

Markus Flury

List of Publications by Citations

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139
papers

7,242
citations

50
h-index

81
g-index

155
ext. papers

8,384
ext. citations

6.2
avg, IF

6.27
L-index

#	Paper	IF	Citations
139	Susceptibility of soils to preferential flow of water: A field study. <i>Water Resources Research</i> , 1994 , 30, 1945-1954	5.4	601
138	Experimental Evidence of Transport of Pesticides through Field Soils: A Review. <i>Journal of Environmental Quality</i> , 1996 , 25, 25-45	3.4	404
137	Tracer Characteristics of Brilliant Blue FCF. <i>Soil Science Society of America Journal</i> , 1995 , 59, 22-27	2.5	193
136	Dyes as tracers for vadose zone hydrology. <i>Reviews of Geophysics</i> , 2003 , 41,	23.1	180
135	Bromide in the Natural Environment: Occurrence and Toxicity. <i>Journal of Environmental Quality</i> , 1993 , 22, 747-758	3.4	180
134	Comparison of different methods to measure contact angles of soil colloids. <i>Journal of Colloid and Interface Science</i> , 2008 , 328, 299-307	9.3	165
133	Characterization of Particle-Size Distribution in Soils with a Fragmentation Model. <i>Soil Science Society of America Journal</i> , 1999 , 63, 782-788	2.5	153
132	Is Biodegradable Plastic Mulch the Solution to Agriculture's Plastic Problem?. <i>Environmental Science & Technology</i> , 2017 , 51, 1068-1069	10.3	146
131	Sorption of Brilliant Blue FCF in soils as affected by pH and ionic strength. <i>Geoderma</i> , 2000 , 97, 87-101	6.7	140
130	Brilliant Blue FCF as a Dye Tracer for Solute Transport Studies-A Toxicological Overview. <i>Journal of Environmental Quality</i> , 1994 , 23, 1108-1112	3.4	140
129	Multifractal Characterization of Soil Particle-Size Distributions. <i>Soil Science Society of America Journal</i> , 2001 , 65, 1361-1367	2.5	129
128	Errors in Water Retention Curves Determined with Pressure Plates. <i>Soil Science Society of America Journal</i> , 2009 , 73, 1453-1460	2.5	124
127	Effects of pH, ionic strength, dissolved organic matter, and flow rate on the co-transport of MS2 bacteriophages with kaolinite in gravel aquifer media. <i>Water Research</i> , 2010 , 44, 1255-69	12.5	113
126	Reduction of transpiration through foliar application of chitosan. <i>Agricultural and Forest Meteorology</i> , 2001 , 107, 167-175	5.8	110
125	Dependence of pesticide degradation on sorption: nonequilibrium model and application to soil reactors. <i>Journal of Contaminant Hydrology</i> , 2000 , 43, 45-62	3.9	108
124	Transitory microbial habitat in the hyperarid Atacama Desert. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 2670-2675	11.5	105
123	Fate and Transport of Viruses in Porous Media. <i>Advances in Agronomy</i> , 2002 , 77, 39-102	7.7	105

