

Michael Kersten

List of Publications by Year in descending order

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113
papers

4,975
citations

101543

36
h-index

98798

67
g-index

132
all docs

132
docs citations

132
times ranked

4836
citing authors

#	ARTICLE	IF	CITATIONS
1	Real-time 3D imaging of Haines jumps in porous media flow. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 3755-3759.	7.1	490
2	Chemical Fractionation of Heavy Metals in Anoxic Estuarine and Coastal Sediments. Water Science and Technology, 1986, 18, 121-130.	2.5	299
3	Three-Dimensional Trace Element Analysis by Confocal X-ray Microfluorescence Imaging. Analytical Chemistry, 2004, 76, 6786-6791.	6.5	237
4	Microstructural evolution of gas hydrates in sedimentary matrices observed with synchrotron X-ray computed tomographic microscopy. Geochemistry, Geophysics, Geosystems, 2015, 16, 1711-1722.	2.5	208
5	From connected pathway flow to ganglion dynamics. Geophysical Research Letters, 2015, 42, 3888-3894.	4.0	204
6	Normalization procedures for sediment contaminants in spatial and temporal trend monitoring. Journal of Environmental Monitoring, 2002, 4, 109-115.	2.1	154
7	Aqueous Solubility Diagrams for Cementitious Waste Stabilization Systems: II, End-Member Stoichiometries of Ideal Calcium Silicate Hydrate Solid Solutions. Journal of the American Ceramic Society, 2001, 84, 3017-3026.	3.8	147
8	Mn, Fe, Zn and As speciation in a fast-growing ferromanganese marine nodule. Geochimica Et Cosmochimica Acta, 2004, 68, 3125-3136.	3.9	142
9	Effect of sample pretreatment on the reliability of solid speciation data of heavy metals – implications for the study of early diagenetic processes. Marine Chemistry, 1987, 22, 299-312.	2.3	119
10	Fast X-ray Micro-Tomography of Multiphase Flow in Berea Sandstone: A Sensitivity Study on Image Processing. Transport in Porous Media, 2014, 105, 451-469.	2.6	115
11	Connected pathway relative permeability from pore-scale imaging of imbibition. Advances in Water Resources, 2016, 90, 24-35.	3.8	113
12	Leaching behaviour and solubility – Controlling solid phases of heavy metals in municipal solid waste incinerator ash. Waste Management, 1996, 16, 129-134.	7.4	103
13	Polycyclic aromatic hydrocarbons (PAHs) and their oxygen-containing derivatives (OPAHs) in soils from the Angren industrial area, Uzbekistan. Environmental Pollution, 2010, 158, 2888-2899.	7.5	93
14	Detection of a Ca-rich lithology in the Earth's deep (>300 km) convecting mantle. Earth and Planetary Science Letters, 2005, 236, 579-587.	4.4	90
15	Sediment Criteria Development. , 1990, , 311-338.		88
16	Early diagenetic processes during Mn-carbonate formation: evidence from the isotopic composition of authigenic Ca-rhodochrosites of the Baltic Sea. Geochimica Et Cosmochimica Acta, 2002, 66, 867-879.	3.9	87
17	Processing of rock core microtomography images: Using seven different machine learning algorithms. Computers and Geosciences, 2016, 86, 120-128.	4.2	80
18	Presence of polycyclic aromatic hydrocarbons in sediments and surface water from Shadegan wetland – Iran: A focus on source apportionment, human and ecological risk assessment and Sediment-Water Exchange. Ecotoxicology and Environmental Safety, 2018, 148, 1054-1066.	6.0	77

