Peng Cai

List of Publications by Year
in descending order

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124 papers	5,764 citations	57758 44 h-index	91884 69 g-index
127 all docs	127 docs citations	127 times ranked	5777 citing authors

#	Article	IF	Citations
1	Immobilization and phytotoxicity of Cd in contaminated soil amended with chicken manure compost. Journal of Hazardous Materials, 2009, 163, 563-567.	12.4	214
2	Influence of extracellular polymeric substances (EPS) on Cd adsorption by bacteria. Environmental Pollution, 2011, 159, 1369-1374.	7.5	181
3	Preferential adsorption of extracellular polymeric substances from bacteria on clay minerals and iron oxide. Colloids and Surfaces B: Biointerfaces, 2011, 83, 122-127.	5.0	164
4	Adsorption of Pseudomonas putida on clay minerals and iron oxide. Colloids and Surfaces B: Biointerfaces, 2007, 54, 217-221.	5.0	162
5	Adsorption of DNA on clay minerals and various colloidal particles from an Alfisol. Soil Biology and Biochemistry, 2006, 38, 471-476.	8.8	157
6	Interactions of DNA with Clay Minerals and Soil Colloidal Particles and Protection against Degradation by DNase. Environmental Science & Technology, 2006, 40, 2971-2976.	10.0	151
7	Interaction of Pseudomonas putida with kaolinite and montmorillonite: A combination study by equilibrium adsorption, ITC, SEM and FTIR. Colloids and Surfaces B: Biointerfaces, 2008, 64, 49-55.	5.0	146
8	ggVennDiagram: An Intuitive, Easy-to-Use, and Highly Customizable R Package to Generate Venn Diagram. Frontiers in Genetics, 2021, 12, 706907.	2.3	134
9	Fractionation of copper and cadmium and their binding with soil organic matter in a contaminated soil amended with organic materials. Journal of Soils and Sediments, 2010, 10, 973-982.	3.0	133
10	Heavy metal behaviour at mineral-organo interfaces: Mechanisms, modelling and influence factors. Environment International, 2019, 131, 104995.	10.0	123
11	Atomic force microscopy measurements of bacterial adhesion and biofilm formation onto clay-sized particles. Scientific Reports, 2015, 5, 16857.	3.3	122
12	Role of extracellular polymeric substances in Cu(II) adsorption on Bacillus subtilis and Pseudomonas putida. Bioresource Technology, 2011, 102, 1137-1141.	9.6	116
13	Microcalorimetric and potentiometric titration studies on the adsorption of copper by extracellular polymeric substances (EPS), minerals and their composites. Bioresource Technology, 2010, 101, 5774-5779.	9.6	110
14	Influence of Feedstock and Pyrolysis Temperature of Biochar Amendments on Transport of Escherichia coli in Saturated and Unsaturated Soil. Environmental Science & Technology, 2012, 46, 8097-8105.	10.0	104
15	Reactions between bacterial exopolymers and goethite: AÂcombined macroscopic and spectroscopic investigation. Water Research, 2012, 46, 5613-5620.	11.3	99
16	Deposition and Survival of Escherichia coli O157:H7 on Clay Minerals in a Parallel Plate Flow System. Environmental Science & Technology, 2013, 47, 1896-1903.	10.0	97
17	Binding characteristics of copper and cadmium by cyanobacterium Spirulina platensis. Journal of Hazardous Materials, 2011, 190, 810-815.	12.4	95
18	Adhesion of bacterial pathogens to soil colloidal particles: Influences of cell type, natural organic matter, and solution chemistry. Water Research, 2014, 53, 35-46.	11.3	84

