Peter S Nico

List of Publications by Year
in descending order

91 papers	8,763 citations	87888 38 h-index	51608 86 g-index
97 all docs	97 docs citations	97 times ranked	10084 citing authors

#	Article	IF	Citations
1	Dynamic Molecular Structure of Plant Biomass-Derived Black Carbon (Biochar). Environmental Science & Technology, 2010, 44, 1247-1253.	10.0	2,267
2	Mineralâ€“Organic Associations: Formation, Properties, and Relevance in Soil Environments. Advances in Agronomy, 2015, 130, 1-140.	5.2	801
3	Mineral protection of soil carbon counteracted by root exudates. Nature Climate Change, 2015, 5, 588-595.	18.8	694
4	Old and stable soil organic matter is not necessarily chemically recalcitrant: implications for modeling concepts and temperature sensitivity. Global Change Biology, 2011, 17, 1097-1107.	9.5	318
5	Life and death in the soil microbiome: how ecological processes influence biogeochemistry. Nature Reviews Microbiology, 2022, 20, 415-430.	28.6	282
6	Anaerobic microsites have an unaccounted role in soil carbon stabilization. Nature Communications, 2017, 8, 1771.	12.8	276
7	Are oxygen limitations under recognized regulators of organic carbon turnover in upland soils?. Biogeochemistry, 2016, 127, 157-171.	3.5	236
8	Aromaticity and degree of aromatic condensation of char. Organic Geochemistry, 2015, 78, 135-143.	1.8	207
9	Structural constraints of ferric (hydr)oxides on dissimilatory iron reduction and the fate of Fe(II). Geochimica Et Cosmochimica Acta, 2004, 68, 3217-3229.	3.9	183
10	Effect of Dissolved CO₂ on a Shallow Groundwater System: A Controlled Release Field Experiment. Environmental Science & Technology, 2013, 47, 298-305.	10.0	168
11	Long-term litter decomposition controlled by manganese redox cycling. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E5253-60.	7.1	168
12	Complexation and Redox Buffering of Iron(II) by Dissolved Organic Matter. Environmental Science & Technology, 2017, 51, 11096-11104.	10.0	157
13	Structural stability of coprecipitated natural organic matter and ferric iron under reducing conditions. Organic Geochemistry, 2012, 48, 81-89.	1.8	134
14	Importance of Mn(III) Availability on the Rate of Cr(III) Oxidation on Î´-MnO2. Environmental Science & Technology, 2000, 34, 3363-3367.	10.0	129
15	Mn(III) Center Availability as a Rate Controlling Factor in the Oxidation of Phenol and Sulfide on Î´-MnO2. Environmental Science & Technology, 2001, 35, 3338-3343.	10.0	116
16	Incorporation of Oxidized Uranium into Fe (Hydr)oxides during Fe(II) Catalyzed Remineralization. Environmental Science & Technology, 2009, 43, 7391-7396.	10.0	115
17	The East River, Colorado, Watershed: A Mountainous Community Testbed for Improving Predictive Understanding of Multiscale Hydrologicalâ€“Biogeochemical Dynamics. Vadose Zone Journal, 2018, 17, 1-25.	2.2	115
18	Nano-scale investigation of the association of microbial nitrogen residues with iron (hydr)oxides in a forest soil O-horizon. Geochimica Et Cosmochimica Acta, 2012, 95, 213-226.	3.9	107

