb isotope record of mid-Atlantic US atmospheric Pb emissions in Chesapeake Bay sediments. *Marine Chemistry*, **2002**, 77, 123-132	3.7	53
56	Sorption of hydrophobic organic compounds to a diverse suite of carbonaceous materials with emphasis on biochar. *Chemosphere*, **2016**, 144, 879-87	8.4	48
55	Physically (CO2) activated hydrochars from hickory and peanut hull: preparation, characterization, and sorption of methylene blue, lead, copper, and cadmium. *RSC Advances*, **2016**, 6, 24906-24911	3.7	48
54	Composition of particulate organic matter in the southern Chesapeake Bay: Sources and Reactivity. *Estuaries and Coasts*, **1999**, 22, 980		48
53	Effects of laboratory biotic aging on the characteristics of biochar and its water-soluble organic products. *Journal of Hazardous Materials*, **2020**, 382, 121071	12.8	45
52	Impregnation of multiwall carbon nanotubes in alginate beads dramatically enhances their adsorptive ability to aqueous methylene blue. *Chemical Engineering Research and Design*, **2018**, 133, 235-242	3.5	40
51	Bioconcentration factor-based management of soil pesticide residues: Endosulfan uptake by carrot and potato plants. *Science of the Total Environment*, **2018**, 627, 514-522	10.2	39
50	Characteristics of Trametes villosa laccase adsorbed on aluminum hydroxide. *Enzyme and Microbial Technology*, **2007**, 41, 141-148	3.8	38
49	Transformation of catechol in the presence of a laccase and birnessite. *Soil Biology and Biochemistry* , **2006**, 38, 1015-1020	7.5	37
48	Sorption of atrazine and ametryn by carbonatic and non-carbonatic soils of varied origin. *Environmental Pollution*, **2012**, 169, 12-9	9.3	36
47	Multi-year double cropping biochar field trials in Nepal: Finding the optimal biochar dose through agronomic trials and cost-benefit analysis. *Science of the Total Environment*, **2018**, 637-638, 1333-1341	10.2	36
46	Priming of pyrogenic C (biochar) mineralization by dissolved organic matter and vice versa. *Soil Biology and Biochemistry*, **2019**, 130, 105-112	7.5	32
45	One-pot synthesis and characterization of engineered hydrochar by hydrothermal carbonization of biomass with ZnCl. *Chemosphere*, **2020**, 254, 126866	8.4	29
44	Can biochar and designer biochar be used to remediate per- and polyfluorinated alkyl substances (PFAS) and lead and antimony contaminated soils?. *Science of the Total Environment*, **2019**, 694, 133693	10.2	27
43	Organo-Mineral-Enzyme Interaction and Soil Enzyme Activity. *Soil Biology*, **2010**, 271-292	1	26
42	Influence of mesoporosity on the sorption of 2,4-dichlorophenoxyacetic acid onto alumina and silica. *Journal of Colloid and Interface Science*, **2004**, 272, 10-20	9.3	23
41	Simulated photocatalytic aging of biochar in soil ecosystem: Insight into organic carbon release, surface physicochemical properties and cadmium sorption. *Environmental Research*, **2020**, 183, 109241	7.9	22
40	Impacts of 1.5-Year Field Aging on Biochar, Humic Acid, and Water Treatment Residual Amended Soil. *Soil Science*, **2014**, 179, 333-339	0.9	22

39	Removal of aqueous Cr(VI) by Zn- and Al-modified hydrochar. *Chemosphere*, **2020**, 260, 127610	8.4	22
38	Comparative investigation of characteristics and phosphate removal by engineered biochars with different loadings of magnesium, aluminum, or iron. *Science of the Total Environment*, **2020**, 747, 141277	10.2	22
37	Impacts of Biochar and Other Amendments on Soil-Carbon and Nitrogen Stability: A Laboratory Column Study. *Soil Science Society of America Journal*, **2014**, 78, 1258-1266	2.5	21
36	Mechanisms and adsorption capacities of hydrogen peroxide modified ball milled biochar for the removal of methylene blue from aqueous solutions. *Bioresource Technology*, **2021**, 337, 125432	11	21
35	Sorption of the monoterpenes □pinene and limonene to carbonaceous geosorbents including biochar. *Chemosphere*, **2015**, 119, 881-888	8.4	20
34	Production and Composition of Pyrogenic Dissolved Organic Matter From a Logical Series of Laboratory-Generated Chars. *Frontiers in Earth Science*, **2018**, 6,	3.5	20
33	Influence of a soil enzyme on iron-cyanide complex speciation and mineral adsorption. *Chemosphere*, **2008**, 70, 1044-51	8.4	20
32	Organic and inorganic carbon dynamics in a karst aquifer: Santa Fe River Sink-Rise system, north Florida, USA. *Journal of Geophysical Research G: Biogeosciences*, **2014**, 119, 340-357	3.7	19
31	Trial by Fire: On the Terminology and Methods Used in Pyrogenic Organic Carbon Research. *Frontiers in Earth Science*, **2017**, 5,	3.5	17
30	Implication of hydraulic properties of bioremediated diesel-contaminated soil. *Chemosphere*, **2008**, 71, 1646-53	8.4	17
29	Stabilization of PFAS-contaminated soil with activated biochar. *Science of the Total Environment*, **2021**, 763, 144034	10.2	17
28	Abiotic interactions of natural dissolved organic matter and carbonate aquifer rock. *Applied Geochemistry*, **2010**, 25, 472-484	3.5	16
27	Characterization of adsorption and degradation of diuron in carbonatic and noncarbonatic soils. *Journal of Agricultural and Food Chemistry*, **2010**, 58, 1055-61	5.7	15
26	Molecular heterogeneity in pyrogenic dissolved organic matter from a thermal series of oak and grass chars. *Organic Geochemistry*, **2020**, 148, 104065	3.1	12
25	Photolability of pyrogenic dissolved organic matter from a thermal series of laboratory-prepared chars. *Science of the Total Environment*, **2020**, 724, 138198	10.2	11
24	A novel application of radionuclides for dating sediment cores from sandy, anthropogenically disturbed estuaries. *Marine and Freshwater Research*, **2010**, 61, 1268	2.2	10
23	Pulse perturbations from bacterial decomposition of Chrysaora quinquecirrha (Scyphozoa: Pelagiidae). *Hydrobiologia*, **2012**, 690, 247-256	2.4	9
22	Stable carbon isotopes (□13C) of total organic carbon and long-chain n-alkanes as proxies for climate and environmental change in a sediment core from Lake Pet□-Itz□Guatemala. *Journal of Paleolimnology*, **2017**, 57, 307-319	2.1	8