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19	Bacillus subtilis biofilm development in the presence of soil clay minerals and iron oxides. Npj Biofilms and Microbiomes, 2017, 3, 4.	6.4	83
20	Soil biofilm formation enhances microbial community diversity and metabolic activity. Environment International, 2019, 132, 105116.	10.0	80
21	Poultry Manure Compost Alleviates the Phytotoxicity of Soil Cadmium: Influence on Growth of Pakchoi (Brassica chinensis L.). Pedosphere, 2010, 20, 63-70.	4.0	79
22	Initial adhesion of Bacillus subtilis on soil minerals as related to their surface properties. European Journal of Soil Science, 2012, 63, 457-466.	3.9	78
23	Influence of extracellular polymeric substances on the aggregation kinetics of TiO2 nanoparticles. Water Research, 2016, 104, 381-388.	11.3	77
24	Bacterial cell surface properties: Role of loosely bound extracellular polymeric substances (LB-EPS). Colloids and Surfaces B: Biointerfaces, 2015, 128, 600-607.	5.0	74
25	Pseudomonas putida adhesion to goethite: Studied by equilibrium adsorption, SEM, FTIR and ITC. Colloids and Surfaces B: Biointerfaces, 2010, 80, 79-85.	5.0	71
26	Competitive adsorption of Pb and Cd on bacteriaâ€“montmorillonite composite. Environmental Pollution, 2016, 218, 168-175.	7.5	71
27	Recent advances in mitigating membrane biofouling using carbon-based materials. Journal of Hazardous Materials, 2020, 382, 120976.	12.4	67
28	Role of pH and ionic strength in the aggregation of TiO 2 nanoparticles in the presence of extracellular polymeric substances from Bacillus subtilis. Environmental Pollution, 2017, 228, 35-42.	7.5	66
29	Adsorption and biodegradation of carbaryl on montmorillonite, kaolinite and goethite. Applied Clay Science, 2009, 46, 102-108.	5.2	64
30	Interactions of EPS with soil minerals: A combination study by ITC and CLSM. Colloids and Surfaces B: Biointerfaces, 2016, 138, 10-16.	5.0	64
31	Microbial communities play important roles in modulating paddy soil fertility. Scientific Reports, 2016, 6, 20326.	3.3	63
32	Soil biofilms: microbial interactions, challenges, and advanced techniques for ex-situ characterization. Soil Ecology Letters, 2019, 1, 85-93.	4.5	62
33	Microcalorimetric studies of the effects of MgCl2 concentrations and pH on the adsorption of DNA on montmorillonite, kaolinite and goethite. Applied Clay Science, 2006, 32, 147-152.	5.2	61
34	Impact of cell wall structure on the behavior of bacterial cells in the binding of copper and cadmium. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2009, 347, 50-55.	4.7	60
35	The effect of extracellular polymeric substances on the adhesion of bacteria to clay minerals and goethite. Chemical Geology, 2013, 360-361, 118-125.	3.3	60
36	Microcalorimetric and potentiometric titration studies on the adsorption of copper by P. putida and B. thuringiensis and their composites with minerals. Journal of Hazardous Materials, 2010, 181, 1031-1038.	12.4	59

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37	Recent advances in microbial electrochemical system for soil bioremediation. Chemosphere, 2018, 211, 156-163.	8.2	56
38	The exopolysaccharideâ€“eDNA interaction modulates 3D architecture of Bacillus subtilis biofilm. BMC Microbiology, 2020, 20, 115.	3.3	56
39	Adsorption, desorption and activities of acid phosphatase on various colloidal particles from an Ultisol. Colloids and Surfaces B: Biointerfaces, 2005, 45, 209-214.	5.0	54
40	Biosorption mechanisms of Cu(II) by extracellular polymeric substances from Bacillus subtilis. Chemical Geology, 2014, 386, 143-151.	3.3	54
41	Cd(II) Sorption on Montmorillonite-Humic acid-Bacteria Composites. Scientific Reports, 2016, 6, 19499.	3.3	49
42	Towards a better understanding of Pseudomonas putida biofilm formation in the presence of ZnO nanoparticles (NPs): Role of NP concentration. Environment International, 2020, 137, 105485.	10.0	49
43	Effects of low-molecular-weight organic ligands and phosphate on adsorption of Pseudomonas putida by clay minerals and iron oxide. Colloids and Surfaces B: Biointerfaces, 2011, 82, 147-151.	5.0	46
44	Interactions of pathogens Escherichia coli and Streptococcus suis with clay minerals. Applied Clay Science, 2012, 69, 37-42.	5.2	46
45	Soil Colloids and Minerals Modulate Metabolic Activity ofPseudomonas putidaMeasured Using Microcalorimetry. Geomicrobiology Journal, 2014, 31, 590-596.	2.0	46
46	Size-Dependent Bacterial Toxicity of Hematite Particles. Environmental Science & Technology, 2019, 53, 8147-8156.	10.0	46
47	Efficient Photocatalytic Disinfection of Escherichia coli O157:H7 using C70-TiO2 Hybrid under Visible Light Irradiation. Scientific Reports, 2016, 6, 25702.	3.3	45
48	Effects of low-molecular-weight organic ligands and phosphate on DNA adsorption by soil colloids and minerals. Colloids and Surfaces B: Biointerfaces, 2007, 54, 53-59.	5.0	44
49	The initial inoculation ratio regulates bacterial coculture interactions and metabolic capacity. ISME Journal, 2021, 15, 29-40.	9.8	44
50	Isothermal Microcalorimetry: A Review of Applications in Soil and Environmental Sciences. Pedosphere, 2007, 17, 137-145.	4.0	42
51	Impact of soil clay minerals on growth, biofilm formation, and virulence gene expression of Escherichia coli O157:H7. Environmental Pollution, 2018, 243, 953-960.	7.5	41
52	Molecular investigation on the binding of Cd(II) by the binary mixtures of montmorillonite with two bacterial species. Environmental Pollution, 2017, 229, 871-878.	7.5	40
53	Microcalorimetric studies on the adsorption of DNA by soil colloidal particles. Colloids and Surfaces B: Biointerfaces, 2006, 49, 49-54.	5.0	39
54	Adhesion of Pseudomonas putida onto kaolinite at different growth phases. Chemical Geology, 2014, 390, 1-8.	3.3	39

