Ajit K. Sarmah

List of Publications by Year in Descending Order

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	Exploring the theoretical effects of landfill based microplastic accumulation on the hydro-mechanical properties of porous soil media. *Current Opinion in Environmental Science and Health*, **2022**, 26, 100332	8.1	0
123	A circular economy approach for phosphorus removal using algae biochar **2022**, 1, 100005		0
122	Progress in the development and use of refrigerants and unintended environmental consequences.. *Science of the Total Environment*, **2022**, 823, 153670	10.2	2
121	Sustainable applications of rice feedstock in agro-environmental and construction sectors: A global perspective. *Renewable and Sustainable Energy Reviews*, **2022**, 153, 111791	16.2	22
120	Multifunctional applications of biochar beyond carbon storage. *International Materials Reviews*, **2022**, 1-51	16.1	58
119	Adsorptive removal of metformin on specially designed algae-lignocellulosic biochar mix and techno-economic feasibility assessment. *Environmental Pollution*, **2022**, 292, 118256	9.3	4
118	Microplastics contamination associated with land-application of biosolids: A perspective. *Current Opinion in Environmental Science and Health*, **2022**, 26, 100342	8.1	0
117	Pyrolysis of anaerobic digested residues in the presence of catalyst-sorbent bifunctional material: Pyrolysis characteristics, kinetics and evolved gas analysis.. *Bioresource Technology*, **2022**, 351, 127022	11	1
116	Adsorptive removal of propranolol under fixed-bed column using magnetic tyre char: Effects of wastewater effluent organic matter and ball milling.. *Environmental Pollution*, **2022**, 119283	9.3	0
115	A Comparative Life Cycle Assessment of different pyrolysis-pretreatment pathways of wood biomass for Levoglucosan production.. *Bioresource Technology*, **2022**, 127305	11	2
114	Formation and transformation of reactive species in the Fe/peroxydisulfate/Cl system.. *Journal of Environmental Management*, **2022**, 316, 115219	7.9	0
113	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**, 155992	10.2	0
112	Application of biochar for emerging contaminant mitigation. *Advances in Chemical Pollution, Environmental Management and Protection*, **2021**, 7, 65-91	1.5	0
111	Role of biochar as a cover material in landfill waste disposal system: Perspective on unsaturated hydraulic properties. *Advances in Chemical Pollution, Environmental Management and Protection*, **2021**, 7, 93-106	1.5	0
110	Removal of potentially toxic elements from contaminated soil and water using bone char compared to plant- and bone-derived biochars: A review.. *Journal of Hazardous Materials*, **2021**, 427, 128131	12.8	7
109	Pertinent Issues of Algal Energy and Bio-Product Development A Biorefinery Perspective **2021**, 199-216		
108	Interactions between microplastics, pharmaceuticals and personal care products: Implications for vector transport. *Environment International*, **2021**, 149, 106367	12.9	74

107	Microplastics in the NZ environment: Current status and future directions. *Case Studies in Chemical and Environmental Engineering*, **2021**, 3, 100076	7.5	7
106	Influence of biochar from animal and plant origin on the compressive strength characteristics of degraded landfill surface soils. *International Journal of Damage Mechanics*, **2021**, 30, 484-501	3	15
105	SARS-CoV-2 coronavirus in water and wastewater: A critical review about presence and concern. *Environmental Research*, **2021**, 193, 110265	7.9	69
104	Assessment of microplastic pollution in the aquatic ecosystems An indian perspective. *Case Studies in Chemical and Environmental Engineering*, **2021**, 3, 100071	7.5	13
103	Biochar admixtured lightweight, porous and tougher cement mortars: Mechanical, durability and micro computed tomography analysis. *Science of the Total Environment*, **2021**, 750, 142327	10.2	25
102	Adsorption of pharmaceuticals in a fixed-bed column using tyre-based activated carbon: Experimental investigations and numerical modelling. *Journal of Hazardous Materials*, **2021**, 417, 126010	12.8	9
101	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	10.2	4