#	ARTICLE	IF	CITATIONS
19	A low-to-no snow future and its impacts on water resources in the western United States. Nature Reviews Earth & Environment, 2021, 2, 800-819.	29.7	106
20	NanoSIMS Study of Organic Matter Associated with Soil Aggregates: Advantages, Limitations, and Combination with STXM. Environmental Science & Technology, 2012, 46, 3943-3949.	10.0	104
21	Rapid photo-oxidation of Mn(II) mediated by humic substances. Geochimica Et Cosmochimica Acta, 2002, 66, 4047-4056.	3.9	100
22	Belowground Response to Drought in a Tropical Forest Soil. I. Changes in Microbial Functional Potential and Metabolism. Frontiers in Microbiology, 2016, 7, 525.	3.5	100
23	Redox Fluctuations Control the Coupled Cycling of Iron and Carbon in Tropical Forest Soils. Environmental Science & Technology, 2018, 52, 14129-14139.	10.0	96
24	Stability of Uranium Incorporated into Fe (Hydr)oxides under Fluctuating Redox Conditions. Environmental Science & Technology, 2009, 43, 4922-4927.	10.0	79
25	Microbial community assembly differs across minerals in a rhizosphere microcosm. Environmental Microbiology, 2018, 20, 4444-4460.	3.8	77
26	Chemical Structure of Arsenic and Chromium in CCA-Treated Wood:Â Implications of Environmental Weathering. Environmental Science & Technology, 2004, 38, 5253-5260.	10.0	68
27	Geochemical Exports to River From the Intrameander Hyporheic Zone Under Transient Hydrologic Conditions: East River Mountainous Watershed, Colorado. Water Resources Research, 2018, 54, 8456-8477.	4.2	66
28	Enzymes, Manganese, or Iron? Drivers of Oxidative Organic Matter Decomposition in Soils. Environmental Science & Technology, 2020, 54, 14114-14123.	10.0	63
29	Surface Enhanced Raman Spectroscopy of Organic Molecules on Magnetite (Fe₃O₄) Nanoparticles. Journal of Physical Chemistry Letters, 2015, 6, 970-974.	4.6	62
30	Reoxidation of Chromium(III) Products Formed under Different Biogeochemical Regimes. Environmental Science & Technology, 2017, 51, 4918-4927.	10.0	60
31	Production of Hydrogen Peroxide in Groundwater at Rifle, Colorado. Environmental Science & Technology, 2017, 51, 7881-7891.	10.0	54
32	Manganese-Driven Carbon Oxidation at Oxicâ€"Anoxic Interfaces. Environmental Science & Technology, 2018, 52, 12349-12357.	10.0	54
33	Belowground Response to Drought in a Tropical Forest Soil. II. Change in Microbial Function Impacts Carbon Composition. Frontiers in Microbiology, 2016, 7, 323.	3.5	46
34	Arsenic Chemistry in Soils and Sediments. Developments in Soil Science, 2010, , 357-378.	0.5	45
35	Competitive sorption of microbial metabolites on an iron oxide mineral. Soil Biology and Biochemistry, 2015, 90, 34-41.	8.8	45
36	Use of Micro-XANES to Speciate Chromium in Airborne Fine Particles in the Sacramento Valley. Environmental Science & Technology, 2007, 41, 4919-4924.	10.0	43

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37	Speciation-Dependent Microbial Reduction of Uranium within Iron-Coated Sands. Environmental Science & Technology, 2007, 41, 7343-7348.	10.0	43
38	Characterization of natural organic matter in low-carbon sediments: Extraction and analytical approaches. Organic Geochemistry, 2017, 114, 12-22.	1.8	42
39	Synthetic iron (hydr)oxide-glucose associations in subsurface soil: Effects on decomposability of mineral associated carbon. Science of the Total Environment, 2018, 613-614, 342-351.	8.0	39
40	Influence of Uranyl Speciation and Iron Oxides on Uranium Biogeochemical Redox Reactions. Geomicrobiology Journal, 2011, 28, 444-456.	2.0	38
41	The passivation of calcite by acid mine water. Column experiments with ferric sulfate and ferric chloride solutions at pH 2. Applied Geochemistry, 2008, 23, 3579-3588.	3.0	37
42	A laboratory study of the initial effects of dissolved carbon dioxide (CO2) on metal release from shallow sediments. International Journal of Greenhouse Gas Control, 2013, 19, 183-211.	4.6	36
43	Iron-Mediated Oxidation of Methoxyhydroquinone under Dark Conditions: Kinetic and Mechanistic Insights. Environmental Science & Technology, 2016, 50, 1731-1740.	10.0	36
44	Effects of Fulvic Acid on Uranium(VI) Sorption Kinetics. Environmental Science & Technology, 2013, 47, 6214-6222.	10.0	34
45	On the mobilization of metals by CO₂ leakage into shallow aquifers: exploring release mechanisms by modeling field and laboratory experiments. , 2015, 5, 403-418.		34
46	Iron and Carbon Dynamics during Aging and Reductive Transformation of Biogenic Ferrihydrite. Environmental Science & Technology, 2016, 50, 25-35.	10.0	34
47	Arsenic and Chromium Partitioning in a Podzolic Soil Contaminated by Chromated Copper Arsenate. Environmental Science & Technology, 2008, 42, 6481-6486.	10.0	33
48	Satellite-based monitoring of groundwater depletion in Californiaâ€™s Central Valley. Scientific Reports, 2019, 9, 16053.	3.3	32
49	Imaging and modeling of flow in porous media using clinical nuclear emission tomography systems and computational fluid dynamics. Journal of Applied Geophysics, 2012, 76, 74-81.	2.1	31
50	Phosphorus Fractionation Responds to Dynamic Redox Conditions in a Humid Tropical Forest Soil. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 3016-3027.	3.0	30
51	Chemical Speciation and Bioaccessibility of Arsenic and Chromium in Chromated Copper Arsenate-Treated Wood and Soils. Environmental Science & Technology, 2006, 40, 402-408.	10.0	28
52	Aggregateâ€Scale Heterogeneity in Iron (Hydr)oxide Reductive Transformations. Vadose Zone Journal, 2009, 8, 1004-1012.	2.2	26
53	Cross-Scale Molecular Analysis of Chemical Heterogeneity in Shale Rocks. Scientific Reports, 2018, 8, 2552.	3.3	25
54	Belowground allocation and dynamics of recently fixed plant carbon in a California annual grassland. Soil Biology and Biochemistry, 2022, 165, 108519.	8.8	25

