

Walter W Wenzel

List of Publications by Year in descending order

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112
papers

9,050
citations

57758

44
h-index

40979

93
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114
all docs

114
docs citations

114
times ranked

8420
citing authors

#	ARTICLE	IF	CITATIONS
1	Arsenic fractionation in soils using an improved sequential extraction procedure. <i>Analytica Chimica Acta</i> , 2001, 436, 309-323.	5.4	1,117
2	Arsenic transformations in the soil-rhizosphere-plant system: fundamentals and potential application to phytoremediation. <i>Journal of Biotechnology</i> , 2002, 99, 259-278.	3.8	650
3	Trace elements in the soil-plant interface: Phytoavailability, translocation, and phytoremediation-A review. <i>Earth-Science Reviews</i> , 2017, 171, 621-645.	9.1	588
4	The role of plant-associated bacteria in the mobilization and phytoextraction of trace elements in contaminated soils. <i>Soil Biology and Biochemistry</i> , 2013, 60, 182-194.	8.8	566
5	Rhizosphere processes and management in plant-assisted bioremediation (phytoremediation) of soils. <i>Plant and Soil</i> , 2009, 321, 385-408.	3.7	512
6	Rhizosphere geometry and heterogeneity arising from root-mediated physical and chemical processes. <i>New Phytologist</i> , 2005, 168, 293-303.	7.3	480
7	Bacterial Communities Associated with Flowering Plants of the Ni Hyperaccumulator <i>Thlaspi goesingense</i> . <i>Applied and Environmental Microbiology</i> , 2004, 70, 2667-2677.	3.1	477
8	Hydroponic screening for metal resistance and accumulation of cadmium and zinc in twenty clones of willows and poplars. <i>Environmental Pollution</i> , 2007, 148, 155-165.	7.5	210
9	Rhizosphere Characteristics of the Arsenic Hyperaccumulator <i>Pteris vittata</i> L. and Monitoring of Phytoremoval Efficiency. <i>Environmental Science & Technology</i> , 2003, 37, 5008-5014.	10.0	200
10	FLUORINE SPECIATION AND MOBILITY IN F-CONTAMINATED SOILS. <i>Soil Science</i> , 1992, 153, 357-364.	0.9	184
11	Phosphorus saturation and pH differentially regulate the efficiency of organic acid anion-mediated P solubilization mechanisms in soil. <i>Plant and Soil</i> , 2011, 341, 363-382.	3.7	178
12	Title is missing!. <i>Plant and Soil</i> , 2003, 249, 83-96.	3.7	164
13	Interactive effects of organic acids in the rhizosphere. <i>Soil Biology and Biochemistry</i> , 2009, 41, 449-457.	8.8	149
14	Phytoextraction of Cd and Zn from agricultural soils by <i>Salix</i> ssp. and intercropping of <i>Salix caprea</i> and <i>Arabidopsis halleri</i> . <i>Plant and Soil</i> , 2007, 298, 255-264.	3.7	125
15	Root exudation of phytosiderophores from soil-grown wheat. <i>New Phytologist</i> , 2014, 203, 1161-1174.	7.3	124
16	Localized Flux Maxima of Arsenic, Lead, and Iron around Root Apices in Flooded Lowland Rice. <i>Environmental Science & Technology</i> , 2014, 48, 8498-8506.	10.0	124
17	Novel rhizobox design to assess rhizosphere characteristics at high spatial resolution. <i>Plant and Soil</i> , 2001, 237, 37-45.	3.7	101
18	Changes of Ni biogeochemistry in the rhizosphere of the hyperaccumulator <i>Thlaspi goesingense</i> . <i>Plant and Soil</i> , 2005, 271, 205-218.	3.7	96