100	(Im)mobilization of arsenic, chromium, and nickel in soils via biochar: A meta-analysis. *Environmental Pollution*, **2021**, 286, 117199	9.3	12
99	A feasibility study of Indian fly ash-bentonite as an alternative adsorbent composite to sand-bentonite mixes in landfill liner. *Environmental Pollution*, **2020**, 265, 114811	9.3	16
98	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	10.2	8
97	Accelerated carbonation of biochar reinforced cement-fly ash composites: Enhancing and sequestering CO2 in building materials. *Construction and Building Materials*, **2020**, 244, 118363	6.7	32
96	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. *Renewable and Sustainable Energy Reviews*, **2020**, 123, 109761	16.2	122
95	Novel Fe-Mn binary oxide-biochar as an adsorbent for removing Cd(II) from aqueous solutions. *Chemical Engineering Journal*, **2020**, 389, 124465	14.7	73
94	Two-year evaluation of hydraulic properties of biochar-amended vegetated soil for application in landfill cover system. *Science of the Total Environment*, **2020**, 712, 136486	10.2	34
93	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. *Science of the Total Environment*, **2020**, 706, 135907	10.2	43
92	Vertical distribution of pore-aggregate-cement paste in statically compacted pervious concrete. *Construction and Building Materials*, **2020**, 237, 117605	6.7	15
91	Acidic surface functional groups control chemisorption of ammonium onto carbon materials in aqueous media. *Science of the Total Environment*, **2020**, 698, 134193	10.2	25
90	A critical review on remediation of bisphenol S (BPS) contaminated water: Efficacy and mechanisms. *Critical Reviews in Environmental Science and Technology*, **2020**, 50, 476-522	11.1	27

89	Adsorption characteristics of Barmer bentonite for hazardous waste containment application. *Journal of Hazardous Materials*, **2020**, 396, 122594	12.8	27
88	Analysis of growth and intracellular product synthesis dynamics of a microalga cultivated in wastewater cocktail as medium. *Biochemical Engineering Journal*, **2019**, 149, 107253	4.2	3
87	Nano-mechanical behaviour of biochar-starch polymer composite: Investigation through advanced dynamic atomic force microscopy. *Composites Part A: Applied Science and Manufacturing*, **2019**, 124, 105486	8.4	17
86	Adsorption mechanism of hexavalent chromium onto layered double hydroxides-based adsorbents: A systematic in-depth review. *Journal of Hazardous Materials*, **2019**, 373, 258-270	12.8	101
85	Performance evaluation of an outdoor algal biorefinery for sustainable production of biomass, lipid and lutein valorizing flue-gas carbon dioxide and wastewater cocktail. *Bioresource Technology*, **2019** , 283, 198-206	11	28
84	Erodibility assessment of compacted biochar amended soil for geo-environmental applications. *Science of the Total Environment*, **2019**, 672, 698-707	10.2	46
83	Effect of temperature on the fuel properties of food waste and coal blend treated under co-hydrothermal carbonization. *Waste Management*, **2019**, 89, 236-246	8.6	26
82	Mechanism of improvement of biochar on shear strength and liquefaction resistance of sand. *Geotechnique*, **2019**, 69, 471-480	3.4	26
81	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	10.2	8
80	Valorisation of food waste via hydrothermal carbonisation and techno-economic feasibility assessment. *Science of the Total Environment*, **2019**, 690, 261-276	10.2	77
79	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. *Journal of Environmental Management*, **2019**, 252, 109696	7.9	14
78	Nano-indentation as a tool for evaluating the rheological threshold in polymer composites. *Polymer Testing*, **2019**, 80, 106150	4.5	4
77	Performance of metal-organic frameworks for the adsorptive removal of potentially toxic elements in a water system: a critical review.. *RSC Advances*, **2019**, 9, 34359-34376	3.7	52
76	Fate of pharmaceuticals and personal care products in a wastewater treatment plant with parallel secondary wastewater treatment train. *Journal of Environmental Management*, **2019**, 233, 649-659	7.9	60