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55	Effects of humic acid on the interactions between zinc oxide nanoparticles and bacterial biofilms. Environmental Pollution, 2017, 231, 1104-1111.	7.5	39
56	Fullerene C₇₀â€“TiO₂ hybrids with enhanced photocatalytic activity under visible light irradiation. Journal of Materials Chemistry A, 2015, 3, 21090-21098.	10.3	38
57	Metal-free inactivation of E. coli O157:H7 by fullerene/C3N4 hybrid under visible light irradiation. Ecotoxicology and Environmental Safety, 2017, 136, 40-45.	6.0	38
58	Aging shapes the distribution of copper in soil aggregate size fractions. Environmental Pollution, 2018, 233, 569-576.	7.5	38
59	Binding and degradation of DNA on montmorillonite coated by hydroxyl aluminum species. Colloids and Surfaces B: Biointerfaces, 2008, 62, 299-306.	5.0	37
60	Adsorption of Pseudomonas putida on soil particle size fractions: effects of solution chemistry and organic matter. Journal of Soils and Sediments, 2012, 12, 143-149.	3.0	37
61	Pb sorption on montmorillonite-bacteria composites: A combination study by XAFS, ITC and SCM. Chemosphere, 2018, 200, 427-436.	8.2	37
62	Outer Membrane c -Type Cytochromes OmcA and MtrC Play Distinct Roles in Enhancing the Attachment of Shewanella oneidensis MR-1 Cells to Goethite. Applied and Environmental Microbiology, 2020, 86, .	3.1	36
63	Soil colloids-bound plasmid DNA: Effect on transformation of E. coli and resistance to DNase I degradation. Soil Biology and Biochemistry, 2007, 39, 1007-1013.	8.8	31
64	Modeling of Cd adsorption to goethite-bacteria composites. Chemosphere, 2018, 193, 943-950.	8.2	31
65	EPS adsorption to goethite: Molecular level adsorption mechanisms using 2D correlation spectroscopy. Chemical Geology, 2018, 494, 127-135.	3.3	30
66	Effects of long-term fertilization on calcium-associated soil organic carbon: Implications for C sequestration in agricultural soils. Science of the Total Environment, 2021, 772, 145037.	8.0	30
67	In situ ATR-FTIR study on the adhesion of Pseudomonas putida to Red soil colloids. Journal of Soils and Sediments, 2014, 14, 504-514.	3.0	29
68	Effects of humic acid on adhesion of Bacillus subtilis to phyllosilicates and goethite. Chemical Geology, 2015, 416, 19-27.	3.3	29
69	Extraction of extracellular polymeric substances (EPS) from red soils (Ultisols). Soil Biology and Biochemistry, 2019, 135, 283-285.	8.8	28
70	Microcalorimetric assessment of microbial activity in long-term fertilization experimental soils of Southern China. FEMS Microbiology Ecology, 2009, 70, 186-195.	2.7	27
71	Selective retention of extracellular polymeric substances induced by adsorption to and coprecipitation with ferrihydrite. Geochimica Et Cosmochimica Acta, 2021, 299, 15-34.	3.9	27
72	Effects of Temperature, pH and Salt Concentrations on the Adsorption ofBacillus subtilison Soil Clay Minerals Investigated by Microcalorimetry. Geomicrobiology Journal, 2011, 28, 686-691.	2.0	26