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19	Evaluation of a novel tool for sampling root exudates from soil-grown plants compared to conventional techniques. <i>Environmental and Experimental Botany</i> , 2013, 87, 235-247.	4.2	94
20	Immobilization of heavy metals in soils using inorganic amendments in a greenhouse study. <i>Journal of Plant Nutrition and Soil Science</i> , 2003, 166, 191-196.	1.9	92
21	Phytoextraction of heavy metal contaminated soils with <i>Thlaspi goesingense</i> and <i>Amaranthus hybridus</i> : Rhizosphere manipulation using EDTA and ammonium sulfate. <i>Journal of Plant Nutrition and Soil Science</i> , 2001, 164, 615-621.	1.9	88
22	Arsenic in field-collected soil solutions and extracts of contaminated soils and its implication to soil standards. <i>Journal of Plant Nutrition and Soil Science</i> , 2002, 165, 221.	1.9	87
23	Estimating dissolved organic carbon in natural waters by UV absorbance (254 nm). <i>Zeitschrift Fur Pflanzenernahrung Und Bodenkunde = Journal of Plant Nutrition and Plant Science</i> , 1996, 159, 605-607.	0.4	82
24	Characterization of Ni-tolerant methylobacteria associated with the hyperaccumulating plant <i>Thlaspi goesingense</i> and description of <i>Methylobacterium goesingense</i> sp. nov.. <i>Systematic and Applied Microbiology</i> , 2006, 29, 634-644.	2.8	81
25	Cadmium and zinc accumulation in willow and poplar species grown on polluted soils. <i>Journal of Plant Nutrition and Soil Science</i> , 2007, 170, 265-272.	1.9	80
26	Cadmium and Zn availability as affected by pH manipulation and its assessment by soil extraction, DGT and indicator plants. <i>Science of the Total Environment</i> , 2012, 416, 490-500.	8.0	78
27	Aided phytostabilization using <i>Miscanthus sinensis</i> — <i>giganteus</i> on heavy metal-contaminated soils. <i>Science of the Total Environment</i> , 2014, 479-480, 125-131.	8.0	75
28	High-resolution chemical imaging of labile phosphorus in the rhizosphere of <i>Brassica napus</i> L. cultivars. <i>Environmental and Experimental Botany</i> , 2012, 77, 219-226.	4.2	73
29	Developing phosphorus-efficient crop varieties—An interdisciplinary research framework. <i>Field Crops Research</i> , 2014, 162, 87-98.	5.1	68
30	Arsenic adsorption by soils and iron-oxide-coated sand: kinetics and reversibility. <i>Journal of Plant Nutrition and Soil Science</i> , 1999, 162, 451-456.	1.9	66
31	Interactions between accumulation of trace elements and macronutrients in <i>Salix caprea</i> after inoculation with rhizosphere microorganisms. <i>Chemosphere</i> , 2011, 84, 1256-1261.	8.2	66
32	O ₂ dynamics in the rhizosphere of young rice plants (<i>Oryza sativa</i> L.) as studied by planar optodes. <i>Plant and Soil</i> , 2015, 390, 279-292.	3.7	65
33	Gel for Simultaneous Chemical Imaging of Anionic and Cationic Solutes Using Diffusive Gradients in Thin Films. <i>Analytical Chemistry</i> , 2013, 85, 12028-12036.	6.5	61
34	Optimizing Carbon Sequestration in Croplands: A Synthesis. <i>Agronomy</i> , 2021, 11, 882.	3.0	61
35	In situ observation of localized, sub-mm scale changes of phosphorus biogeochemistry in the rhizosphere. <i>Plant and Soil</i> , 2018, 424, 573-589.	3.7	59
36	Chemical changes in the rhizosphere of metal hyperaccumulator and excluder <i>Thlaspi</i> species. <i>Journal of Plant Nutrition and Soil Science</i> , 2003, 166, 579-584.	1.9	58

