

Ajit K. Sarmah

List of Publications by Citations

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124
papers

8,700
citations

47
h-index

92
g-index

127
ext. papers

10,705
ext. citations

8.3
avg, IF

7.04
L-index

#	Paper	IF	Citations
124	A global perspective on the use, sales, exposure pathways, occurrence, fate and effects of veterinary antibiotics (VAs) in the environment. <i>Chemosphere</i> , 2006 , 65, 725-59	8.4	2189
123	Using biochar for remediation of soils contaminated with heavy metals and organic pollutants. <i>Environmental Science and Pollution Research</i> , 2013 , 20, 8472-83	5.1	503
122	Biochar application to low fertility soils: A review of current status, and future prospects. <i>Geoderma</i> , 2019 , 337, 536-554	6.7	357
121	Construction and demolition waste generation and properties of recycled aggregate concrete: A global perspective. <i>Journal of Cleaner Production</i> , 2018 , 186, 262-281	10.3	325
120	Lignocellulosic biorefinery as a model for sustainable development of biofuels and value added products. <i>Bioresource Technology</i> , 2018 , 247, 1144-1154	11	243
119	Sorption and dissipation of testosterone, estrogens, and their primary transformation products in soils and sediment. <i>Environmental Science & Technology</i> , 2003 , 37, 4098-105	10.3	215
118	Nanopriming technology for enhancing germination and starch metabolism of aged rice seeds using phytosynthesized silver nanoparticles. <i>Scientific Reports</i> , 2017 , 7, 8263	4.9	211
117	Hydrolysis of sulfonylurea herbicides in soils and aqueous solutions: a review. <i>Journal of Agricultural and Food Chemistry</i> , 2002 , 50, 6253-65	5.7	199
116	Synthesis of magnetic biochar from pine sawdust via oxidative hydrolysis of FeCl for the removal sulfamethoxazole from aqueous solution. <i>Journal of Hazardous Materials</i> , 2017 , 321, 868-878	12.8	166
115	A novel approach in organic waste utilization through biochar addition in wood/polypropylene composites. <i>Waste Management</i> , 2015 , 38, 132-40	8.6	124
114	A feasibility study of agricultural and sewage biomass as biochar, bioenergy and biocomposite feedstock: production, characterization and potential applications. <i>Science of the Total Environment</i> , 2015 , 512-513, 495-505	10.2	123
113	Hydrothermal carbonization of renewable waste biomass for solid biofuel production: A discussion on process mechanism, the influence of process parameters, environmental performance and fuel properties of hydrochar. <i>Renewable and Sustainable Energy Reviews</i> , 2020 , 123, 109761	16.2	122
112	Environmentally benign synthesis of phytochemicals-capped gold nanoparticles as nanopriming agent for promoting maize seed germination. <i>Science of the Total Environment</i> , 2016 , 573, 1089-1102	10.2	116
111	Sustainable in situ remediation of recalcitrant organic pollutants in groundwater with controlled release materials: A review. <i>Journal of Controlled Release</i> , 2018 , 283, 200-213	11.7	115
110	Biocomposites from waste derived biochars: Mechanical, thermal, chemical, and morphological properties. <i>Waste Management</i> , 2016 , 49, 560-570	8.6	108
109	Adsorption mechanism of hexavalent chromium onto layered double hydroxides-based adsorbents: A systematic in-depth review. <i>Journal of Hazardous Materials</i> , 2019 , 373, 258-270	12.8	101
108	Zero-waste algal biorefinery for bioenergy and biochar: A green leap towards achieving energy and environmental sustainability. <i>Science of the Total Environment</i> , 2019 , 650, 2467-2482	10.2	101

