

Ajit K. Sarmah

List of Publications by Year in descending order

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Version: 2024-02-01

125
papers

13,126
citations

28190

55
h-index

23472

111
g-index

127
all docs

127
docs citations

127
times ranked

13086
citing authors

#	ARTICLE	IF	CITATIONS
1	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, 725-759.	4.2	2,698
2	Using biochar for remediation of soils contaminated with heavy metals and organic pollutants. <i>Environmental Science and Pollution Research</i> , 2013, 20, 8472-8483.	2.7	663
3	Construction and demolition waste generation and properties of recycled aggregate concrete: A global perspective. <i>Journal of Cleaner Production</i> , 2018, 186, 262-281.	4.6	623
4	Biochar application to low fertility soils: A review of current status, and future prospects. <i>Geoderma</i> , 2019, 337, 536-554.	2.3	571
5	Nanopriming technology for enhancing germination and starch metabolism of aged rice seeds using phytosynthesized silver nanoparticles. <i>Scientific Reports</i> , 2017, 7, 8263.	1.6	383
6	Lignocellulosic biorefinery as a model for sustainable development of biofuels and value added products. <i>Bioresource Technology</i> , 2018, 247, 1144-1154.	4.8	346
7	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.	8.2	280
8	Interactions between microplastics, pharmaceuticals and personal care products: Implications for vector transport. <i>Environment International</i> , 2021, 149, 106367.	4.8	276
9	Hydrolysis of Sulfonylurea Herbicides in Soils and Aqueous Solutions: A Review. <i>Journal of Agricultural and Food Chemistry</i> , 2002, 50, 6253-6265.	2.4	246
10	Multifunctional applications of biochar beyond carbon storage. <i>International Materials Reviews</i> , 2022, 67, 150-200.	9.4	245
11	Sorption and Dissipation of Testosterone, Estrogens, and Their Primary Transformation Products in Soils and Sediment. <i>Environmental Science & Technology</i> , 2003, 37, 4098-4105.	4.6	235
12	Synthesis of magnetic biochar from pine sawdust via oxidative hydrolysis of FeCl ₂ for the removal sulfamethoxazole from aqueous solution. <i>Journal of Hazardous Materials</i> , 2017, 321, 868-878.	6.5	217
13	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.	3.9	199
14	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.	4.8	189
15	Novel Fe-Mn binary oxide-biochar as an adsorbent for removing Cd(II) from aqueous solutions. <i>Chemical Engineering Journal</i> , 2020, 389, 124465.	6.6	182
16	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.	6.5	177
17	Novel biochar-concrete composites: Manufacturing, characterization and evaluation of the mechanical properties. <i>Science of the Total Environment</i> , 2018, 616-617, 408-416.	3.9	162
18	A novel approach in organic waste utilization through biochar addition in wood/polypropylene composites. <i>Waste Management</i> , 2015, 38, 132-140.	3.7	159

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19	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.	3.9	157
20	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.	3.9	152
21	SARS-CoV-2 coronavirus in water and wastewater: A critical review about presence and concern. <i>Environmental Research</i> , 2021, 193, 110265.	3.7	150
22	Biocomposites from waste derived biochars: Mechanical, thermal, chemical, and morphological properties. <i>Waste Management</i> , 2016, 49, 560-570.	3.7	146
23	Valorisation of food waste via hydrothermal carbonisation and techno-economic feasibility assessment. <i>Science of the Total Environment</i> , 2019, 690, 261-276.	3.9	130
24	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.	3.9	126
25	The love-hate relationship of pyrolysis biochar and water: A perspective. <i>Science of the Total Environment</i> , 2015, 512-513, 682-685.	3.9	124
26	Physicochemical, structural and combustion characterization of food waste hydrochar obtained by hydrothermal carbonization. <i>Bioresource Technology</i> , 2018, 266, 357-363.	4.8	122
27	Structure-mechanics property relationship of waste derived biochars. <i>Science of the Total Environment</i> , 2015, 538, 611-620.	3.9	121
28	Plant-Mediated Synthesis and Applications of Iron Nanoparticles. <i>Molecular Biotechnology</i> , 2018, 60, 154-168.	1.3	116
29	Effect of aging process on adsorption of diethyl phthalate in soils amended with bamboo biochar. <i>Chemosphere</i> , 2016, 142, 28-34.	4.2	105
30	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.	3.8	105
31	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.	3.7	103
32	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.	1.7	101
33	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.	4.6	89
34	Development of waste based biochar/wool hybrid biocomposites: Flammability characteristics and mechanical properties. <i>Journal of Cleaner Production</i> , 2017, 144, 79-89.	4.6	88
35	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, 471-480.	3.9	87
36	A sustainable and resilient approach through biochar addition in wood polymer composites. <i>Science of the Total Environment</i> , 2015, 512-513, 326-336.	3.9	86