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19	Artifacts in the Determination of Trace Metal Binding Forms in Anoxic Sediments by Sequential Extraction. <i>International Journal of Environmental Analytical Chemistry</i> , 1993, 51, 187-200.	3.3	73
20	Ba and Ni speciation in a nodule of binary Mn oxide phase composition from Lake Baikal. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 1967-1981.	3.9	73
21	3D simulation of the permeability tensor in a soil aggregate on basis of nanotomographic imaging and LBE solver. <i>Journal of Soils and Sediments</i> , 2012, 12, 86-96.	3.0	73
22	Aqueous Solubility Diagrams for Cementitious Waste Stabilization Systems. 3. Mechanism of Zinc Immobilization by Calcium Silicate Hydrate. <i>Environmental Science & Technology</i> , 2002, 36, 2919-2925.	10.0	67
23	Source Apportionment of Pb Pollution in the Coastal Waters of Elefsis Bay, Greece. <i>Environmental Science & Technology</i> , 1997, 31, 1295-1301.	10.0	61
24	On the path to the digital rock physics of gas hydrate-bearing sediments – processing of in situ synchrotron-tomography data. <i>Solid Earth</i> , 2016, 7, 1243-1258.	2.8	56
25	Tracing Anthropogenic Thallium in Soil Using Stable Isotope Compositions. <i>Environmental Science & Technology</i> , 2014, 48, 9030-9036.	10.0	52
26	Trace metal fluxes to ferromanganese nodules from the western Baltic Sea as a record for long-term environmental changes. <i>Chemical Geology</i> , 2002, 182, 697-709.	3.3	51
27	Aqueous Solubility Diagrams for Cementitious Waste Stabilization Systems. 1. The C-S-H Solid-Solution System. <i>Environmental Science & Technology</i> , 1996, 30, 2286-2293.	10.0	48
28	Adsorption mechanism of arsenate by zirconyl-functionalized activated carbon. <i>Journal of Colloid and Interface Science</i> , 2008, 317, 228-234.	9.4	48
29	Natural gas hydrate investigations by synchrotron radiation X-ray cryo-tomographic microscopy (SRXCTM). <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	46
30	Partitioning of trace metals released from polluted marine aerosols in coastal seawater. <i>Marine Chemistry</i> , 1991, 36, 165-182.	2.3	45
31	Arsenite adsorption on goethite at elevated temperatures. <i>Applied Geochemistry</i> , 2009, 24, 32-43.	3.0	45
32	Fast-growing, shallow-water ferro-manganese nodules from the western Baltic Sea: origin and modes of trace element incorporation. <i>Marine Geology</i> , 2002, 182, 373-387.	2.1	43
33	Digital rock physics, chemistry, and biology: challenges and prospects of pore-scale modelling approach. <i>Applied Geochemistry</i> , 2021, 131, 105028.	3.0	43
34	Ecotoxicity assessment of natural attenuation effects at a historical dumping site in the western Baltic Sea. <i>Marine Pollution Bulletin</i> , 2005, 50, 446-459.	5.0	42
35	Title is missing!. <i>Aquatic Geochemistry</i> , 2000, 6, 147-199.	1.3	40
36	Mineral precipitation-induced porosity reduction and its effect on transport parameters in diffusion-controlled porous media. <i>Geochemical Transactions</i> , 2015, 16, 13.	0.7	40