122	Microbial activity affected by lime in a long-term no-till soil. <i>Soil and Tillage Research</i> , 2006 , 88, 123-131	6.5	102
121	Alteration of Kaolinite to Cancrinite and Sodalite by Simulated Hanford Tank Waste and its Impact on Cesium Retention. <i>Clays and Clay Minerals</i> , 2004 , 52, 1-13	2.1	100
120	Transport of Anions and Herbicides in a Loamy and a Sandy Field Soil. <i>Water Resources Research</i> , 1995 , 31, 823-835	5.4	98
119	Impact of flow rate, water content, and capillary forces on in situ colloid mobilization during infiltration in unsaturated sediments. <i>Water Resources Research</i> , 2008 , 44,	5.4	93
118	Mechanisms of virus removal during transport in unsaturated porous media. <i>Water Resources Research</i> , 2001 , 37, 253-263	5.4	93
117	Capillary bundle model of hydraulic conductivity for frozen soil. <i>Water Resources Research</i> , 2008 , 44,	5.4	92
116	Effect of biochar on leaching of organic carbon, nitrogen, and phosphorus from compost in bioretention systems. <i>Science of the Total Environment</i> , 2015 , 521-522, 37-45	10.2	91
115	Hydraulic Properties in a Silt Loam Soil under Natural Prairie, Conventional Till, and No-Till. <i>Soil Science Society of America Journal</i> , 2004 , 68, 1679-1688	2.5	89
114	Cesium incorporation and diffusion in cancrinite, sodalite, zeolite, and allophane. <i>Microporous and Mesoporous Materials</i> , 2005 , 86, 277-286	5.3	87
113	Impacts of biodegradable plastic mulches on soil health. <i>Agriculture, Ecosystems and Environment</i> , 2019 , 273, 36-49	5.7	87
112	In situ mobilization of colloids and transport of cesium in Hanford sediments. <i>Environmental Science & Technology</i> , 2002 , 36, 5335-41	10.3	85
111	Longitudinal and lateral dispersion in an unsaturated field soil. <i>Water Resources Research</i> , 1999 , 35, 3049-3060	5.1	83
110	Retention of mineral colloids in unsaturated porous media as related to their surface properties. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2005 , 256, 207-216	5.1	79
109	In situ colloid mobilization in Hanford sediments under unsaturated transient flow conditions: effect of irrigation pattern. <i>Environmental Science & Technology</i> , 2007 , 41, 3199-204	10.3	78
108	Simulation of water flow and solute transport in free-drainage lysimeters and field soils with heterogeneous structures. <i>European Journal of Soil Science</i> , 2004 , 55, 229-241	3.4	73
107	Colloid-facilitated Cs transport through water-saturated Hanford sediment and Ottawa sand. <i>Environmental Science & Technology</i> , 2003 , 37, 4905-11	10.3	73
106	Detachment of colloids from a solid surface by a moving air-water interface. <i>Journal of Colloid and Interface Science</i> , 2008 , 326, 143-50	9.3	72
105	Role of the air-water-solid interface in bacteriophage sorption experiments. <i>Applied and Environmental Microbiology</i> , 1998 , 64, 304-9	4.8	71

104	Use of dielectric spectroscopy to estimate ice content in frozen porous media. <i>Water Resources Research</i> , 2004 , 40,	5.4	70
103	Modeling Colloid-Facilitated Contaminant Transport in the Vadose Zone. <i>Vadose Zone Journal</i> , 2008 , 7, 682-697	2.7	63
102	Colloid-facilitated transport of cesium in variably saturated Hanford sediments. <i>Environmental Science & Technology</i> , 2005 , 39, 3435-42	10.3	61
101	A thermodielectric analyzer to measure the freezing and moisture characteristic of porous media. <i>Water Resources Research</i> , 2003 , 39,	5.4	60
100	Numerical Analysis of the Effect of the Lower Boundary Condition on Solute Transport in Lysimeters. <i>Soil Science Society of America Journal</i> , 1999 , 63, 1493-1499	2.5	59
99	Intermittent rainstorms cause pulses of nitrogen, phosphorus, and copper in leachate from compost in bioretention systems. <i>Science of the Total Environment</i> , 2015 , 537, 294-303	10.2	56
98	Detachment of deposited colloids by advancing and receding air-water interfaces. <i>Langmuir</i> , 2011 , 27, 9985-93	4	55
97	Force measurements between particles and the air-water interface: Implications for particle mobilization in unsaturated porous media. <i>Water Resources Research</i> , 2009 , 45,	5.4	55
96	Contact angles of aluminosilicate clays as affected by relative humidity and exchangeable cations. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2010 , 353, 1-9	5.1	55
95	Nitrate and colloid transport through coarse Hanford sediments under steady state, variably saturated flow. <i>Water Resources Research</i> , 2003 , 39,	5.4	55
94	Competitive incorporation of perrhenate and nitrate into sodalite. <i>Environmental Science & Technology</i> , 2014 , 48, 12851-7	10.3	53
93	Modeling the effect of biodegradable paper and plastic mulch on soil moisture dynamics. <i>Agricultural Water Management</i> , 2017 , 193, 240-250	5.9	53
92	Adsorption and desorption of chlorpyrifos to soils and sediments. <i>Reviews of Environmental Contamination and Toxicology</i> , 2012 , 215, 123-75	3.5	51
91	In situ degradation of biodegradable plastic mulch films in compost and agricultural soils. <i>Science of the Total Environment</i> , 2020 , 727, 138668	10.2	51
90	Effect of diverse weathering conditions on the physicochemical properties of biodegradable plastic mulches. <i>Polymer Testing</i> , 2017 , 62, 454-467	4.5	50
89	Nutrient leaching and copper speciation in compost-amended bioretention systems. <i>Science of the Total Environment</i> , 2016 , 556, 302-9	10.2	48
88	Role of air-water interfaces in colloid transport in porous media: A review. <i>Water Resources Research</i> , 2017 , 53, 5247-5275	5.4	47
87	Colloid formation in Hanford sediments reacted with simulated tank waste. <i>Environmental Science & Technology</i> , 2004 , 38, 5750-6	10.3	47