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37	Immobilization of heavy metals in soils by the application of bauxite residues: pot experiments under field conditions. <i>Journal of Plant Nutrition and Soil Science</i> , 2004, 167, 54-59.	1.9	57
38	Trace element concentrations in leachates and mustard plant tissue (<i>Sinapis alba</i> L.) after biochar application to temperate soils. <i>Science of the Total Environment</i> , 2014, 481, 498-508.	8.0	56
39	Sulfur-aided phytoextraction of Cd and Zn by <i>Salix smithiana</i> combined with in situ metal immobilization by gravel sludge and red mud. <i>Environmental Pollution</i> , 2012, 170, 222-231.	7.5	54
40	Mapping of nickel in root cross-sections of the hyperaccumulator plant <i>Berkheya coddii</i> using laser ablation ICP-MS. <i>Environmental and Experimental Botany</i> , 2010, 69, 24-31.	4.2	51
41	Localized Metal Solubilization in the Rhizosphere of <i>Salix smithiana</i> upon Sulfur Application. <i>Environmental Science & Technology</i> , 2015, 49, 4522-4529.	10.0	50
42	Grassmann-Plücker relations and matroids with coefficients. <i>Advances in Mathematics</i> , 1991, 86, 68-110.	1.1	49
43	Environmental risks of farmed and barren alkaline coal ash landfills in Tuzla, Bosnia and Herzegovina. <i>Environmental Pollution</i> , 2008, 153, 677-686.	7.5	48
44	Expression of zinc and cadmium responsive genes in leaves of willow (<i>Salix caprea</i> L.) genotypes with different accumulation characteristics. <i>Environmental Pollution</i> , 2013, 178, 121-127.	7.5	47
45	Bacterially Induced Weathering of Ultramafic Rock and Its Implications for Phytoextraction. <i>Applied and Environmental Microbiology</i> , 2013, 79, 5094-5103.	3.1	44
46	Phytoremediation: A Plant-Microbe-Based Remediation System. <i>Agronomy</i> , 0, , 457-508.	0.2	44
47	First observation of diffusion-limited plant root phosphorus uptake from nutrient solution. <i>Plant, Cell and Environment</i> , 2012, 35, 1558-1566.	5.7	41
48	Plant growth and root morphology of <i>Phaseolus vulgaris</i> L. grown in a split-root system is affected by heterogeneity of crude oil pollution and mycorrhizal colonization. <i>Plant and Soil</i> , 2010, 332, 339-355.	3.7	39
49	Role of Plant Genotype and Soil Conditions in Symbiotic Plant-Microbe Interactions for Adaptation of Plants to Cadmium-Polluted Soils. <i>Water, Air, and Soil Pollution</i> , 2015, 226, 1.	2.4	38
50	Disposal of Coal Combustion Residues in Terrestrial Systems: Contamination and Risk Management. <i>Journal of Environmental Quality</i> , 2010, 39, 761-775.	2.0	37
51	Predictability of the Zn and Cd phytoextraction efficiency of a <i>Salix smithiana</i> clone by DGT and conventional bioavailability assays. <i>Plant and Soil</i> , 2013, 369, 531-541.	3.7	37
52	Phytosiderophore-induced mobilization and uptake of Cd, Cu, Fe, Ni, Pb and Zn by wheat plants grown on metal-enriched soils. <i>Environmental and Experimental Botany</i> , 2017, 138, 67-76.	4.2	37
53	Uncertainty Evaluation of the Diffusive Gradients in Thin Films Technique. <i>Environmental Science & Technology</i> , 2015, 49, 1594-1602.	10.0	36
54	Integrating chemical imaging of cationic trace metal solutes and pH into a single hydrogel layer. <i>Analytica Chimica Acta</i> , 2017, 950, 88-97.	5.4	35

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55	Ectomycorrhizal impact on Zn accumulation of <i>Populus tremula</i> L. grown in metalliferous soil with increasing levels of Zn concentration. <i>Plant and Soil</i> , 2012, 355, 283-297.	3.7	33
56	Waste or substrate for metal hyperaccumulating plants – The potential of phytomining on waste incineration bottom ash. <i>Science of the Total Environment</i> , 2017, 575, 910-918.	8.0	33
57	Differentiation of metalliculous and non-metalliculous <i>Salix caprea</i> populations based on phenotypic characteristics and nuclear microsatellite (SSR) markers. <i>Plant, Cell and Environment</i> , 2010, 33, 1641-1655.	5.7	32
58	NICKEL AND COPPER SORPTION IN ACID FOREST SOILS. <i>Soil Science</i> , 2000, 165, 463-472.	0.9	32
59	A novel flow-injection method for simultaneous measurement of platinum (Pt), palladium (Pd) and rhodium (Rh) in aqueous soil extracts of contaminated soil by ICP-OES. <i>Journal of Analytical Atomic Spectrometry</i> , 2013, 28, 354.	3.0	31
60	Environmental impact assessment of wood ash utilization in forest road construction and maintenance – A field study. <i>Science of the Total Environment</i> , 2016, 544, 711-721.	8.0	31
61	Co-occurring increased phosphatase activity and labile P depletion in the rhizosphere of <i>Lupinus angustifolius</i> assessed with a novel, combined 2D-imaging approach. <i>Soil Biology and Biochemistry</i> , 2021, 153, 107963.	8.8	31
62	Co-localised phosphorus mobilization processes in the rhizosphere of field-grown maize jointly contribute to plant nutrition. <i>Soil Biology and Biochemistry</i> , 2022, 165, 108497.	8.8	27
63	In-situ sampling of soil pore water: evaluation of linear-type microdialysis probes and suction cups at varied moisture contents. <i>Environmental Chemistry</i> , 2010, 7, 123.	1.5	26
64	Plant and fertiliser effects on rhizodegradation of crude oil in two soils with different nutrient status. <i>Plant and Soil</i> , 2007, 300, 117-126.	3.7	25
65	Zinc accumulation potential and toxicity threshold determined for a metal-accumulating <i>Populus canescens</i> clone in a dose-response study. <i>Environmental Pollution</i> , 2009, 157, 2871-2877.	7.5	25
66	Determination of Pt, Pd and Rh in <i>Brassica Napus</i> using solid sampling electrothermal vaporization inductively coupled plasma optical emission spectrometry. <i>Spectrochimica Acta, Part B: Atomic Spectroscopy</i> , 2013, 89, 60-65.	2.9	25
67	Assessment of trace element phytoavailability in compost amended soils using different methodologies. <i>Journal of Soils and Sediments</i> , 2017, 17, 1251-1261.	3.0	25
68	Response of tungsten (W) solubility and chemical fractionation to changes in soil pH and soil aging. <i>Science of the Total Environment</i> , 2020, 731, 139224.	8.0	25
69	Arsenic redox transformations and cycling in the rhizosphere of <i>Pteris vittata</i> and <i>Pteris quadriaurita</i> . <i>Environmental and Experimental Botany</i> , 2020, 177, 104122.	4.2	25
70	Novel micro-suction-cup design for sampling soil solution at defined distances from roots. <i>Journal of Plant Nutrition and Soil Science</i> , 2005, 168, 386-391.	1.9	24
71	Trace element biogeochemistry in the soil-water-plant system of a temperate agricultural soil amended with different biochars. <i>Environmental Science and Pollution Research</i> , 2015, 22, 4513-4526.	5.3	24
72	Microtome sectioning causes artifacts in rhizobox experiments. <i>Plant and Soil</i> , 2003, 256, 455-462.	3.7	22