75	One-put green synthesis of multifunctional silver iron core-shell nanostructure with antimicrobial and catalytic properties. *Industrial Crops and Products*, **2019**, 130, 230-236	5.9	17
74	Production and Formation of Biochar **2019**, 3-18		12
73	Modelling degradation kinetics of metformin and guanylurea in soil microcosms to derive degradation end-points. *Environmental Pollution*, **2019**, 245, 735-745	9.3	8
72	Sorption and mobility of metformin and guanylurea in soils as affected by biosolid amendment: Batch and column tests. *Environmental Pollution*, **2019**, 244, 19-27	9.3	3

71	Biochar application to low fertility soils: A review of current status, and future prospects. *Geoderma* , **2019**, 337, 536-554	6.7	357
70	Zero-waste algal biorefinery for bioenergy and biochar: A green leap towards achieving energy and environmental sustainability. *Science of the Total Environment*, **2019**, 650, 2467-2482	10.2	101
69	Adsorption of sulfamethoxazole by magnetic biochar: Effects of pH, ionic strength, natural organic matter and 17□ethinylestradiol. *Science of the Total Environment*, **2018**, 628-629, 722-730	10.2	91
68	Construction and demolition waste generation and properties of recycled aggregate concrete: A global perspective. *Journal of Cleaner Production*, **2018**, 186, 262-281	10.3	325
67	The Effects of Biochar Properties on Fomesafen Adsorption-Desorption Capacity of Biochar-Amended Soil. *Water, Air, and Soil Pollution*, **2018**, 229, 1	2.6	11
66	Bio-reinforced□self-healing concrete using magnetic iron oxide nanoparticles. *Applied Microbiology and Biotechnology*, **2018**, 102, 2167-2178	5.7	40
65	Plant-Mediated Synthesis and Applications of Iron Nanoparticles. *Molecular Biotechnology*, **2018**, 60, 154-168	3	69
64	An Attempt to Find a Suitable Biomass for Biochar-Based Polypropylene Biocomposites. *Environmental Management*, **2018**, 62, 403-413	3.1	44
63	Mechanical properties of bio self-healing concrete containing immobilized bacteria with iron oxide nanoparticles. *Applied Microbiology and Biotechnology*, **2018**, 102, 4489-4498	5.7	37
62	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	10.2	16
61	Site energy distribution analysis and influence of FeO nanoparticles on sulfamethoxazole sorption in aqueous solution by magnetic pine sawdust biochar. *Environmental Pollution*, **2018**, 233, 510-519	9.3	49
60	Effects of metal ions and pH on ofloxacin sorption to cassava residue-derived biochar. *Science of the Total Environment*, **2018**, 616-617, 1384-1391	10.2	53
59	Lignocellulosic biorefinery as a model for sustainable development of biofuels and value added products. *Bioresource Technology*, **2018**, 247, 1144-1154	11	243
58	Production and characterization of a value added biochar mix using seaweed, rice husk and pine sawdust: A parametric study. *Journal of Cleaner Production*, **2018**, 200, 641-656	10.3	52
57	Physicochemical, structural and combustion characterization of food waste hydrochar obtained by hydrothermal carbonization. *Bioresource Technology*, **2018**, 266, 357-363	11	69
56	Biodegradation of metformin and guanylurea by aerobic cultures enriched from sludge. *Environmental Pollution*, **2018**, 243, 255-262	9.3	14
55	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	10.2	7
54	Sustainable in situ remediation of recalcitrant organic pollutants in groundwater with controlled release materials: A review. *Journal of Controlled Release*, **2018**, 283, 200-213	11.7	115

53	Strength improvement of recycled aggregate concrete through silicon rich char derived from organic waste. *Journal of Cleaner Production*, **2018**, 196, 411-423	10.3	35
52	Date palm biochar-polymer composites: An investigation of electrical, mechanical, thermal and rheological characteristics. *Science of the Total Environment*, **2018**, 619-620, 311-318	10.2	48
51	Novel biochar-concrete composites: Manufacturing, characterization and evaluation of the mechanical properties. *Science of the Total Environment*, **2018**, 616-617, 408-416	10.2	90
50	Stochastic modelling of relative water permeability in vegetative soils with implications on stability of bioengineered slope. *Stochastic Environmental Research and Risk Assessment*, **2018**, 32, 3541-3559	3.5	1