86	Colloidal stability and aggregation kinetics of biochar colloids: Effects of pyrolysis temperature, cation type, and humic acid concentrations. <i>Science of the Total Environment</i> , 2019 , 658, 1306-1315	10.2	47
85	Development and testing of a physically based, three-dimensional model of surface and subsurface hydrology. <i>Advances in Water Resources</i> , 2010 , 33, 106-122	4.7	46
84	Release of micro- and nanoparticles from biodegradable plastic during in situ composting. <i>Science of the Total Environment</i> , 2019 , 675, 686-693	10.2	43
83	Soil water and nitrogen dynamics in dryland cropping systems of Washington State, USA. <i>Soil and Tillage Research</i> , 2003 , 71, 33-47	6.5	43
82	Long-term depletion of selenium from Kesterson dewatered sediments. <i>Science of the Total Environment</i> , 1997 , 198, 259-270	10.2	41
81	Groundwater Contamination with NO ₃ -N in a Wheat-Corn Cropping System in the North China Plain. <i>Pedosphere</i> , 2007 , 17, 721-731	5	41
80	Cesium migration in saturated silica sand and Hanford sediments as impacted by ionic strength. <i>Journal of Contaminant Hydrology</i> , 2004 , 71, 111-26	3.9	41
79	Does colloid shape affect detachment of colloids by a moving air-water interface?. <i>Langmuir</i> , 2013 , 29, 5770-80	4	40
78	Sampling and degradation of biodegradable plastic and paper mulches in field after tillage incorporation. <i>Science of the Total Environment</i> , 2020 , 703, 135577	10.2	40
77	Effect of naphthalene on transport and retention of biochar colloids through saturated porous media. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2017 , 530, 146-154	5.1	38
76	Mineral formation during simulated leaks of Hanford waste tanks. <i>Applied Geochemistry</i> , 2006 , 21, 1392-1409	3.5	38
75	Cancrinite and sodalite formation in the presence of cesium, potassium, magnesium, calcium and strontium in Hanford tank waste simulants. <i>Applied Geochemistry</i> , 2006 , 21, 2049-2063	3.5	38
74	Poor extraction efficiencies of polystyrene nano- and microplastics from biosolids and soil. <i>PLoS ONE</i> , 2018 , 13, e0208009	3.7	38
73	Water Infiltration into a Frozen Soil with Simultaneous Melting of the Frozen Layer. <i>Vadose Zone Journal</i> , 2013 , 12, vzt2011.0188	2.7	36
72	Polystyrene nano- and microplastic accumulation at Arabidopsis and wheat root cap cells, but no evidence for uptake into roots. <i>Environmental Science: Nano</i> , 2020 , 7, 1942-1953	7.1	35
71	Interaction of <i>Lumbricus terrestris</i> with macroscopic polyethylene and biodegradable plastic mulch. <i>Science of the Total Environment</i> , 2018 , 635, 1600-1608	10.2	35
70	Does water content or flow rate control colloid transport in unsaturated porous media?. <i>Environmental Science & Technology</i> , 2014 , 48, 3791-9	10.3	35
69	Cesium desorption from illite as affected by exudates from rhizosphere bacteria. <i>Environmental Science & Technology</i> , 2005 , 39, 4505-12	10.3	35