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73	Metabolism, survival, and gene expression ofPseudomonas putidato hematite nanoparticles mediated by surface-bound humic acid. Environmental Science: Nano, 2018, 5, 682-695.	4.3	26
74	Surface complexation modeling of Cu(II) sorption to montmorilloniteâ€“bacteria composites. Science of the Total Environment, 2017, 607-608, 1408-1418.	8.0	25
75	Humic acids restrict the transformation and the stabilization of Cd by iron (hydr)oxides. Journal of Hazardous Materials, 2022, 430, 128365.	12.4	25
76	Interfacial interaction between methyl parathion-degrading bacteria and minerals is important in biodegradation. Biodegradation, 2014, 25, 1-9.	3.0	22
77	Cadmium adsorption on bacteriaâ€“mineral mixtures: effect of naturally occurring ligands. European Journal of Soil Science, 2016, 67, 641-649.	3.9	22
78	Organic matter facilitates the binding of Pb to iron oxides in a subtropical contaminated soil. Environmental Science and Pollution Research, 2018, 25, 32130-32139.	5.3	22
79	Towards a better understanding of the aggregation mechanisms of iron (hydr)oxide nanoparticles interacting with extracellular polymeric substances: Role of pH and electrolyte solution. Science of the Total Environment, 2018, 645, 372-379.	8.0	22
80	Oxidative Enzymes, the Ultimate Regulator: Implications for Factors Affecting Their Efficiency. Journal of Environmental Quality, 2013, 42, 1779-1790.	2.0	21
81	Effects of Solution Chemistry on Bacterial Adhesion with Phyllosilicates and Goethite Explained by the Extended DLVO Theory. Geomicrobiology Journal, 2014, 31, 419-430.	2.0	21
82	Contrasting effects of extracellular polymeric substances on the surface characteristics of bacterial pathogens and cell attachment to soil particles. Chemical Geology, 2015, 410, 79-88.	3.3	21
83	Surface complexation modeling of Cd(II) sorption to montmorillonite, bacteria, and their composite. Biogeosciences, 2016, 13, 5557-5566.	3.3	21
84	The role of interfacial reactions in controlling the distribution of Cd within goethiteâ^'humic acidâ^'bacteria composites. Journal of Hazardous Materials, 2021, 405, 124081.	12.4	20
85	Whole-Cell Microbial Bioreporter for Soil Contaminants Detection. Frontiers in Bioengineering and Biotechnology, 2021, 9, 622994.	4.1	20
86	Role of bacteria in the adsorption and binding of DNA on soil colloids and minerals. Colloids and Surfaces B: Biointerfaces, 2009, 69, 26-30.	5.0	19
87	Bio-organic stabilizing agent shows promising prospect for the stabilization of cadmium in contaminated farmland soil. Environmental Science and Pollution Research, 2019, 26, 23399-23406.	5.3	19
88	Mechanistic investigation and modeling of Cd immobilization by iron (hydr)oxide-humic acid coprecipitates. Journal of Hazardous Materials, 2021, 420, 126603.	12.4	19
89	Conformation, activity and proteolytic stability of acid phosphatase on clay minerals and soil colloids from an Alfisol. Colloids and Surfaces B: Biointerfaces, 2009, 74, 279-283.	5.0	18
90	Sorption of Streptococcus suis on various soil particles from an Alfisol and effects on pathogen metabolic activity. European Journal of Soil Science, 2012, 63, 558-564.	3.9	18

