Catherine A Peters

List of Publications by Year
in descending order

102 papers	4,776 citations	117625 34 h-index	102487 66 g-index
103 all docs	103 docs citations	103 times ranked	4033 citing authors

#	Article	IF	Citations
1	Fieldâ€Scale Modeling of CO₂ Mineral Trapping in Reactive Rocks: A Vertically Integrated Approach. Water Resources Research, 2022, 58, e2021WR030626.	4.2	8
2	Quantification of mineral reactivity using machine learning interpretation of micro-XRF data. Applied Geochemistry, 2022, 136, 105162.	3.0	7
3	AEESP Spotlight: Early 2022. Environmental Engineering Science, 2022, 39, 193-194.	1.6	0
4	AEESP Spotlight: Mid 2022. Environmental Engineering Science, 2022, 39, 584-585.	1.6	0
5	Coprecipitation of Heavy Metals in Calcium Carbonate from Coal Fly Ash Leachate. ACS ES&T Water, 2021, 1, 339-345.	4.6	17
6	AEESP Spotlight: Early 2021. Environmental Engineering Science, 2021, 38, 107-108.	1.6	0
7	Sealing Porous Media through Calcium Silicate Reactions with CO₂ to Enhance the Security of Geologic Carbon Sequestration. Environmental Engineering Science, 2021, 38, 127-142.	1.6	7
8	Addressing Water and Energy Challenges with Reactive Transport Modeling. Environmental Engineering Science, 2021, 38, 109-114.	1.6	10
9	Global Environmental Engineering for and with Historically Marginalized Communities. Environmental Engineering Science, 2021, 38, 285-287.	1.6	7
10	AEESP Spotlight: Mid 2021. Environmental Engineering Science, 2021, 38, 575-576.	1.6	0
11	SMART mineral mapping: Synchrotron-based machine learning approach for 2D characterization with coupled micro XRF-XRD. Computers and Geosciences, 2021, 156, 104898.	4.2	19
12	AEESP Spotlight: Late 2021. Environmental Engineering Science, 2021, 38, 1010-1011.	1.6	0
13	Peak grain forecasts for the US High Plains amid withering waters. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 26145-26150.	7.1	12
14	Think-Pair-Listen in the Online COVID-19 Classroom. Environmental Engineering Science, 2020, 37, 647-648.	1.6	6
15	Educating Heads, Hands, and Hearts in the COVID-19 Classroom. Environmental Engineering Science, 2020, 37, 303-303.	1.6	9
16	Homogenization of the terrestrial water cycle. Nature Geoscience, 2020, 13, 656-658.	12.9	242
17	Acid Erosion of Carbonate Fractures and Accessibility of Arsenic-Bearing Minerals: In Operando Synchrotron-Based Microfluidic Experiment. Environmental Science & Technology, 2020, 54, 12502-12510.	10.0	16
18	AEESP Journal Spotlight: Early 2020. Environmental Engineering Science, 2020, 37, 169-170.	1.6	0