68	Capillary forces between sediment particles and an air-water interface. <i>Environmental Science & Technology</i> , 2012 , 46, 4411-8	10.3	34
67	Effect of particle shape on capillary forces acting on particles at the air-water interface. <i>Langmuir</i> , 2013 , 29, 7903-11	4	34
66	Comparison of Hanford Colloids and Kaolinite Transport in Porous Media. <i>Vadose Zone Journal</i> , 2004 , 3, 395-402	2.7	32
65	Effect of the Lower Boundary Condition and Flotation on Colloid Mobilization in Unsaturated Sandy Sediments. <i>Vadose Zone Journal</i> , 2008 , 7, 930-940	2.7	31
64	Modeling Solute Leaching in Soils by Diffusion-Limited Aggregation: Basic Concepts and Application to Conservative Solutes. <i>Water Resources Research</i> , 1995 , 31, 2443-2452	5.4	31
63	Rate-limited sorption of simazine in saturated soil columns. <i>Journal of Contaminant Hydrology</i> , 1997 , 25, 219-234	3.9	30
62	Coupling the Xinanjiang model to a kinematic flow model based on digital drainage networks for flood forecasting. <i>Hydrological Processes</i> , 2009 , 23, 1337-1348	3.3	29
61	Transport of barrel and spherical shaped colloids in unsaturated porous media. <i>Journal of Contaminant Hydrology</i> , 2015 , 180, 69-79	3.9	27
60	Cesium Sorption to Illite as Affected by Oxalate. <i>Clays and Clay Minerals</i> , 2004 , 52, 375-381	2.1	27
59	Colloid stability in vadose zone Hanford sediments. <i>Environmental Science & Technology</i> , 2005 , 39, 1506-12	10.3	26
58	Nonsingular adsorption/desorption of chlorpyrifos in soils and sediments: experimental results and modeling. <i>Environmental Science & Technology</i> , 2012 , 46, 869-75	10.3	25
57	Transport of strontium and cesium in simulated hanford tank waste leachate through quartz sand under saturated and unsaturated flow. <i>Environmental Science & Technology</i> , 2010 , 44, 8089-94	10.3	25
56	Analysis of precipitates from reactions of hyperalkaline solutions with soluble silica. <i>Applied Geochemistry</i> , 2005 , 20, 1357-1367	3.5	25
55	Sorption of four triarylmethane dyes in a sandy soil determined by batch and column experiments. <i>Geoderma</i> , 2006 , 133, 217-224	6.7	24
54	Permeability changes during remediation of an aquifer affected by sea-water intrusion: A laboratory column study. <i>Journal of Hydrology</i> , 2009 , 376, 557-566	6	23
53	Humic acid-, ferrihydrite-, and aluminosilicate-coated sands for column transport experiments. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2006 , 273, 90-96	5.1	23
52	Biodegradable plastic as an integral part of the solution to plastic waste pollution of the environment. <i>Current Opinion in Green and Sustainable Chemistry</i> , 2021 , 30, 100490	7.9	23
51	Lysimeters in Vadose Zone Research. <i>Vadose Zone Journal</i> , 2018 , 17, 180035	2.7	22