49	Sugarcane bagasse biochars impact respiration and greenhouse gas emissions from a latosol. *Journal of Soils and Sediments*, **2017**, 17, 632-640	3.4	37
48	Development of waste based biochar/wool hybrid biocomposites: Flammability characteristics and mechanical properties. *Journal of Cleaner Production*, **2017**, 144, 79-89	10.3	63
47	Biochar to the rescue: Balancing the fire performance and mechanical properties of polypropylene composites. *Polymer Degradation and Stability*, **2017**, 144, 485-496	4.7	43
46	Nanopriming technology for enhancing germination and starch metabolism of aged rice seeds using phytosynthesized silver nanoparticles. *Scientific Reports*, **2017**, 7, 8263	4.9	211
45	Synthesis of magnetic biochar from pine sawdust via oxidative hydrolysis of FeCl for the removal sulfamethoxazole from aqueous solution. *Journal of Hazardous Materials*, **2017**, 321, 868-878	12.8	166
44	Environmentally benign synthesis of phytochemicals-capped gold nanoparticles as nanopriming agent for promoting maize seed germination. *Science of the Total Environment*, **2016**, 573, 1089-1102	10.2	116
43	Effect of aging process on adsorption of diethyl phthalate in soils amended with bamboo biochar. *Chemosphere*, **2016**, 142, 28-34	8.4	84
42	Characterisation of waste derived biochar added biocomposites: chemical and thermal modifications. *Science of the Total Environment*, **2016**, 550, 133-142	10.2	31
41	Formation and degradation of valuable intermediate products during wet oxidation of municipal sludge. *Bioresource Technology*, **2016**, 205, 280-5	11	32
40	Biocomposites from waste derived biochars: Mechanical, thermal, chemical, and morphological properties. *Waste Management*, **2016**, 49, 560-570	8.6	108
39	Nanoindentation assisted analysis of biochar added biocomposites. *Composites Part B: Engineering*, **2016**, 91, 219-227	10	43
38	Sustainable ecocomposites obtained from waste derived biochar: a consideration in performance properties, production costs, and environmental impact. *Journal of Cleaner Production*, **2016**, 129, 159-168	10.3	60
37	A global perspective on the use, occurrence, fate and effects of anti-diabetic drug metformin in natural and engineered ecosystems. *Environmental Pollution*, **2016**, 219, 1007-1020	9.3	60
36	Mechanism of waste biomass pyrolysis: Effect of physical and chemical pre-treatments. *Science of the Total Environment*, **2015**, 537, 323-34	10.2	72

35	Structure-mechanics property relationship of waste derived biochars. *Science of the Total Environment*, **2015**, 538, 611-20	10.2	90
34	Value added liquid products from waste biomass pyrolysis using pretreatments. *Science of the Total Environment*, **2015**, 538, 145-51	10.2	30
33	Characterisation of agricultural waste-derived biochars and their sorption potential for sulfamethoxazole in pasture soil: a spectroscopic investigation. *Science of the Total Environment*, **2015**, 502, 471-80	10.2	73
32	A sustainable and resilient approach through biochar addition in wood polymer composites. *Science of the Total Environment*, **2015**, 512-513, 326-336	10.2	71
31	A novel approach in organic waste utilization through biochar addition in wood/polypropylene composites. *Waste Management*, **2015**, 38, 132-40	8.6	124
30	A feasibility study of agricultural and sewage biomass as biochar, bioenergy and biocomposite feedstock: production, characterization and potential applications. *Science of the Total Environment* , **2015**, 512-513, 495-505	10.2	123
29	The love-hate relationship of pyrolysis biochar and water: a perspective. *Science of the Total Environment*, **2015**, 512-513, 682-685	10.2	92
28	Advances and Innovations in Biochar Production and Utilization for Improving Environmental Quality **2014**, 435-446		6
27	Deriving sulfamethoxazole dissipation endpoints in pasture soils using first order and biphasic kinetic models. *Science of the Total Environment*, **2014**, 488-489, 146-56	10.2	12
26	Retention and release of diethyl phthalate in biochar-amended vegetable garden soils. *Journal of Soils and Sediments*, **2014**, 14, 1790-1799	3.4	32