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19	Metals Coprecipitation with Barite: Nano-XRF Observation of Enhanced Strontium Incorporation. Environmental Engineering Science, 2020, 37, 235-245.	1.6	22
20	AEESP Spotlight: Mid 2020. Environmental Engineering Science, 2020, 37, 457-458.	1.6	0
21	Feasibility of using reactive silicate particles with temperature-responsive coatings to enhance the security of geologic carbon storage. International Journal of Greenhouse Gas Control, 2020, 95, 102976.	4.6	5
22	Advancing ecohydrology in the 21st century: A convergence of opportunities. Ecohydrology, 2020, 13, e2208.	2.4	34
23	AEESP Spotlight: Late 2020. Environmental Engineering Science, 2020, 37, 715-716.	1.6	0
24	AEESP Journal Spotlight: Mid-2019. Environmental Engineering Science, 2019, 36, 760-760.	1.6	0
25	Targeted Permeability Control in the Subsurface via Calcium Silicate Carbonation. Environmental Science & Technology, 2019, 53, 7136-7144.	10.0	10
26	The Foodâ€“Energyâ€“Water Nexus: Security, Sustainability, and Systems Perspectives. Environmental Engineering Science, 2019, 36, 761-762.	1.6	11
27	AEESP Journal Spotlight: Early 2019. Environmental Engineering Science, 2019, 36, 262-263.	1.6	0
28	AEESP Journal Spotlight: Late 2019. Environmental Engineering Science, 2019, 36, 1367-1368.	1.6	0
29	Collapse of Reacted Fracture Surface Decreases Permeability and Frictional Strength. Journal of Geophysical Research: Solid Earth, 2019, 124, 12799-12811.	3.4	15
30	Reactive Transport Simulation of Fracture Channelization and Transmissivity Evolution. Environmental Engineering Science, 2019, 36, 90-101.	1.6	19
31	Wastewater treatment for carbon capture and utilization. Nature Sustainability, 2018, 1, 750-758.	23.7	299
32	Nanospectroscopy Captures Nanoscale Compositional Zonation in Barite Solid Solutions. Scientific Reports, 2018, 8, 13041.	3.3	21
33	AEESP Journal Spotlight: Late 2018. Environmental Engineering Science, 2018, 35, 1148-1149.	1.6	0
34	Calcium Silicate Crystal Structure Impacts Reactivity with CO₂ and Precipitate Chemistry. Environmental Science and Technology Letters, 2018, 5, 558-563.	8.7	16
35	Citizen Science for Dissolved Oxygen Monitoring: Case Studies from Georgia and Rhode Island. Environmental Engineering Science, 2018, 35, 362-372.	1.6	12
36	AEESP Journal Spotlight: Mid 2018. Environmental Engineering Science, 2018, 35, 662-662.	1.6	0

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37	Influence of Rock Mineralogy on Reactive Fracture Evolution in Carbonate-Rich Caprocks. Environmental Science & Technology, 2018, 52, 10144-10152.	10.0	28
38	AEESP Journal Spotlight: Early 2018. Environmental Engineering Science, 2018, 35, 141-141.	1.6	0
39	Scale formation in porous media and its impact on reservoir performance during water flooding. Journal of Natural Gas Science and Engineering, 2017, 39, 188-202.	4.4	52
40	AEESP Journal Spotlight: Early 2017. Environmental Engineering Science, 2017, 34, 138-138.	1.6	0
41	AEESP Journal Spotlight: Mid 2017. Environmental Engineering Science, 2017, 34, 460-460.	1.6	0
42	Monetizing Leakage Risk with Secondary Trapping in Intervening Stratigraphic Layers. Energy Procedia, 2017, 114, 4256-4261.	1.8	0
43	Leakage risks of geologic CO2 storage and the impacts on the global energy system and climate change mitigation. Climatic Change, 2017, 144, 151-163.	3.6	54
44	AEESP Journal Spotlight: Late 2017. Environmental Engineering Science, 2017, 34, 771-771.	1.6	0
45	AEESP Journal Spotlight: Early 2016. Environmental Engineering Science, 2016, 33, 148-148.	1.6	0
46	<i>Book Review: Pore-Scale Geochemical Processes, RIMG Volume 80</i>, ed. by Carl I. Steefel, Simon Emmanuel, and Lawrence M. Anovitz. American Mineralogist, 2016, 101, 2574-2575.	1.9	0
47	Thermal drawdown-induced flow channeling in a single fracture in EGS. Geothermics, 2016, 61, 46-62.	3.4	138
48	AEESP Journal Spotlight: Late 2016. Environmental Engineering Science, 2016, 33, 839-839.	1.6	0
49	Mitigating Climate Change at the Carbon Water Nexus: A Call to Action for the Environmental Engineering Community. Environmental Engineering Science, 2016, 33, 719-724.	1.6	12
50	The Leakage Risk Monetization Model for Geologic CO₂ Storage. Environmental Science & Technology, 2016, 50, 4923-4931.	10.0	39
51	Quantifying fracture geometry with X-ray tomography: Technique of Iterative Local Thresholding (TILT) for 3D image segmentation. Computational Geosciences, 2016, 20, 231-244.	2.4	57
52	3D Mapping of calcite and a demonstration of its relevance to permeability evolution in reactive fractures. Advances in Water Resources, 2016, 95, 246-253.	3.8	30
53	Tomographic Investigations Relevant to the Rhizosphere. SSSA Special Publication Series, 2015, , 23-38.	0.2	2
54	Alterations of Fractures in Carbonate Rocks by CO₂-Acidified Brines. Environmental Science & Technology, 2015, 49, 10226-10234.	10.0	93