107	The love-hate relationship of pyrolysis biochar and water: a perspective. <i>Science of the Total Environment</i> , 2015 , 512-513, 682-685	10.2	92
106	Adsorption of sulfamethoxazole by magnetic biochar: Effects of pH, ionic strength, natural organic matter and 17 β -ethinylestradiol. <i>Science of the Total Environment</i> , 2018 , 628-629, 722-730	10.2	91
105	Structure-mechanics property relationship of waste derived biochars. <i>Science of the Total Environment</i> , 2015 , 538, 611-20	10.2	90
104	Novel biochar-concrete composites: Manufacturing, characterization and evaluation of the mechanical properties. <i>Science of the Total Environment</i> , 2018 , 616-617, 408-416	10.2	90
103	Effect of aging process on adsorption of diethyl phthalate in soils amended with bamboo biochar. <i>Chemosphere</i> , 2016 , 142, 28-34	8.4	84
102	Valorisation of food waste via hydrothermal carbonisation and techno-economic feasibility assessment. <i>Science of the Total Environment</i> , 2019 , 690, 261-276	10.2	77
101	Interactions between microplastics, pharmaceuticals and personal care products: Implications for vector transport. <i>Environment International</i> , 2021 , 149, 106367	12.9	74
100	Characterisation of agricultural waste-derived biochars and their sorption potential for sulfamethoxazole in pasture soil: a spectroscopic investigation. <i>Science of the Total Environment</i> , 2015 , 502, 471-80	10.2	73
99	Novel Fe-Mn binary oxide-biochar as an adsorbent for removing Cd(II) from aqueous solutions. <i>Chemical Engineering Journal</i> , 2020 , 389, 124465	14.7	73
98	Mechanism of waste biomass pyrolysis: Effect of physical and chemical pre-treatments. <i>Science of the Total Environment</i> , 2015 , 537, 323-34	10.2	72
97	A sustainable and resilient approach through biochar addition in wood polymer composites. <i>Science of the Total Environment</i> , 2015 , 512-513, 326-336	10.2	71
96	Plant-Mediated Synthesis and Applications of Iron Nanoparticles. <i>Molecular Biotechnology</i> , 2018 , 60, 154-168	3	69
95	Physicochemical, structural and combustion characterization of food waste hydrochar obtained by hydrothermal carbonization. <i>Bioresource Technology</i> , 2018 , 266, 357-363	11	69
94	SARS-CoV-2 coronavirus in water and wastewater: A critical review about presence and concern. <i>Environmental Research</i> , 2021 , 193, 110265	7.9	69
93	Development of waste based biochar/wool hybrid biocomposites: Flammability characteristics and mechanical properties. <i>Journal of Cleaner Production</i> , 2017 , 144, 79-89	10.3	63
92	Sustainable eco-composites obtained from waste derived biochar: a consideration in performance properties, production costs, and environmental impact. <i>Journal of Cleaner Production</i> , 2016 , 129, 159-168	10.3	60
91	A global perspective on the use, occurrence, fate and effects of anti-diabetic drug metformin in natural and engineered ecosystems. <i>Environmental Pollution</i> , 2016 , 219, 1007-1020	9.3	60
90	Fate of pharmaceuticals and personal care products in a wastewater treatment plant with parallel secondary wastewater treatment train. <i>Journal of Environmental Management</i> , 2019 , 233, 649-659	7.9	60