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37	Mechanism of waste biomass pyrolysis: Effect of physical and chemical pre-treatments. <i>Science of the Total Environment</i> , 2015, 537, 323-334.	3.9	85
38	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.	3.9	78
39	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.	3.2	78
40	Sustainable applications of rice feedstock in agro-environmental and construction sectors: A global perspective. <i>Renewable and Sustainable Energy Reviews</i> , 2022, 153, 111791.	8.2	78
41	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.	3.9	74
42	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.	4.6	73
43	Biochar to the rescue: Balancing the fire performance and mechanical properties of polypropylene composites. <i>Polymer Degradation and Stability</i> , 2017, 144, 485-496.	2.7	70
44	Site energy distribution analysis and influence of Fe ₃ O ₄ nanoparticles on sulfamethoxazole sorption in aqueous solution by magnetic pine sawdust biochar. <i>Environmental Pollution</i> , 2018, 233, 510-519.	3.7	70
45	Sorption of selected veterinary antibiotics onto dairy farming soils of contrasting nature. <i>Science of the Total Environment</i> , 2014, 472, 695-703.	3.9	69
46	Mechanical properties of bio self-healing concrete containing immobilized bacteria with iron oxide nanoparticles. <i>Applied Microbiology and Biotechnology</i> , 2018, 102, 4489-4498.	1.7	69
47	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.	3.9	69
48	Co-contaminants and factors affecting the sorption behaviour of two sulfonamides in pasture soils. <i>Environmental Pollution</i> , 2013, 180, 165-172.	3.7	65
49	Dissipation of sulfamethoxazole in pasture soils as affected by soil and environmental factors. <i>Science of the Total Environment</i> , 2014, 479-480, 284-291.	3.9	62
50	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.	3.9	62
51	Bio-reinforced self-healing concrete using magnetic iron oxide nanoparticles. <i>Applied Microbiology and Biotechnology</i> , 2018, 102, 2167-2178.	1.7	61
52	Erodibility assessment of compacted biochar amended soil for geo-environmental applications. <i>Science of the Total Environment</i> , 2019, 672, 698-707.	3.9	60
53	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.	3.9	60
54	Hydrolysis of triasulfuron, metsulfuron-methyl and chlorsulfuron in alkaline soil and aqueous solutions. <i>Pest Management Science</i> , 2000, 56, 463-471.	1.7	58