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55	Divergent Aquifer Biogeochemical Systems Converge on Similar and Unexpected Cr(VI) Reduction Products. Environmental Science & Technology, 2014, 48, 10699-10706.	10.0	24
56	Reactivity of Uranium and Ferrous Iron with Natural Iron Oxyhydroxides. Environmental Science & Technology, 2015, 49, 10357-10365.	10.0	23
57	Quantifying biogeochemical heterogeneity in soil systems. Geoderma, 2018, 324, 89-97.	5.1	23
58	Redox Dynamics of Mixed Metal (Mn, Cr, and Fe) Ultrafine Particles. Aerosol Science and Technology, 2009, 43, 60-70.	3.1	21
59	Laboratory Study of Simulated Atmospheric Transformations of Chromium in Ultrafine Combustion Aerosol Particles. Aerosol Science and Technology, 2006, 40, 545-556.	3.1	19
60	Projected temperature increases may require shifts in the growing season of cool-season crops and the growing locations of warm-season crops. Science of the Total Environment, 2020, 746, 140918.	8.0	19
61	Impacts of Californiaâ€™s climate-relevant land use policy scenarios on terrestrial carbon emissions (CO₂ and CH₄) and wildfire risk. Environmental Research Letters, 2021, 16, 014044.	5.2	18
62	Influence of Agricultural Managed Aquifer Recharge (AgMAR) and Stratigraphic Heterogeneities on Nitrate Reduction in the Deep Subsurface. Water Resources Research, 2021, 57, e2020WR029148.	4.2	17
63	Synchrotron-Based Mass Spectrometry to Investigate the Molecular Properties of Mineralâ€“Organic Associations. Analytical Chemistry, 2013, 85, 6100-6106.	6.5	16
64	The Ability of Soil Pore Network Metrics to Predict Redox Dynamics is Scale Dependent. Soil Systems, 2018, 2, 66.	2.6	16
65	Modeling the Impact of Riparian Hollows on River Corridor Nitrogen Exports. Frontiers in Water, 2021, 3, .	2.3	15
66	Shale as a Source of Organic Carbon in Floodplain Sediments of a Mountainous Watershed. Journal of Geophysical Research G: Biogeosciences, 2020, 125, e2019JG005419.	3.0	14
67	Differential effects of redox conditions on the decomposition of litter and soil organic matter. Biogeochemistry, 2021, 154, 1-15.	3.5	14
68	Root Carbon Interaction with Soil Minerals Is Dynamic, Leaving a Legacy of Microbially Derived Residues. Environmental Science & Technology, 2021, 55, 13345-13355.	10.0	13
69	Impacts of elevated dissolved CO2 on a shallow groundwater system: Reactive transport modeling of a controlled-release field test. Chemical Geology, 2016, 447, 117-132.	3.3	12
70	From legacy contamination to watershed systems science: a review of scientific insights and technologies developed through DOE-supported research in water and energy security. Environmental Research Letters, 2022, 17, 043004.	5.2	12
71	Characterization of Chromium Bioremediation Products in Flowâ€Through Column Sediments Using Microâ€“Xâ€ray Fluorescence and Xâ€ray Absorption Spectroscopy. Journal of Environmental Quality, 2015, 44, 729-738.	2.0	11
72	Meanders as a scaling motif for understanding of floodplain soil microbiome and biogeochemical potential at the watershed scale. Microbiome, 2021, 9, 121.	11.1	11