21	Blackcarbon in coastal and large river systems200-234		8
20	A Holocene record of climate-driven shifts in coastal carbon sequestration. *Geophysical Research Letters*, **2009**, 36,	4.9	8
19	Refractory organic matter in coastal salt marshes-effect on C sequestration calculations. *Science of the Total Environment*, **2018**, 633, 391-398	10.2	7
18	Spatiotemporal variations in carbon dynamics during a low flow period in a carbonate karst watershed: Santa Fe River, Florida, USA. *Biogeochemistry*, **2015**, 122, 131-150	3.8	6
17	Biolability of Fresh and Photodegraded Pyrogenic Dissolved Organic Matter From Laboratory-Prepared Chars. *Journal of Geophysical Research G: Biogeosciences*, **2021**, 126, e2020JG005981	3.7	6
16	Hydrothermal carbonization of distillers grains with clay minerals for enhanced adsorption of phosphate and methylene blue. *Bioresource Technology*, **2021**, 340, 125725	11	6
15	Reflecting on a multidisciplinary collaboration to design a general education climate change course. *Journal of Environmental Studies and Sciences*, **2018**, 8, 32-38	0.9	5
14	Arsenic release from Floridan Aquifer rock during incubations simulating aquifer storage and recovery operations. *Science of the Total Environment*, **2016**, 551-552, 238-45	10.2	4
13	Physicochemical changes in pyrogenic organic matter (biochar) after 15 months field-aging		4
12	Consider Fjord-Assisted Carbon Storage. *Environmental Science & Technology*, **2018**, 52, 10911-10913	10.3	4
11	Paleoecology Studies in Chesapeake Bay: A Model System for Understanding Interactions Between Climate, Anthropogenic Activities and the Environment. *Developments in Paleoenvironmental Research*, **2017**, 495-527		3
10	Fluxes of PAHs from coal tar-impacted river sediment under variable seepage rates. *Chemosphere*, **2010**, 80, 1261-7	8.4	3
9	A Quantitative Model of the Dispersal of Detrital Inputs and Minor Compositional Components in Lake Michigan Sediments. *Journal of Great Lakes Research*, **1990**, 16, 444-456	3	3
8	Photochemistry after fire: Structural transformations of pyrogenic dissolved organic matter elucidated by advanced analytical techniques. *Geochimica Et Cosmochimica Acta*, **2020**, 290, 271-292	5.5	3
7	P-enriched hydrochar for soil remediation: Synthesis, characterization, and lead stabilization. *Science of the Total Environment*, **2021**, 783, 146983	10.2	3
6	Microwave-assisted pyrolysis derived biochar for volatile organic compounds treatment: Characteristics and adsorption performance.. *Bioresource Technology*, **2022**, 355, 127274	11	3
5	A protocol for pressurized liquid extraction and processing methods to isolate modern and ancient bone cholesterol for compound-specific stable isotope analysis. *Rapid Communications in Mass Spectrometry*, **2017**, 31, 235-244	2.2	2
4	Microwave biochars produced with activated carbon catalyst: Characterization and sorption of volatile organic compounds (VOCs).. *Science of the Total Environment*, **2022**, 153996	10.2	2

3	Synthesis of hickory biochar via one-step acidic ball milling: Characteristics and titan yellow adsorption. *Journal of Cleaner Production*, **2022**, 338, 130575	10.3	1
2	Preparation of biosorbent for the removal of organic dyes from aqueous solution via one-step alkaline ball milling of hickory wood.. *Bioresource Technology*, **2022**, 348, 126831	11	1
1	SWEATT (Solid Waste to Energy by Advanced Thermal Technologies) **2014**, 1861-1886		