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55	An Attempt to Find a Suitable Biomass for Biochar-Based Polypropylene Biocomposites. <i>Environmental Management</i> , 2018, 62, 403-413.	1.2	56
56	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.	6.6	56
57	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.	0.6	55
58	Nanoindentation assisted analysis of biochar added biocomposites. <i>Composites Part B: Engineering</i> , 2016, 91, 219-227.	5.9	55
59	Fate and behaviour of pesticides in the agroecosystem—a review with a New Zealand perspective. <i>Soil Research</i> , 2004, 42, 125.	0.6	54
60	Sorption of tylosin A, D, and A&Caldol and degradation of tylosin a in soils. <i>Environmental Toxicology and Chemistry</i> , 2007, 26, 1629-1635.	2.2	54
61	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.	3.7	54
62	Retention of estrogenic steroid hormones by selected New Zealand soils. <i>Environment International</i> , 2008, 34, 749-755.	4.8	53
63	Laboratory degradation studies of four endocrine disruptors in two environmental media. <i>Environmental Toxicology and Chemistry</i> , 2008, 27, 819-827.	2.2	51
64	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.	4.8	50
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.	4.6	48
66	Adsorption characteristics of Barmer bentonite for hazardous waste containment application. <i>Journal of Hazardous Materials</i> , 2020, 396, 122594.	6.5	48
67	Degradation and metabolite formation of 17 β -estradiol-3-sulphate in New Zealand pasture soils. <i>Environment International</i> , 2009, 35, 291-297.	4.8	46
68	Formation and degradation of valuable intermediate products during wet oxidation of municipal sludge. <i>Bioresource Technology</i> , 2016, 205, 280-285.	4.8	45
69	Sugarcane bagasse biochars impact respiration and greenhouse gas emissions from a latosol. <i>Journal of Soils and Sediments</i> , 2017, 17, 632-640.	1.5	45
70	Acidic surface functional groups control chemisorption of ammonium onto carbon materials in aqueous media. <i>Science of the Total Environment</i> , 2020, 698, 134193.	3.9	44
71	Retention and release of diethyl phthalate in biochar-amended vegetable garden soils. <i>Journal of Soils and Sediments</i> , 2014, 14, 1790-1799.	1.5	41
72	Characterisation of waste derived biochar added biocomposites: chemical and thermal modifications. <i>Science of the Total Environment</i> , 2016, 550, 133-142.	3.9	41

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73	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.	3.8	41
74	Mechanism of improvement of biochar on shear strength and liquefaction resistance of sand. <i>Geotechnique</i> , 2019, 69, 471-480.	2.2	40
75	(Im)mobilization of arsenic, chromium, and nickel in soils via biochar: A meta-analysis. <i>Environmental Pollution</i> , 2021, 286, 117199.	3.7	40
76	Modeling Degradation and Metabolite Formation Kinetics of Estrone-3-sulfate in Agricultural Soils. <i>Environmental Science & Technology</i> , 2008, 42, 8388-8394.	4.6	39
77	Value added liquid products from waste biomass pyrolysis using pretreatments. <i>Science of the Total Environment</i> , 2015, 538, 145-151.	3.9	37
78	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, 535-543.	3.9	36
79	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.	0.7	35
80	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, 325-336.	0.7	34
81	Assessment of microplastic pollution in the aquatic ecosystems – An Indian perspective. <i>Case Studies in Chemical and Environmental Engineering</i> , 2021, 3, 100071.	2.9	34
82	Progress in the development and use of refrigerants and unintended environmental consequences. <i>Science of the Total Environment</i> , 2022, 823, 153670.	3.9	33
83	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.	0.6	32
84	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.	6.5	31
85	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> , 2022, 427, 128131.	6.5	31
86	Consolidated bioprocessing of wastewater cocktail in an algal biorefinery for enhanced biomass, lipid and lutein production coupled with efficient CO ₂ capture: An advanced optimization approach. <i>Journal of Environmental Management</i> , 2019, 252, 109696.	3.8	28
87	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.	3.7	28
88	Biodegradation of metformin and guanylurea by aerobic cultures enriched from sludge. <i>Environmental Pollution</i> , 2018, 243, 255-262.	3.7	27
89	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.	2.5	27
90	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.	2.4	27