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73	Potential impacts of CO₂ leakage on groundwater quality of overlying aquifer at geological carbon sequestration sites: A review and a proposed assessment procedure. , 2021, 11, 1134-1166.		11
74	Oxygen K-Edge Emission and Absorption Spectroscopy of Iron Oxyhydroxide Nanoparticles. AIP Conference Proceedings, 2007, , .	0.4	10
75	Statistical segmentation and porosity quantification of 3D x-ray microtomography. , 2011, , .		10
76	Monitoring Tc Dynamics in a Bioreduced Sediment: An Investigation with Gamma Camera Imaging of ^{99m}Tc-Pertechnetate and ^{99m}Tc-DTPA. Environmental Science & Technology, 2012, 46, 12583-12590.	10.0	10
77	Pteris vittata Arsenic Accumulation Only Partially Explains Soil Arsenic Depletion during Field-Scale Phytoextraction. Soil Systems, 2020, 4, 71.	2.6	10
78	Effects of bentonite heating on U(VI) adsorption. Applied Geochemistry, 2019, 109, 104392.	3.0	8
79	Effect of Cover Crop on Carbon Distribution in Size and Density Separated Soil Aggregates. Soil Systems, 2020, 4, 6.	2.6	8
80	Microbial Phosphorus Mobilization Strategies Across a Natural Nutrient Limitation Gradient and Evidence for Linkage With Iron Solubilization Traits. Frontiers in Microbiology, 2021, 12, 572212.	3.5	8
81	Geochemical Controls on Release and Speciation of Fe(II) and Mn(II) From Hyporheic Sediments of East River, Colorado. Frontiers in Water, 2020, 2, .	2.3	7
82	Synchrotron X-Ray Microtomography-New Means to Quantify Root Induced Changes of Rhizosphere Physical Properties. SSSA Special Publication Series, 2015, , 39-67.	0.2	6
83	Sulfur Biogeochemical Cycling and Redox Dynamics in a Shaleâ€Dominated Mountainous Watershed. Journal of Geophysical Research G: Biogeosciences, 2022, 127, .	3.0	5
84	Performance Evaluation of SPECT Imaging System for Sediment Column Imaging. IEEE Transactions on Nuclear Science, 2013, 60, 763-767.	2.0	4
85	Fast redox switches lead to rapid transformation of goethite in humid tropical soils: A MÃ¶ssbauer spectroscopy study. Soil Science Society of America Journal, 2022, 86, 264-274.	2.2	4
86	Production of hydrogen peroxide in an intra-meander hyporheic zone at East River, Colorado. Scientific Reports, 2022, 12, 712.	3.3	3
87	Preface to the Special Issue of <i>Vadose Zone Journal</i> on Soil as Complex Systems. Vadose Zone Journal, 2016, 15, 1-3.	2.2	2
88	Quantifying the effects of multiple land management practices, land cover change, and wildfire on the California landscape carbon budget with an empirical model. PLoS ONE, 2021, 16, e0251346.	2.5	2
89	Carbon Sink Strength of Subsurface Horizons in Brazilian Oxisols. Soil Science Society of America Journal, 2018, 82, 76-86.	2.2	1
90	Studying contaminant transport and chem ical reduction in subsurface sediment by modeling flow in porous media. , 2010, , .		0

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91	Chemical stability of 99mTcâ€"DTPA under aerobic and microbially mediated Fe(III)-reducing conditions in porous media. Applied Radiation and Isotopes, 2014, 94, 175-181.	1.5	0