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55	An examination of geologic carbon sequestration policies in the context of leakage potential. International Journal of Greenhouse Gas Control, 2015, 37, 61-75.	4.6	39
56	Impacts of Diffusive Transport on Carbonate Mineral Formation from Magnesium Silicate-CO₂-Water Reactions. Environmental Science & Technology, 2014, 48, 14344-14351.	10.0	20
57	Causes and financial consequences of geologic CO2 storage reservoir leakage and interference with other subsurface resources. International Journal of Greenhouse Gas Control, 2014, 20, 272-284.	4.6	39
58	Policy implications of Monetized Leakage Risk from Geologic CO2 Storage Reservoirs. Energy Procedia, 2014, 63, 6852-6863.	1.8	1
59	The Leakage Impact Valuation (LIV) Method for Leakage from Geologic CO2 Storage Reservoirs. Energy Procedia, 2013, 37, 2819-2827.	1.8	13
60	Permeability evolution due to dissolution and precipitation of carbonates using reactive transport modeling in pore networks. Water Resources Research, 2013, 49, 6006-6021.	4.2	127
61	2D and 3D imaging resolution trade-offs in quantifying pore throats for prediction of permeability. Advances in Water Resources, 2013, 62, 1-12.	3.8	70
62	A Methodology for Monetizing Basin-Scale Leakage Risk and Stakeholder Impacts. Energy Procedia, 2013, 37, 4665-4672.	1.8	7
63	Modifications of Carbonate Fracture Hydrodynamic Properties by CO₂-Acidified Brine Flow. Energy & Fuels, 2013, 27, 4221-4231.	5.1	83
64	Dissolution-Driven Permeability Reduction of a Fractured Carbonate Caprock. Environmental Engineering Science, 2013, 30, 187-193.	1.6	113
65	Caprock Fracture Dissolution and CO2 Leakage. Reviews in Mineralogy and Geochemistry, 2013, 77, 459-479.	4.8	64
66	Simulations of longâ€column flow experiments related to geologic carbon sequestration: effects of outer wall boundary condition on upward flow and formation of liquid CO₂. , 2012, 2, 279-303.		14
67	Changes in the pore network structure of Hanford sediment after reaction with caustic tank wastes. Journal of Contaminant Hydrology, 2012, 131, 89-99.	3.3	36
68	Upscaling geochemical reaction rates accompanying acidic CO₂â€saturated brine flow in sandstone aquifers. Water Resources Research, 2011, 47, .	4.2	58
69	Deterioration of a fractured carbonate caprock exposed to CO₂â€acidified brine flow. , 2011, 1, 248-260.		106
70	LUCI: A facility at DUSEL for large-scale experimental study of geologic carbon sequestration. Energy Procedia, 2011, 4, 5050-5057.	1.8	2
71	Changes in caprock integrity due to vertical migration of CO2 -enriched brine. Energy Procedia, 2011, 4, 5327-5334.	1.8	21
72	Limitations for brine acidification due to SO2 co-injection in geologic carbon sequestration. International Journal of Greenhouse Gas Control, 2010, 4, 575-582.	4.6	55