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37	Speciation of trace metals in leachate from a MSWI bottom ash landfill. <i>Applied Geochemistry</i> , 1997, 12, 675-683.	3.0	38
38	Adsorption of the Herbicide 4-Chloro-2-methylphenoxyacetic Acid (MCPA) by Goethite. <i>Environmental Science & Technology</i> , 2014, 48, 11803-11810.	10.0	38
39	Geochemical characterization of the potential trace metal mobility in cohesive sediments. <i>Geo-Marine Letters</i> , 1991, 11, 184-187.	1.1	36
40	Coupling geochemical, mineralogical and microbiological approaches to assess the health of contaminated soil around the Almalyk mining and smelter complex, Uzbekistan. <i>Science of the Total Environment</i> , 2014, 476-477, 447-459.	8.0	36
41	Determination of 206/207Pb isotope ratios by ICP-MS in particulate matter from the north sea environment. <i>Fresenius' Journal of Analytical Chemistry</i> , 1993, 347, 324-329.	1.5	35
42	Advanced spectroscopic, microscopic, and tomographic characterization techniques to study biogeochemical interfaces in soil. <i>Journal of Soils and Sediments</i> , 2012, 12, 3-23.	3.0	34
43	Surface complexation modeling of arsenate adsorption by akagenite (Fe^{2+} -FeOOH)-dominant granular ferric hydroxide. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2014, 448, 73-80.	4.7	34
44	Speciation of Cr in Leachates of a MSWI Bottom Ash Landfill. <i>Environmental Science & Technology</i> , 1998, 32, 1398-1403.	10.0	33
45	Aqueous Solubility Diagrams for Cementitious Waste Stabilization Systems. 4. A Carbonation Model for Zn-Doped Calcium Silicate Hydrate by Gibbs Energy Minimization. <i>Environmental Science & Technology</i> , 2002, 36, 2926-2931.	10.0	31
46	Low-Molecular-Weight Organic Acid Complexation Affects Antimony(III) Adsorption by Granular Ferric Hydroxide. <i>Environmental Science & Technology</i> , 2019, 53, 5221-5229.	10.0	31
47	Scavenging and particle residence times determined from $^{234}\text{Th}/^{238}\text{U}$ disequilibria in the coastal waters of Mecklenburg Bay. <i>Applied Geochemistry</i> , 1998, 13, 339-347.	3.0	30
48	Isotopes Trace Biogeochemistry and Sources of Cu and Zn in an intertidal soil. <i>Soil Science Society of America Journal</i> , 2013, 77, 680-691.	2.2	30
49	Solubility of Zn(II) in Association with Calcium Silicate Hydrates in Alkaline Solutions. <i>Environmental Science & Technology</i> , 1999, 33, 2296-2298.	10.0	29
50	Speciation and oxidation kinetics of arsenic in the thermal springs of Wiesbaden spa, Germany. <i>Fresenius' Journal of Analytical Chemistry</i> , 2001, 371, 927-933.	1.5	29
51	Microstructure characteristics during hydrate formation and dissociation revealed by X-ray tomographic microscopy. <i>Geo-Marine Letters</i> , 2012, 32, 555-562.	1.1	29
52	Polycyclic aromatic hydrocarbons (PAHs) in soils of an industrial area in semi-arid Uzbekistan: spatial distribution, relationship with trace metals and risk assessment. <i>Environmental Geochemistry and Health</i> , 2021, 43, 4847-4861.	3.4	29
53	Microtomographic Quantification of Hydraulic Clay Mineral Displacement Effects During a CO ₂ Sequestration Experiment with Saline Aquifer Sandstone. <i>Environmental Science & Technology</i> , 2013, 47, 198-204.	10.0	26
54	Competitive arsenate and phosphate adsorption on Fe^{2+} -FeOOH, LaOOH, and nano-TiO ₂ : Two-dimensional correlation spectroscopy study. <i>Journal of Hazardous Materials</i> , 2021, 414, 125512.	12.4	26

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55	Silicate adsorption by goethite at elevated temperatures. <i>Chemical Geology</i> , 2009, 262, 336-343.	3.3	25
56	Polycyclic aromatic hydrocarbons and trace metal contamination of coastal sediment and biota from Togo. <i>Journal of Environmental Monitoring</i> , 2011, 13, 2033.	2.1	25
57	Simultaneous segmentation and beam-hardening correction in computed microtomography of rock cores. <i>Computers and Geosciences</i> , 2013, 56, 142-150.	4.2	25
58	Assessment of Metal Mobility in Dredged Material and Mine Waste by Pore Water Chemistry and Solid Speciation. , 1988, , 214-237.		25
59	Microfungal Alkylation and Volatilization of Selenium Adsorbed by Goethite. <i>Environmental Science & Technology</i> , 2010, 44, 129-135.	10.0	24
60	Storm Disturbance of Sediment Contaminants at a Hot-Spot in the Baltic Sea Assessed by ²³⁴ Th Radionuclide Tracer Profiles. <i>Environmental Science & Technology</i> , 2005, 39, 984-990.	10.0	22
61	Simulating permeability reduction by clay mineral nanopores in a tight sandstone by combining computer X-ray microtomography and focussed ion beam scanning electron microscopy imaging. <i>Solid Earth</i> , 2021, 12, 1-14.	2.8	20
62	Geochemistry of Priority Pollutants in Anoxic Sludges: Cadmium, Arsenic, Methyl Mercury, and Chlorinated Organics. , 1988, , 170-213.		20
63	Change of arsenite adsorption mechanism during aging of 2-line ferrihydrite in the absence of oxygen. <i>Applied Geochemistry</i> , 2018, 88, 149-157.	3.0	19
64	The Origin of Non-thermal Fluctuations in Multiphase Flow in Porous Media. <i>Frontiers in Water</i> , 2021, 3, .	2.3	19
65	Cr(VI)/Cr(III) and As(V)/As(III) Ratio Assessments in Jordanian Spent Oil Shale Produced by Aerobic Combustion and Anaerobic Pyrolysis. <i>Environmental Science & Technology</i> , 2011, 45, 9799-9805.	10.0	18
66	Time-lapse 3D imaging by positron emission tomography of Cu mobilized in a soil column by the herbicide MCPA. <i>Scientific Reports</i> , 2018, 8, 7091.	3.3	18
67	Distribution and Fate of Heavy Metals in the North Sea. , 1993, , 300-347.		17
68	Benchmarking conventional and machine learning segmentation techniques for digital rock physics analysis of fractured rocks. <i>Environmental Earth Sciences</i> , 2022, 81, 1.	2.7	16
69	Exothermic adsorption of chromate by goethite. <i>Applied Geochemistry</i> , 2020, 123, 104785.	3.0	15
70	The influence of temperature on selenate adsorption by goethite. <i>Radiochimica Acta</i> , 2013, 101, 413-420.	1.2	14
71	Multi-phase classification by a least-squares support vector machine approach in tomography images of geological samples. <i>Solid Earth</i> , 2016, 7, 481-492.	2.8	14
72	Soil biogeochemical properties of Angren industrial area, Uzbekistan. <i>Journal of Soils and Sediments</i> , 2009, 9, 206-215.	3.0	13