25	Assessing the sorption and leaching behaviour of three sulfonamides in pasture soils through batch and column studies. *Science of the Total Environment*, **2014**, 493, 535-43	10.2	31
24	Dissipation of sulfamethoxazole in pasture soils as affected by soil and environmental factors. *Science of the Total Environment*, **2014**, 479-480, 284-91	10.2	47
23	Sorption of selected veterinary antibiotics onto dairy farming soils of contrasting nature. *Science of the Total Environment*, **2014**, 472, 695-703	10.2	54
22	Using biochar for remediation of soils contaminated with heavy metals and organic pollutants. *Environmental Science and Pollution Research*, **2013**, 20, 8472-83	5.1	503
21	Co-contaminants and factors affecting the sorption behaviour of two sulfonamides in pasture soils. *Environmental Pollution*, **2013**, 180, 165-72	9.3	52
20	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	7.5	16
19	Development of an HPLC method to analyze four veterinary antibiotics in soils and aqueous media and validation through fate studies. *Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering*, **2012**, 47, 2120-32	2.3	10
18	Evaluation of four mathematical models to describe dissipation kinetics of 4-n-nonylphenol and bisphenol-A in groundwater-aquifer material slurry. *Journal of Environmental Monitoring*, **2011**, 13, 157-66		11

17	Retention capacity of biochar-amended New Zealand dairy farm soil for an estrogenic steroid hormone and its primary metabolite. *Soil Research*, **2010**, 48, 648	1.8	47
16	Modelling the dissipation kinetics of six commonly used pesticides in two contrasting soils of New Zealand. *Journal of Environmental Science and Health - Part B Pesticides, Food Contaminants, and Agricultural Wastes*, **2009**, 44, 507-517	2.2	30
15	Dissipation and sorption of six commonly used pesticides in two contrasting soils of New Zealand. *Journal of Environmental Science and Health - Part B Pesticides, Food Contaminants, and Agricultural Wastes*, **2009**, 44, 325-36	2.2	29
14	Sorption of estrone and estrone-3-sulfate from CaCl2 solution and artificial urine in pastoral soils of New Zealand. *Environmental Toxicology and Chemistry*, **2009**, 28, 2564-71	3.8	20
13	Degradation and metabolite formation of 17beta-estradiol-3-sulphate in New Zealand pasture soils. *Environment International*, **2009**, 35, 291-7	12.9	36
12	Modeling degradation and metabolite formation kinetics of estrone-3-sulfate in agricultural soils. *Environmental Science & Technology*, **2008**, 42, 8388-94	10.3	32
11	Retention of estrogenic steroid hormones by selected New Zealand soils. *Environment International* , **2008**, 34, 749-55	12.9	45
10	Hexadecane mineralization activity in ornithogenic soil from Seabee Hook, Cape Hallett, Antarctica. *Polar Biology*, **2008**, 31, 421-428	2	14
9	Laboratory degradation studies of four endocrine disruptors in two environmental media. *Environmental Toxicology and Chemistry*, **2008**, 27, 819-27	3.8	43
8	Sorption of tylosin A, D, and A-aldol and degradation of tylosin A in soils. *Environmental Toxicology and Chemistry*, **2007**, 26, 1629-35	3.8	47
7	A global perspective on the use, sales, exposure pathways, occurrence, fate and effects of veterinary antibiotics (VAs) in the environment. *Chemosphere*, **2006**, 65, 725-59	8.4	2189
6	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. *Soil Research* , **2005**, 43, 471	1.8	28
5	Fate and behaviour of pesticides in the agroecosystem review with a New Zealand perspective. *Soil Research*, **2004**, 42, 125	1.8	44
4	Sorption and dissipation of testosterone, estrogens, and their primary transformation products in soils and sediment. *Environmental Science & Technology*, **2003**, 37, 4098-105	10.3	215
3	Hydrolysis of sulfonylurea herbicides in soils and aqueous solutions: a review. *Journal of Agricultural and Food Chemistry*, **2002**, 50, 6253-65	5.7	199
2	Application of VARLEACH and LEACHM models to experimental data on leaching of a non-reactive tracer and three sulfonylurea herbicides. *Soil Research*, **2001**, 39, 1041	1.8	7
1	Hydrolysis of triasulfuron, metsulfuron-methyl and chlorsulfuron in alkaline soil and aqueous solutions. *Pest Management Science*, **2000**, 56, 463-471	4.6	54