89	Multifunctional applications of biochar beyond carbon storage. <i>International Materials Reviews</i> , 2022 , 1-51	16.1	58
88	Sorption of selected veterinary antibiotics onto dairy farming soils of contrasting nature. <i>Science of the Total Environment</i> , 2014 , 472, 695-703	10.2	54
87	Hydrolysis of triasulfuron, metsulfuron-methyl and chlorsulfuron in alkaline soil and aqueous solutions. <i>Pest Management Science</i> , 2000 , 56, 463-471	4.6	54
86	Effects of metal ions and pH on ofloxacin sorption to cassava residue-derived biochar. <i>Science of the Total Environment</i> , 2018 , 616-617, 1384-1391	10.2	53
85	Production and characterization of a value added biochar mix using seaweed, rice husk and pine sawdust: A parametric study. <i>Journal of Cleaner Production</i> , 2018 , 200, 641-656	10.3	52
84	Co-contaminants and factors affecting the sorption behaviour of two sulfonamides in pasture soils. <i>Environmental Pollution</i> , 2013 , 180, 165-72	9.3	52
83	Performance of metal-organic frameworks for the adsorptive removal of potentially toxic elements in a water system: a critical review.. <i>RSC Advances</i> , 2019 , 9, 34359-34376	3.7	52
82	Site energy distribution analysis and influence of FeO nanoparticles on sulfamethoxazole sorption in aqueous solution by magnetic pine sawdust biochar. <i>Environmental Pollution</i> , 2018 , 233, 510-519	9.3	49
81	Date palm biochar-polymer composites: An investigation of electrical, mechanical, thermal and rheological characteristics. <i>Science of the Total Environment</i> , 2018 , 619-620, 311-318	10.2	48
80	Dissipation of sulfamethoxazole in pasture soils as affected by soil and environmental factors. <i>Science of the Total Environment</i> , 2014 , 479-480, 284-91	10.2	47
79	Retention capacity of biochar-amended New Zealand dairy farm soil for an estrogenic steroid hormone and its primary metabolite. <i>Soil Research</i> , 2010 , 48, 648	1.8	47
78	Sorption of tylosin A, D, and A-aldol and degradation of tylosin A in soils. <i>Environmental Toxicology and Chemistry</i> , 2007 , 26, 1629-35	3.8	47
77	Erodibility assessment of compacted biochar amended soil for geo-environmental applications. <i>Science of the Total Environment</i> , 2019 , 672, 698-707	10.2	46
76	Retention of estrogenic steroid hormones by selected New Zealand soils. <i>Environment International</i> , 2008 , 34, 749-55	12.9	45
75	An Attempt to Find a Suitable Biomass for Biochar-Based Polypropylene Biocomposites. <i>Environmental Management</i> , 2018 , 62, 403-413	3.1	44
74	Fate and behaviour of pesticides in the agroecosystem—review with a New Zealand perspective. <i>Soil Research</i> , 2004 , 42, 125	1.8	44
73	Biochar to the rescue: Balancing the fire performance and mechanical properties of polypropylene composites. <i>Polymer Degradation and Stability</i> , 2017 , 144, 485-496	4.7	43
72	Laboratory degradation studies of four endocrine disruptors in two environmental media. <i>Environmental Toxicology and Chemistry</i> , 2008 , 27, 819-27	3.8	43

71	Downstream augmentation of hydrothermal carbonization with anaerobic digestion for integrated biogas and hydrochar production from the organic fraction of municipal solid waste: A circular economy concept. <i>Science of the Total Environment</i> , 2020 , 706, 135907	10.2	43
70	Nanoindentation assisted analysis of biochar added biocomposites. <i>Composites Part B: Engineering</i> , 2016 , 91, 219-227	10	43
69	Bio-reinforced self-healing concrete using magnetic iron oxide nanoparticles. <i>Applied Microbiology and Biotechnology</i> , 2018 , 102, 2167-2178	5.7	40
68	Sugarcane bagasse biochars impact respiration and greenhouse gas emissions from a latosol. <i>Journal of Soils and Sediments</i> , 2017 , 17, 632-640	3.4	37
67	Mechanical properties of bio self-healing concrete containing immobilized bacteria with iron oxide nanoparticles. <i>Applied Microbiology and Biotechnology</i> , 2018 , 102, 4489-4498	5.7	37
66	Degradation and metabolite formation of 17beta-estradiol-3-sulphate in New Zealand pasture soils. <i>Environment International</i> , 2009 , 35, 291-7	12.9	36
65	Strength improvement of recycled aggregate concrete through silicon rich char derived from organic waste. <i>Journal of Cleaner Production</i> , 2018 , 196, 411-423	10.3	35
64	Two-year evaluation of hydraulic properties of biochar-amended vegetated soil for application in landfill cover system. <i>Science of the Total Environment</i> , 2020 , 712, 136486	10.2	34
63	Accelerated carbonation of biochar reinforced cement-fly ash composites: Enhancing and sequestering CO ₂ in building materials. <i>Construction and Building Materials</i> , 2020 , 244, 118363	6.7	32
62	Formation and degradation of valuable intermediate products during wet oxidation of municipal sludge. <i>Bioresource Technology</i> , 2016 , 205, 280-5	11	32
61	Retention and release of diethyl phthalate in biochar-amended vegetable garden soils. <i>Journal of Soils and Sediments</i> , 2014 , 14, 1790-1799	3.4	32
60	Modeling degradation and metabolite formation kinetics of estrone-3-sulfate in agricultural soils. <i>Environmental Science & Technology</i> , 2008 , 42, 8388-94	10.3	32
59	Characterisation of waste derived biochar added biocomposites: chemical and thermal modifications. <i>Science of the Total Environment</i> , 2016 , 550, 133-142	10.2	31
58	Assessing the sorption and leaching behaviour of three sulfonamides in pasture soils through batch and column studies. <i>Science of the Total Environment</i> , 2014 , 493, 535-43	10.2	31
57	Value added liquid products from waste biomass pyrolysis using pretreatments. <i>Science of the Total Environment</i> , 2015 , 538, 145-51	10.2	30
56	Modelling the dissipation kinetics of six commonly used pesticides in two contrasting soils of New Zealand. <i>Journal of Environmental Science and Health - Part B Pesticides, Food Contaminants, and Agricultural Wastes</i> , 2009 , 44, 507-517	2.2	30
55	Dissipation and sorption of six commonly used pesticides in two contrasting soils of New Zealand. <i>Journal of Environmental Science and Health - Part B Pesticides, Food Contaminants, and Agricultural Wastes</i> , 2009 , 44, 325-36	2.2	29
54	Performance evaluation of an outdoor algal biorefinery for sustainable production of biomass, lipid and lutein valorizing flue-gas carbon dioxide and wastewater cocktail. <i>Bioresource Technology</i> , 2019 , 283, 198-206	11	28