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73	Squirt flow due to interfacial water films in hydrate bearing sediments. <i>Solid Earth</i> , 2018, 9, 699-711.	2.8	13
74	Incorporation of trace metals Cu, Zn, and Cd into gypsum: Implication on their mobility and fate in natural and anthropogenic environments. <i>Chemical Geology</i> , 2020, 541, 119574.	3.3	13
75	Relationship Between Microbial Growth and Hydraulic Properties at the Sub-Pore Scale. <i>Transport in Porous Media</i> , 2021, 139, 579-593.	2.6	13
76	Trace metals in humic acids from recent Skagerrak sediments. <i>Marine Pollution Bulletin</i> , 1994, 28, 143-147.	5.0	12
77	Successive development of soil ecosystems at abandoned coal-ash landfills. <i>Ecotoxicology</i> , 2014, 23, 880-897.	2.4	12
78	Silicic acid competes for dimethylarsinic acid (DMA) immobilization by the iron hydroxide plaque mineral goethite. <i>Science of the Total Environment</i> , 2015, 508, 199-205.	8.0	10
79	Trace metal(loid) mobility in waste deposits and soils around Chadak mining area, Uzbekistan. <i>Science of the Total Environment</i> , 2018, 622-623, 1658-1667.	8.0	10
80	Cadmium in the North Sea—a mass balance. <i>Journal of Marine Systems</i> , 1992, 3, 209-224.	2.1	9
81	Analysis of Variance of Porosity and Heterogeneity of Permeability at the Pore Scale. <i>Transport in Porous Media</i> , 2019, 130, 867-887.	2.6	9
82	Predicting breakthrough of vanadium in fixed-bed absorbent columns with complex groundwater chemistries: A multi-component granular ferric hydroxide—vanadate—arsenate—phosphate—silicic acid system. <i>Water Research X</i> , 2020, 9, 100061.	6.1	9
83	Competitive Scavenging of Trace Metals by HFO and HMO during Redox-driven Early Diagenesis of Ferromanganese Nodules (11 pp). <i>Journal of Soils and Sediments</i> , 2005, 5, 37-47.	3.0	8
84	Speciation and Mobility of Arsenic in Agricultural Lime. <i>Journal of Environmental Quality</i> , 2009, 38, 2058-2069.	2.0	8
85	Background Concentrations for Metals in the North Sea: Sediment, Water, Mussels and Atmosphere. , 1994, , 290-316.		8
86	Metal associations in anoxic sediments and changes following upland disposal. <i>Toxicological and Environmental Chemistry</i> , 1986, 12, 313-321.	1.2	7
87	Assessment of Metal Mobility in Sludges and Solid Wastes. , 1990, , 1-41.		7
88	Stop-and-go <i>in situ</i> tomography of dynamic processes — gas hydrate formation in sedimentary matrices. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2015, 71, s154-s154.	0.1	6
89	Pore scale modelling of calcite cement dissolution in a reservoir sandstone matrix. <i>E3S Web of Conferences</i> , 2019, 98, 05010.	0.5	6
90	Predicting the Breakthrough of Ternary Ca—Uranyl—Carbonate Species in Mineral Water Treated by a Fixed-Bed Granular Ferric Hydroxide Adsorbent. <i>ACS ES&T Water</i> , 2021, 1, 366-375.	4.6	6