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73	Phosphorus uptake by <i>Zea mays</i> L. is quantitatively predicted by infinite sink extraction of soil P. <i>Plant and Soil</i> , 2015, 386, 371-383.	3.7	22
74	Antecedent soil moisture and rain intensity control pathways and quality of organic carbon exports from arable land. <i>Catena</i> , 2021, 202, 105297.	5.0	22
75	Root morphology of <i>Thlaspi goesingense</i> grown on a serpentine soil. <i>Journal of Plant Nutrition and Soil Science</i> , 2005, 168, 138-144.	1.9	18
76	Reprint of "Developing phosphorus-efficient crop varieties" An interdisciplinary research framework. <i>Field Crops Research</i> , 2014, 165, 49-60.	5.1	17
77	High Spatial and Fast Changes of Iron Redox State and Phosphorus Solubility in a Seasonally Flooded Temperate Wetland Soil. <i>Wetlands</i> , 2015, 35, 237-246.	1.5	16
78	Silicon Availability from Chemically Diverse Fertilizers and Secondary Raw Materials. <i>Environmental Science & Technology</i> , 2019, 53, 5359-5368.	10.0	16
79	Short-Term Effects of Fertilization on Dissolved Organic Matter in Soil Leachate. <i>Water (Switzerland)</i> , 2020, 12, 1617.	2.7	15
80	Root and Rhizosphere Processes in Metal Hyperaccumulation and Phytoremediation Technology. , 2004, , 313-344.		14
81	Media formulation influences in vitro ectomycorrhizal synthesis on the European aspen <i>Populus tremula</i> L.. <i>Mycorrhiza</i> , 2008, 18, 297-307.	2.8	14
82	Fungicide application increased copper-bioavailability and impaired nitrogen fixation through reduced root nodule formation on alfalfa. <i>Ecotoxicology</i> , 2019, 28, 599-611.	2.4	14
83	Dependency of Phytoavailability of Metals on Indigenous and Induced Rhizosphere Processes. , 2000, , .		14
84	Soil and land use factors control organic carbon status and accumulation in agricultural soils of Lower Austria. <i>Geoderma</i> , 2022, 409, 115595.	5.1	13
85	Simultaneous multi-element analysis of trace elements in soil samples by means of high-resolution inductively coupled plasma sector field mass spectrometry (SF-ICP-MS). <i>Fresenius' Journal of Analytical Chemistry</i> , 2000, 368, 256-262.	1.5	12
86	Numerical Evaluation of Lateral Diffusion Inside Diffusive Gradients in Thin Films Samplers. <i>Environmental Science & Technology</i> , 2015, 49, 6109-6116.	10.0	12
87	Pore characteristics of hydrochars and their role as a vector for soil bacteria: A critical review of engineering options. <i>Critical Reviews in Environmental Science and Technology</i> , 2022, 52, 4147-4171.	12.8	12
88	Potassium fixation in northern Iranian paddy soils. <i>Geoderma</i> , 2020, 375, 114475.	5.1	11
89	Projective equivalence of matroids with coefficients. <i>Journal of Combinatorial Theory - Series A</i> , 1991, 57, 15-45.	0.8	10
90	The suitability of pde-solvers in rhizosphere modeling, exemplified by three mechanistic rhizosphere models. <i>Journal of Plant Nutrition and Soil Science</i> , 2002, 165, 713-718.	1.9	10