50	Coating of silica sand with aluminosilicate clay. <i>Journal of Colloid and Interface Science</i> , 2006 , 294, 155-64	9.3	22
49	Immobilization and exchange of perrhenate in sodalite and cancrinite. <i>Microporous and Mesoporous Materials</i> , 2015 , 214, 115-120	5.3	19
48	Colloid mobilization and transport during capillary fringe fluctuations. <i>Environmental Science & Technology</i> , 2014 , 48, 7272-9	10.3	19
47	Four years of continuous use of soil-biodegradable plastic mulch: impact on soil and groundwater quality. <i>Geoderma</i> , 2021 , 381, 114665	6.7	19
46	Studying colloid transport in porous media using a geocentrifuge. <i>Water Resources Research</i> , 2008 , 44,	5.4	18
45	Analytical solution for solute transport with depth-dependent transformation or sorption coefficients. <i>Water Resources Research</i> , 1998 , 34, 2931-2937	5.4	18
44	Effect of sulfamethazine on surface characteristics of biochar colloids and its implications for transport in porous media. <i>Environmental Pollution</i> , 2020 , 256, 113482	9.3	18
43	Agronomic performance of polyethylene and biodegradable plastic film mulches in a maize cropping system in a humid continental climate. <i>Science of the Total Environment</i> , 2021 , 786, 147460	10.2	17
42	Biodegradable Plastic Mulch Films for Sustainable Specialty Crop Production 2019 , 183-213		14
41	Water Vapor Diffusion through Wheat Straw Residue. <i>Soil Science Society of America Journal</i> , 2009 , 73, 37-45	2.5	14
40	Clay Mineralogical Transformations over Time in Hanford Sediments Reacted with Simulated Tank Waste. <i>Soil Science Society of America Journal</i> , 2005 , 69, 531-538	2.5	14
39	Surface and colloid properties of biochar and implications for transport in porous media. <i>Critical Reviews in Environmental Science and Technology</i> , 2020 , 50, 2484-2522	11.1	13
38	A quantitative structure-activity relationships (QSAR) analysis of triarylmethane dye tracers. <i>Journal of Hydrology</i> , 2006 , 316, 84-97	6	12
37	Nano-enabled pesticides for sustainable agriculture and global food security.. <i>Nature Nanotechnology</i> , 2022 ,	28.7	12
36	Transport of europium colloids in vadose zone lysimeters at the semiarid Hanford site. <i>Environmental Science & Technology</i> , 2013 , 47, 2153-60	10.3	11
35	Impact of Agricultural Weathering on Physicochemical Properties of Biodegradable Plastic Mulch Films: Comparison of Two Diverse Climates Over Four Successive Years. <i>Journal of Polymers and the Environment</i> , 2021 , 29, 1-16	4.5	11
34	Current understanding of subsurface transport of micro- and nanoplastics in soil. <i>Vadose Zone Journal</i> , 2021 , 20, e20108	2.7	11
33	Critical water potentials for germination of wheat cultivars in the dryland Northwest USA. <i>Seed Science Research</i> , 2013 , 23, 189-198	1.3	9