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91	Characterization of Cu distribution in clay-sized soil aggregates by NanoSIMS and micro-XRF. Chemosphere, 2020, 249, 126143.	8.2	18
92	Functional group diversity for the adsorption of lead(Pb) to bacterial cells and extracellular polymeric substances. Environmental Pollution, 2022, 295, 118651.	7.5	18
93	Estimation of enzymatic, microbial, and chemical properties in Brown soil by microcalorimetry. Journal of Thermal Analysis and Calorimetry, 2014, 116, 969-988.	3.6	17
94	Survival of Escherichia coli O157:H7 in various soil particles: importance of the attached bacterial phenotype. Biology and Fertility of Soils, 2017, 53, 209-219.	4.3	17
95	Bioavailability of methyl parathion adsorbed on clay minerals and iron oxide. Journal of Hazardous Materials, 2011, 185, 1032-1036.	12.4	15
96	Insights into conjugative transfer of antibiotic resistance genes affected by soil minerals. European Journal of Soil Science, 2021, 72, 1143-1153.	3.9	14
97	An invisible workforce in soil: The neglected role of soil biofilms in conjugative transfer of antibiotic resistance genes. Critical Reviews in Environmental Science and Technology, 2022, 52, 2720-2748.	12.8	14
98	Combined Application of Rice Straw and FungusPenicillium Chrysogenumto Remediate Heavy-Metal-Contaminated Soil. Soil and Sediment Contamination, 2014, 23, 328-338.	1.9	13
99	Streptococcus suis sorption on agricultural soils: Role of soil physico-chemical properties. Chemosphere, 2015, 119, 52-58.	8.2	12
100	Impact of metal oxide nanoparticles on in vitro DNA amplification. PeerJ, 2019, 7, e7228.	2.0	12
101	Adsorption and Insecticidal Activity of Toxin from Bacillus thuringiensis on Rectorite. Pedosphere, 2007, 17, 513-521.	4.0	11
102	Warming and humidification mediated changes of DOM composition in an Alfisol. Science of the Total Environment, 2022, 805, 150198.	8.0	11
103	Microbial formation and stabilisation of soil organic carbon is regulated by carbon substrate identity and mineral composition. Geoderma, 2022, 414, 115762.	5.1	11
104	Influence of bacterial extracellular polymeric substances on the sorption of Zn on Î³-alumina: A combination of FTIR and EXAFS studies. Environmental Pollution, 2017, 220, 997-1004.	7.5	10
105	Distribution and mobility of exogenous copper as influenced by aging and components interactions in three Chinese soils. Environmental Science and Pollution Research, 2018, 25, 10771-10781.	5.3	10
106	A Polysaccharide Biosynthesis Locus in Vibrio parahaemolyticus Important for Biofilm Formation Has Homologs Widely Distributed in Aquatic Bacteria Mainly from Gammaproteobacteria. MSystems, 2022, 7, e0122621.	3.8	10
107	Biodegradation of methyl parathion in the presence of goethite: The effect of Pseudomonas sp. Z1 adhesion. International Biodeterioration and Biodegradation, 2014, 86, 294-299.	3.9	9
108	Binding to type I collagen is essential for the infectivity ofVibrio parahaemolyticusto host cells. Cellular Microbiology, 2018, 20, e12856.	2.1	9

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109	Divergent Influence to a Pathogen Invader by Resident Bacteria with Different Social Interactions. Microbial Ecology, 2019, 77, 76-86.	2.8	9
110	Quantitative analysis of the surficial and adhesion properties of the Gram-negative bacterial species Comamonas testosteroni modulated by c-di-GMP. Colloids and Surfaces B: Biointerfaces, 2021, 198, 111497.	5.0	9
111	Influence of surface coatings on the adhesion of Shewanella oneidensis MR-1 to hematite. Journal of Colloid and Interface Science, 2022, 608, 2955-2963.	9.4	9
112	Increased particle size of goethite enhances the antibacterial effect on human pathogen Escherichia coli O157:H7: A Raman spectroscopic study. Journal of Hazardous Materials, 2021, 405, 124174.	12.4	8
113	Emergent transcriptional adaption facilitates convergent succession within a synthetic community. ISME Communications, 2021, 1, .	4.2	8
114	Amplification of plasmid DNA bound on soil colloidal particles and clay minerals by the polymerase chain reaction. Journal of Environmental Sciences, 2007, 19, 1326-1329.	6.1	7
115	Size-dependent visible-light-enhanced Cr(VI) bioreduction by hematite nanoparticles. Chemosphere, 2022, 295, 133633.	8.2	7
116	Interspecific interactions in dual-species biofilms of soil bacteria: effects of fertilization practices. Journal of Soils and Sediments, 2020, 20, 1494-1501.	3.0	6
117	Relative Attachment Behaviors of Pathogenic and NonpathogenicEscherichia colito Soil Particles: Influence of Soil Physicochemical Properties. Geomicrobiology Journal, 2015, 32, 594-601.	2.0	5
118	Divergent bacterial transformation exerted by soil minerals. Science of the Total Environment, 2021, 784, 147173.	8.0	5
119	Effects of hematite on the dissemination of antibiotic resistance in pathogens and underlying mechanisms. Journal of Hazardous Materials, 2022, 431, 128537.	12.4	5
120	Special Issue on Soil Pollution, Control, and Remediation. Soil Ecology Letters, 2021, 3, 167-168.	4.5	4
121	The attachment process and physiological properties of Escherichia coli O157:H7 on quartz. BMC Microbiology, 2020, 20, 355.	3.3	3
122	Soil phyllosilicate and iron oxide inhibit the quorum sensing of Chromobacterium violaceum. Soil Ecology Letters, 2021, 3, 22-31.	4.5	3
123	Zooming in to acquire micro-reaction: Application of microfluidics on soil microbiome. Soil Ecology Letters, 2022, 4, 213-223.	4.5	3
124	Response to Letter to the Editorâ€”â€œSoil biofilmsâ€: Misleading description of the spatial distribution of microbial biomass in soils. Soil Ecology Letters, 2020, 2, 6-7.	4.5	0