53	Field study of pesticide leaching in a Himatangi sand (Manawatu) and a Kiripaka bouldery clay loam (Northland). 2. Simulation using LEACHM, HYDRUS-1D, GLEAMS, and SPASMO models. <i>Soil Research</i> , 2005 , 43, 471	1.8	28
52	A critical review on remediation of bisphenol S (BPS) contaminated water: Efficacy and mechanisms. <i>Critical Reviews in Environmental Science and Technology</i> , 2020 , 50, 476-522	11.1	27
51	Adsorption characteristics of Barmer bentonite for hazardous waste containment application. <i>Journal of Hazardous Materials</i> , 2020 , 396, 122594	12.8	27
50	Effect of temperature on the fuel properties of food waste and coal blend treated under co-hydrothermal carbonization. <i>Waste Management</i> , 2019 , 89, 236-246	8.6	26
49	Mechanism of improvement of biochar on shear strength and liquefaction resistance of sand. <i>Geotechnique</i> , 2019 , 69, 471-480	3.4	26
48	Acidic surface functional groups control chemisorption of ammonium onto carbon materials in aqueous media. <i>Science of the Total Environment</i> , 2020 , 698, 134193	10.2	25
47	Biochar admixed lightweight, porous and tougher cement mortars: Mechanical, durability and micro computed tomography analysis. <i>Science of the Total Environment</i> , 2021 , 750, 142327	10.2	25
46	Sustainable applications of rice feedstock in agro-environmental and construction sectors: A global perspective. <i>Renewable and Sustainable Energy Reviews</i> , 2022 , 153, 111791	16.2	22
45	Sorption of estrone and estrone-3-sulfate from CaCl ₂ solution and artificial urine in pastoral soils of New Zealand. <i>Environmental Toxicology and Chemistry</i> , 2009 , 28, 2564-71	3.8	20
44	Nano-mechanical behaviour of biochar-starch polymer composite: Investigation through advanced dynamic atomic force microscopy. <i>Composites Part A: Applied Science and Manufacturing</i> , 2019 , 124, 105486	8.4	17
43	One-put green synthesis of multifunctional silver iron core-shell nanostructure with antimicrobial and catalytic properties. <i>Industrial Crops and Products</i> , 2019 , 130, 230-236	5.9	17
42	A feasibility study of Indian fly ash-bentonite as an alternative adsorbent composite to sand-bentonite mixes in landfill liner. <i>Environmental Pollution</i> , 2020 , 265, 114811	9.3	16
41	Detailed sorption characteristics of the anti-diabetic drug metformin and its transformation product guanlyurea in agricultural soils. <i>Science of the Total Environment</i> , 2018 , 630, 1258-1268	10.2	16
40	Hexadecane mineralization activity in hydrocarbon-contaminated soils of Ross Sea region Antarctica may require nutrients and inoculation. <i>Soil Biology and Biochemistry</i> , 2012 , 45, 49-60	7.5	16
39	Vertical distribution of pore-aggregate-cement paste in statically compacted pervious concrete. <i>Construction and Building Materials</i> , 2020 , 237, 117605	6.7	15
38	Influence of biochar from animal and plant origin on the compressive strength characteristics of degraded landfill surface soils. <i>International Journal of Damage Mechanics</i> , 2021 , 30, 484-501	3	15
37	Biodegradation of metformin and guanlyurea by aerobic cultures enriched from sludge. <i>Environmental Pollution</i> , 2018 , 243, 255-262	9.3	14
36	Consolidated bioprocessing of wastewater cocktail in an algal biorefinery for enhanced biomass, lipid and lutein production coupled with efficient CO capture: An advanced optimization approach. <i>Journal of Environmental Management</i> , 2019 , 252, 109696	7.9	14