32	Colloid mobilization in an undisturbed sediment core under semiarid recharge rates. <i>Water Resources Research</i> , 2013 , 49, 4985-4996	5.4	9
31	Suitability of Fiberglass Wicks to Sample Colloids from Vadose Zone Pore Water. <i>Vadose Zone Journal</i> , 2005 , 4, 175-183	2.7	9
30	Carbon dioxide and oxygen exchange at the soil-atmosphere boundary as affected by various mulch materials. <i>Soil and Tillage Research</i> , 2019 , 194, 104335	6.5	8
29	Sampling silica and ferrihydrite colloids with fiberglass wicks under unsaturated conditions. <i>Journal of Environmental Quality</i> , 2006 , 35, 1127-34	3.4	8
28	Effect of biochar and biochar particle size on plant-available water of sand, silt loam, and clay soil. <i>Soil and Tillage Research</i> , 2021 , 212, 104992	6.5	8
27	Variability of Solute Transport in Field Lysimeters. <i>ACS Symposium Series</i> , 1998 , 65-75	0.4	7
26	Connecting wettability, topography, and chemistry in a simple lipid-montmorillonite system. <i>Journal of Colloid and Interface Science</i> , 2019 , 555, 498-508	9.3	5
25	Rhizosphere Effects on Cesium Fixation Sites of Soil Containing Micaceous Clays. <i>Soil Science Society of America Journal</i> , 2005 , 69, 1652-1657	2.5	5
24	Macro- and microplastic accumulation in soil after 32 years of plastic film mulching.. <i>Environmental Pollution</i> , 2022 , 118945	9.3	5
23	Microbial Hotspots in Lithic Microhabitats Inferred from DNA Fractionation and Metagenomics in the Atacama Desert. <i>Microorganisms</i> , 2021 , 9,	4.9	5
22	Effects of freezing-thawing and wetting-drying on heavy metal leaching from biosolids. <i>Water Environment Research</i> , 2019 , 91, 465-474	2.8	4
21	Diffusive release of uranium from contaminated sediments into capillary fringe pore water. <i>Journal of Contaminant Hydrology</i> , 2012 , 140-141, 164-72	3.9	4
20	Predicting seed-zone water content for summer fallow in the Inland Pacific Northwest, USA. <i>Soil and Tillage Research</i> , 2011 , 115-116, 94-104	6.5	4
19	Comparison of Hanford Colloids and Kaolinite Transport in Porous Media. <i>Vadose Zone Journal</i> , 2004 , 3, 395-402	2.7	4
18	DLVO Interaction Energies for Hollow Particles: The Filling Matters. <i>Langmuir</i> , 2018 , 34, 12764-12775	4	4
17	Long-term accumulation, depth distribution, and speciation of silver nanoparticles in biosolids-amended soils. <i>Journal of Environmental Quality</i> , 2020 , 49, 1679-1689	3.4	3
16	Suitability of Fiberglass Wicks to Sample Colloids from Vadose Zone Pore Water. <i>Vadose Zone Journal</i> , 2005 , 4, 175-183	2.7	3
15	Are micro- and nanoplastics from soil-biodegradable plastic mulches an environmental concern?. <i>Journal of Hazardous Materials Advances</i> , 2021 , 4, 100024		3

14	Does long-term use of biodegradable plastic mulch affect soil carbon stock?. <i>Resources, Conservation and Recycling</i> , 2021 , 175, 105895	11.9	3
13	In-field degradation of soil-biodegradable plastic mulch films in a Mediterranean climate. <i>Science of the Total Environment</i> , 2022 , 806, 150238	10.2	3
12	Negatively Charged Lipids Exhibit Negligible Effects on the Water Repellency of Montmorillonite Films. <i>ACS Omega</i> , 2020 , 5, 12154-12161	3.9	2
11	6.6 Solute Transport During Variably Saturated Flow Inverse Methods. <i>Soil Science Society of America Book Series</i> , 2018 , 1435-1449		2
10	Translocation of fluoranthene in porous media by advancing and receding air-water interfaces. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2016 , 492, 62-70	5.1	2
9	Characterization of a spiral-shaped time domain reflectometry probe. <i>Water Resources Research</i> , 2004 , 40,	5.4	2
8	Miscible displacement of salinity fronts: Implications for colloid mobilization. <i>Water Resources Research</i> , 2003 , 39,	5.4	2
7	Solute transport with residence-time-dependent sink/source reaction coefficients. <i>Water Resources Research</i> , 1999 , 35, 1933-1938	5.4	2
6	Alteration of Kaolinite to Cancrinite and Sodalite by Simulated Hanford Tank Waste and its Impact on Cesium Retention 2004 , 52, 1		2
5	Soil-Biodegradable Plastic Mulches Undergo Minimal in-Soil Degradation in a Perennial Raspberry System after 18 Months. <i>Horticulturae</i> , 2020 , 6, 47	2.5	2
4	How to take representative samples to quantify microplastic particles in soil?. <i>Science of the Total Environment</i> , 2021 , 784, 147166	10.2	2
3	Transport Mechanisms of Motile and Nonmotile Phytophthora cactorum Zoospores in Unsaturated Porous Media. <i>Water Resources Research</i> , 2021 , 57, e2020WR028249	5.4	1
2	PAHs sorption to biochar colloids changes their mobility over time. <i>Journal of Hydrology</i> , 2021 , 603, 126839	5.9	1
1	Environmental impacts of agricultural plastic film mulch: Fate, consequences, and solutions. <i>Science of the Total Environment</i> , 2022 , 836, 155668	10.2	0