#	ARTICLE	IF	CITATIONS
91	Combined Effects of Abiotic and Biotic Factors on Heavy Metal Fluxes. , 1994, , 598-619.		6
92	Thorium-234 derived information on particle residence times and sediment deposition in shallow waters of the south-western Baltic Sea. Journal of Marine Systems, 2009, 75, 360-370.	2.1	5
93	3-D imaging and quantification of graupel porosity by synchrotron-based micro-tomography. Atmospheric Measurement Techniques, 2011, 4, 2225-2234.	3.1	5
94	Chronospeciation of uranium released in soil during a long-term DU shell weathering experiment. Journal of Environmental Radioactivity, 2021, 228, 106511.	1.7	5
95	Comment on "Enthalpy of Uranium Adsorption onto Hematite". Environmental Science & Technology, 2021, 55, 3442-3443.	10.0	5
96	Section 1: Sediment quality and impact assessment. Journal of Soils and Sediments, 2007, 7, 197-197.	3.0	3
97	Microstructure of hydrate-bearing sediments and determination of P-wave velocities based on high-resolution synchrotron tomographic data. , 2015, , .		3
98	Stratification Dynamics and Geothermal Potential of a Deep Shaft in the Flooded Wolf Mine, Siegerland/Germany. Mine Water and the Environment, 2019, 38, 325-334.	2.0	3
99	Molecular modeling of MCPA herbicide adsorption by goethite (110) surface in dependence of pH. Theoretical Chemistry Accounts, 2020, 139, 1.	1.4	3
100	A FIB-SEM Study of Illite Morphology in Aeolian Rotliegend Sandstones: Implications for Understanding the Petrophysical Properties of Reservoir Rocks. Clays and Clay Minerals, 2022, 70, 84-105.	1.3	3
101	Upscaling calcite dissolution rates in a tight reservoir sandstone. Environmental Earth Sciences, 2022, 81, .	2.7	3
102	Modeling of Elemental Species. , 2005, , 651-689.		2
103	Speciation of Copper in Enriched Agricultural Lime. Soil Science Society of America Journal, 2011, 75, 509-520.	2.2	2
104	LFER and the Effect of Temperature on Oxyanion Adsorption by Goethite. E3S Web of Conferences, 2019, 98, 10001.	0.5	2
105	Mobility of Cr and V in Spent Oil Shale: Impact of Thermal Treatment. Procedia Earth and Planetary Science, 2013, 7, 413-416.	0.6	1
106	CO2 Injection to a Saline Aquifer Sandstone - Clay Mineral Displacement and Permeability Changes. , 2013, , .		1
107	On the Effect of Image Enhancement Techniques on Digital Rock Physics Results. , 2013, , .		1
108	Cadmium isotope fractionation in an intertidal soil induced by tidal pumping. Environmental Advances, 2022, 8, 100182.	4.8	1

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109	Comparison of Micro X-ray Computer Tomography Image Segmentation Methods: Artificial Neural Networks Versus Least Square Support Vector Machine. Lecture Notes in Earth System Sciences, 2014, , 141-145.	0.6	0
110	Applied Geochemistry. , 2021, , 323-326.		0
111	Spezierung von Eisen in Brackwassersedimenten der Ostseebodden. , 2001, , 141-166.		0
112	Methoden der Gewinnung geochemischer Parameter. , 1998, , 107-358.		0
113	Aqueous solubility of Zn incorporated into Mg-Al-layered double hydroxides. Clays and Clay Minerals, 2022, 70, 34-47.	1.3	0