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73	Adaptations in microbiological populations exposed to dinitrophenol and other chemical stressors. Environmental Toxicology and Chemistry, 2010, 29, 2161-2168.	4.3	3
74	Dissolution Potential of SO₂ Co-Injected with CO₂ in Geologic Sequestration. Environmental Science & Technology, 2010, 44, 349-355.	10.0	58
75	Accessibilities of reactive minerals in consolidated sedimentary rock: An imaging study of three sandstones. Chemical Geology, 2009, 265, 198-208.	3.3	129
76	GIS analysis of urban schoolyard landcover in three U.S. cities. Urban Ecosystems, 2008, 11, 65-80.	2.4	19
77	Changes in microbiological metabolism under chemical stress. Chemosphere, 2008, 71, 474-483.	8.2	32
78	Applicability of averaged concentrations in determining geochemical reaction rates in heterogeneous porous media. Numerische Mathematik, 2007, 307, 1146-1166.	1.4	42
79	Effects of mineral spatial distribution on reaction rates in porous media. Water Resources Research, 2007, 43, .	4.2	82
80	Reply to â€œComment on upscaling geochemical reaction rates using pore-scale network modelingâ€• by Peter C. Lichtner and Qinjun Kang. Advances in Water Resources, 2007, 30, 691-695.	3.8	14
81	A MOLECULAR MODELING ANALYSIS OF POLYCYCLIC AROMATIC HYDROCARBON BIODEGRADATION BY NAPHTHALENE DIOXYGENASE. Environmental Toxicology and Chemistry, 2006, 25, 912.	4.3	17
82	MULTISUBSTRATE BIODEGRADATION KINETICS FOR BINARY AND COMPLEX MIXTURES OF POLYCYCLIC AROMATIC HYDROCARBONS. Environmental Toxicology and Chemistry, 2006, 25, 1746.	4.3	36
83	Upscaling geochemical reaction rates using pore-scale network modeling. Advances in Water Resources, 2006, 29, 1351-1370.	3.8	283
84	Forsterite dissolution and magnesite precipitation at conditions relevant for deep saline aquifer storage and sequestration of carbon dioxide. Chemical Geology, 2005, 217, 257-276.	3.3	322
85	Polycyclic Aromatic Hydrocarbon Biodegradation Rates:Â A Structure-Based Study. Environmental Science & Technology, 2005, 39, 2571-2578.	10.0	112
86	UNIFAC Modeling of Cosolvent Phase Partitioning in Nonaqueous Phase Liquid-Water Systems. Journal of Environmental Engineering, ASCE, 2004, 130, 478-483.	1.4	21
87	Aqueous Phase Biodegradation Kinetics of 10 PAH Compounds. Environmental Engineering Science, 2003, 20, 207-218.	1.6	44
88	Peer Reviewed: Safe Storage of CO2 in Deep Saline Aquifiers. Environmental Science & Technology, 2002, 36, 240A-245A.	10.0	220
89	Statistical analysis of nonlinear parameter estimation for monod biodegradation kinetics using bivariate data. , 2000, 69, 160-170.		51
90	Multicomponent NAPL Solidification Thermodynamics. Transport in Porous Media, 2000, 38, 57-77.	2.6	27

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91	Unifac modeling of multicomponent nonaqueous phase liquids containing polycyclic aromatic hydrocarbons. Environmental Toxicology and Chemistry, 1999, 18, 426-429.	4.3	23
92	Multisubstrate biodegradation kinetics of naphthalene, phenanthrene, and pyrene mixtures. , 1999, 65, 491-499.		101
93	Long-Term Composition Dynamics of PAH-Containing NAPLs and Implications for Risk Assessment. Environmental Science & Technology, 1999, 33, 4499-4507.	10.0	184
94	Risk Assessment for Polycyclic Aromatic Hydrocarbon NAPLs Using Component Fractions. Environmental Science & Technology, 1999, 33, 4357-4363.	10.0	56
95	Solubilization of PAH Mixtures by a Nonionic Surfactant. Environmental Science & Technology, 1998, 32, 930-935.	10.0	125
96	Bioavailability of Mixtures of PAHs Partitioned into the Micellar Phase of a Nonionic Surfactant. Environmental Science & Technology, 1998, 32, 2317-2324.	10.0	87
97	Phase Stability of Multicomponent NAPLs Containing PAHs. Environmental Science & Technology, 1997, 31, 2540-2546.	10.0	52
98	Mass Transfer of Polynuclear Aromatic Hydrocarbons from Complex DNAPL Mixtures. Environmental Science & Technology, 1997, 31, 416-423.	10.0	89
99	Remediating tar-contaminated soils at manufactured gas plant sites. Environmental Science & Technology, 1994, 28, 266A-276A.	10.0	170
100	Semiempirical Thermodynamic Modeling of Liquid-Liquid Phase Equilibria: Coal Tar Dissolution in Water-Miscible Solvents. Environmental Science & Technology, 1994, 28, 1331-1340.	10.0	28
101	Coal tar dissolution in water-miscible solvents: experimental evaluation. Environmental Science & Technology, 1993, 27, 2831-2843.	10.0	150
102	Public policy model for the indoor radon problem. Mathematical and Computer Modelling, 1988, 10, 349-358.	2.0	2