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91	Production and Formation of Biochar. , 2019, , 3-18.		26
92	Sorption of estrone and estroneâ€”sulfate from CaCl ₂ solution and artificial urine in pastoral soils of New Zealand. Environmental Toxicology and Chemistry, 2009, 28, 2564-2571.	2.2	23
93	Adsorptive removal of metformin on specially designed algae-lignocellulosic biochar mix and techno-economic feasibility assessment. Environmental Pollution, 2022, 292, 118256.	3.7	22
94	Detailed sorption characteristics of the anti-diabetic drug metformin and its transformation product guanylurea in agricultural soils. Science of the Total Environment, 2018, 630, 1258-1268.	3.9	20
95	Long-term hydraulic performance of landfill cover system in extreme humid region: Field monitoring and numerical approach. Science of the Total Environment, 2019, 688, 409-423.	3.9	20
96	Vertical distribution of pore-aggregate-cement paste in statically compacted pervious concrete. Construction and Building Materials, 2020, 237, 117605.	3.2	20
97	Environmental remediation in circular economy: End of life tyre magnetic pyrochars for adsorptive removal of pharmaceuticals from aqueous solution. Science of the Total Environment, 2020, 739, 139855.	3.9	19
98	Global trends and characteristics of nano- and micro-bubbles research in environmental engineering over the past two decades: A scientometric analysis. Science of the Total Environment, 2021, 785, 147362.	3.9	19
99	Deriving sulfamethoxazole dissipation endpoints in pasture soils using first order and biphasic kinetic models. Science of the Total Environment, 2014, 488-489, 146-156.	3.9	18
100	Hexadecane mineralization activity in hydrocarbon-contaminated soils of Ross Sea region Antarctica may require nutrients and inoculation. Soil Biology and Biochemistry, 2012, 45, 49-60.	4.2	17
101	The Effects of Biochar Properties on Fomesafen Adsorption-Desorption Capacity of Biochar-Amended Soil. Water, Air, and Soil Pollution, 2018, 229, 1.	1.1	17
102	Microplastics in the NZ environment: Current status and future directions. Case Studies in Chemical and Environmental Engineering, 2021, 3, 100076.	2.9	17
103	A comparative life cycle assessment of different pyrolysis-pretreatment pathways of wood biomass for levoglucosan production. Bioresource Technology, 2022, 356, 127305.	4.8	17
104	Hexadecane mineralization activity in ornithogenic soil from Seabee Hook, Cape Hallett, Antarctica. Polar Biology, 2008, 31, 421-428.	0.5	15
105	Evaluation of four mathematical models to describe dissipation kinetics of 4-n-nonylphenol and bisphenol-A in groundwaterâ€”aquifer material slurry. Journal of Environmental Monitoring, 2011, 13, 157-166.	2.1	15
106	Modelling degradation kinetics of metformin and guanylurea in soil microcosms to derive degradation end-points. Environmental Pollution, 2019, 245, 735-745.	3.7	14
107	Insight into the sorption mechanism of metformin and its transformation product guanylurea in pastoral soils and model sorbents. Science of the Total Environment, 2018, 645, 1323-1333.	3.9	12
108	Biochar admixture cement mortar fines for adsorptive removal of heavy metals in single and multimetal solution: Insights into the sorption mechanisms and environmental significance. Science of the Total Environment, 2022, 839, 155992.	3.9	12

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109	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, 2120-2132.	0.9	10
110	Advances and Innovations in Biochar Production and Utilization for Improving Environmental Quality. , 2014, , 435-446.		10
111	A sustainable Decision Support System for soil bioremediation of toluene incorporating UN sustainable development goals. <i>Environmental Pollution</i> , 2022, 307, 119587.	3.7	9
112	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.	1.8	8
113	A circular economy approach for phosphorus removal using algae biochar. , 2022, 1, 100005.		8
114	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.	0.6	7
115	Sorption and mobility of metformin and guanidylurea in soils as affected by biosolid amendment: Batch and column tests. <i>Environmental Pollution</i> , 2019, 244, 19-27.	3.7	7
116	Nano-indentation as a tool for evaluating the rheological threshold in polymer composites. <i>Polymer Testing</i> , 2019, 80, 106150.	2.3	6
117	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.	4.8	6
118	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, 305, 119283.	3.7	6
119	Formation and transformation of reactive species in the Fe ²⁺ /peroxydisulfate/Cl ⁻ system. <i>Journal of Environmental Management</i> , 2022, 316, 115219.	3.8	6
120	Influence of addition of two typical activated carbons on fertility properties and mechanical strength of vegetation concrete under freeze-thaw conditions. <i>Science of the Total Environment</i> , 2022, 838, 156446.	3.9	6
121	Application of biochar for emerging contaminant mitigation. <i>Advances in Chemical Pollution, Environmental Management and Protection</i> , 2021, 7, 65-91.	0.3	5
122	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.	2.1	4
123	Microplastics contamination associated with land-application of biosolids: A perspective. <i>Current Opinion in Environmental Science and Health</i> , 2022, 26, 100342.	2.1	4
124	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.	1.9	3
125	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.	0.3	1