35	Hexadecane mineralization activity in ornithogenic soil from Seabee Hook, Cape Hallett, Antarctica. <i>Polar Biology</i> , 2008 , 31, 421-428	2	14
34	Assessment of microplastic pollution in the aquatic ecosystems [An indian perspective. <i>Case Studies in Chemical and Environmental Engineering</i> , 2021 , 3, 100071	7.5	13
33	Deriving sulfamethoxazole dissipation endpoints in pasture soils using first order and biphasic kinetic models. <i>Science of the Total Environment</i> , 2014 , 488-489, 146-56	10.2	12
32	Production and Formation of Biochar 2019 , 3-18		12
31	(Im)mobilization of arsenic, chromium, and nickel in soils via biochar: A meta-analysis. <i>Environmental Pollution</i> , 2021 , 286, 117199	9.3	12
30	The Effects of Biochar Properties on Fomesafen Adsorption-Desorption Capacity of Biochar-Amended Soil. <i>Water, Air, and Soil Pollution</i> , 2018 , 229, 1	2.6	11
29	Evaluation of four mathematical models to describe dissipation kinetics of 4-n-nonylphenol and bisphenol-A in groundwater-aquifer material slurry. <i>Journal of Environmental Monitoring</i> , 2011 , 13, 157-66		11
28	Development of an HPLC method to analyze four veterinary antibiotics in soils and aqueous media and validation through fate studies. <i>Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering</i> , 2012 , 47, 2120-32	2.3	10
27	Adsorption of pharmaceuticals in a fixed-bed column using tyre-based activated carbon: Experimental investigations and numerical modelling. <i>Journal of Hazardous Materials</i> , 2021 , 417, 126010 ^{12.8}		9
26	Environmental remediation in circular economy: End of life tyre magnetic pyrochars for adsorptive removal of pharmaceuticals from aqueous solution. <i>Science of the Total Environment</i> , 2020 , 739, 139855 ^{10.2}		8
25	Long-term hydraulic performance of landfill cover system in extreme humid region: Field monitoring and numerical approach. <i>Science of the Total Environment</i> , 2019 , 688, 409-423	10.2	8
24	Modelling degradation kinetics of metformin and guanylurea in soil microcosms to derive degradation end-points. <i>Environmental Pollution</i> , 2019 , 245, 735-745	9.3	8
23	Insight into the sorption mechanism of metformin and its transformation product guanylurea in pastoral soils and model sorbents. <i>Science of the Total Environment</i> , 2018 , 645, 1323-1333	10.2	7
22	Application of VARLEACH and LEACHM models to experimental data on leaching of a non-reactive tracer and three sulfonylurea herbicides. <i>Soil Research</i> , 2001 , 39, 1041	1.8	7
21	Removal of potentially toxic elements from contaminated soil and water using bone char compared to plant- and bone-derived biochars: A review.. <i>Journal of Hazardous Materials</i> , 2021 , 427, 128131	12.8	7
20	Microplastics in the NZ environment: Current status and future directions. <i>Case Studies in Chemical and Environmental Engineering</i> , 2021 , 3, 100076	7.5	7
19	Advances and Innovations in Biochar Production and Utilization for Improving Environmental Quality 2014 , 435-446		6
18	Nano-indentation as a tool for evaluating the rheological threshold in polymer composites. <i>Polymer Testing</i> , 2019 , 80, 106150	4.5	4