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91	Metal accumulation and rhizosphere characteristics of <i>Noccaea rotundifolia</i> ssp. <i>cepaefolia</i> . <i>Environmental Pollution</i> , 2020, 266, 115088.	7.5	10
92	Functional Recycling of Biobased, Borate-Stabilized Insulation Materials As B Fertilizer. <i>Environmental Science & Technology</i> , 2019, 53, 14620-14629.	10.0	9
93	Algebraic, tropical, and fuzzy geometry. <i>Beitrage Zur Algebra Und Geometrie</i> , 2011, 52, 431-461.	0.5	8
94	Effects of silicon amendments on grapevine, soil and wine. <i>Plant, Soil and Environment</i> , 2020, 66, 403-414.	2.2	8
95	Symmetrization of Closure Operators and Visibility. <i>Annals of Combinatorics</i> , 2005, 9, 431-450.	0.6	7
96	Growth and Cd accumulation of two halophytes and a non-halophyte grown in a non-saline and a saline soil with different Cd levels. <i>Chemistry and Ecology</i> , 2014, 30, 743-754.	1.6	7
97	Combining spectroscopic and flux measurement techniques to determine solid-phase speciation and solubility of phosphorus in agricultural soils. <i>Geoderma</i> , 2022, 410, 115677.	5.1	7
98	Effects of different freezing methods on estimates of soil microbial biomass N by fumigation-extraction. <i>Journal of Plant Nutrition and Soil Science</i> , 2003, 166, 326-327.	1.9	4
99	Diffusive gradients in thin films measurement of sulfur stable isotope variations in labile soil sulfate. <i>Analytical and Bioanalytical Chemistry</i> , 2016, 408, 8333-8341.	3.7	4
100	A quick and simple spectrophotometric method to determine total carbon concentrations in root exudate samples of grass species. <i>Plant and Soil</i> , 2022, 478, 273-281.	3.7	4
101	Combined effects of carbonaceous-immobilizing agents and subsequent sulphur application on maize phytoextraction efficiency in highly contaminated soil. <i>Environmental Science and Pollution Research</i> , 2019, 26, 20866-20878.	5.3	3
102	Tandem Probe Analysis Mode for Synchrotron XFM: Doubling Throughput Capacity. <i>Analytical Chemistry</i> , 2022, 94, 4584-4593.	6.5	3
103	In situ spatiotemporal solute imaging of metal corrosion on the example of magnesium. <i>Analytica Chimica Acta</i> , 2022, 1212, 3399-10.	5.4	3
104	Matroidizing set systems: a new approach to matroid theory. <i>Applied Mathematics Letters</i> , 1990, 3, 29-32.	2.7	2
105	Seasonal and spatial variation of extractable trace metal fractions in topsoils under mixed forest. <i>Zeitschrift Fur Pflanzenernahrung Und Bodenkunde = Journal of Plant Nutrition and Plant Science</i> , 1996, 159, 333-336.	0.4	2
106	Comparison of methods for measuring metal desorption from soils for parameterizing rhizosphere models. <i>European Journal of Soil Science</i> , 2006, 57, 38-46.	3.9	2
107	An axiomatic system for affine spaces in terms of points, lines, and planes. <i>Journal of Geometry</i> , 2016, 107, 207-216.	0.4	2
108	Diffusive gradients in thin films predicts crop response better than calcium-acetate-lactate extraction. <i>Nutrient Cycling in Agroecosystems</i> , 2021, 121, 227-240.	2.2	2

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109	A Lipschitz condition for the width function of convex bodies in arbitrary Minkowski spaces. Applied Mathematics Letters, 2009, 22, 142-145.	2.7	1
110	Hazardous elements speciation in sandy, alkaline coal mine overburden by using different sequential extraction procedures. Chemical Speciation and Bioavailability, 2014, 26, 85-91.	2.0	1
111	Wheat yield prediction by zero sink and equilibrium-type soil phosphorus tests. Pedosphere, 2022, 32, 543-554.	4.0	1
112	Arithmetic and Polynomials over Fuzzy Rings. Communications in Algebra, 2015, 43, 1207-1231.	0.6	0