17	Global trends and characteristics of nano- and micro-bubbles research in environmental engineering over the past two decades: A scientometric analysis. <i>Science of the Total Environment</i> , 2021 , 785, 147362	10.2	4
16	Adsorptive removal of metformin on specially designed algae-lignocellulosic biochar mix and techno-economic feasibility assessment. <i>Environmental Pollution</i> , 2022 , 292, 118256	9.3	4
15	Analysis of growth and intracellular product synthesis dynamics of a microalga cultivated in wastewater cocktail as medium. <i>Biochemical Engineering Journal</i> , 2019 , 149, 107253	4.2	3
14	Sorption and mobility of metformin and guanylurea in soils as affected by biosolid amendment: Batch and column tests. <i>Environmental Pollution</i> , 2019 , 244, 19-27	9.3	3
13	Progress in the development and use of refrigerants and unintended environmental consequences.. <i>Science of the Total Environment</i> , 2022 , 823, 153670	10.2	2
12	A Comparative Life Cycle Assessment of different pyrolysis-pretreatment pathways of wood biomass for Levoglucosan production.. <i>Bioresource Technology</i> , 2022 , 127305	11	2
11	Stochastic modelling of relative water permeability in vegetative soils with implications on stability of bioengineered slope. <i>Stochastic Environmental Research and Risk Assessment</i> , 2018 , 32, 3541-3559	3.5	1
10	Pyrolysis of anaerobic digested residues in the presence of catalyst-sorbent bifunctional material: Pyrolysis characteristics, kinetics and evolved gas analysis.. <i>Bioresource Technology</i> , 2022 , 351, 127022	11	1
9	Exploring the theoretical effects of landfill based microplastic accumulation on the hydro-mechanical properties of porous soil media. <i>Current Opinion in Environmental Science and Health</i> , 2022 , 26, 100332	8.1	0
8	A circular economy approach for phosphorus removal using algae biochar 2022 , 1, 100005		0
7	Application of biochar for emerging contaminant mitigation. <i>Advances in Chemical Pollution, Environmental Management and Protection</i> , 2021 , 7, 65-91	1.5	0
6	Role of biochar as a cover material in landfill waste disposal system: Perspective on unsaturated hydraulic properties. <i>Advances in Chemical Pollution, Environmental Management and Protection</i> , 2021 , 7, 93-106	1.5	0
5	Microplastics contamination associated with land-application of biosolids: A perspective. <i>Current Opinion in Environmental Science and Health</i> , 2022 , 26, 100342	8.1	0
4	Adsorptive removal of propranolol under fixed-bed column using magnetic tyre char: Effects of wastewater effluent organic matter and ball milling.. <i>Environmental Pollution</i> , 2022 , 119283	9.3	0
3	Formation and transformation of reactive species in the Fe/peroxydisulfate/Cl system.. <i>Journal of Environmental Management</i> , 2022 , 316, 115219	7.9	0
2	Biochar admixture cement mortar fines for adsorptive removal of heavy metals in single and multimetal solution: Insights into the sorption mechanisms and environmental significance. <i>Science of the Total Environment</i> , 2022 , 155992	10.2	0
1	Pertinent Issues of Algal Energy and Bio-Product Development A Biorefinery Perspective 2021 , 199-216		