Susan A Carroll

List of Publications by Year
in descending order

80 papers	3,958 citations	101543 36 h-index	118850 62 g-index
81 all docs	81 docs citations	81 times ranked	3455 citing authors

#	Article	IF	Citations
1	Direct effects of CO2 and temperature on silicate weathering: Possible implications for climate control. Geochimica Et Cosmochimica Acta, 1994, 58, 1853-1856.	3.9	212
2	X-ray absorption spectroscopic study of Fe reference compounds for the analysis of natural sediments. American Mineralogist, 2004, 89, 572-585.	1.9	210
3	CO2-induced dissolution of low permeability carbonates. Part I: Characterization and experiments. Advances in Water Resources, 2013, 62, 370-387.	3.8	148
4	X-Ray Absorption Spectroscopy of Strontium(II) Coordination. Journal of Colloid and Interface Science, 2000, 222, 198-212.	9.4	141
5	Review: Role of chemistry, mechanics, and transport on well integrity in CO2 storage environments. International Journal of Greenhouse Gas Control, 2016, 49, 149-160.	4.6	141
6	Dependence of labradorite dissolution kinetics on CO2(aq), Al(aq), and temperature. Chemical Geology, 2005, 217, 213-225.	3.3	138
7	Cesium migration in Hanford sediment: a multisite cation exchange model based on laboratory transport experiments. Journal of Contaminant Hydrology, 2003, 67, 219-246.	3.3	136
8	Rockâ^'Water Interactions Controlling Zinc, Cadmium, and Lead Concentrations in Surface Waters and Sediments, U.S. Tri-State Mining District. 1. Molecular Identification Using X-ray Absorption Spectroscopy. Environmental Science & Technology, 1998, 32, 943-955.	10.0	124
9	Transformation of meta-stable calcium silicate hydrates to tobermorite: reaction kinetics and molecular structure from XRD and NMR spectroscopy. Geochemical Transactions, 2009, 10, 1.	0.7	120
10	CO2-induced dissolution of low permeability carbonates. Part II: Numerical modeling of experiments. Advances in Water Resources, 2013, 62, 388-408.	3.8	111
11	Amorphous silica precipitation (60 to 120Â°C): comparison of laboratory and field rates. Geochimica Et Cosmochimica Acta, 1998, 62, 1379-1396.	3.9	110
12	Key factors for determining groundwater impacts due to leakage from geologic carbon sequestration reservoirs. International Journal of Greenhouse Gas Control, 2014, 29, 153-168.	4.6	107
13	Reactivity of Mount Simon Sandstone and the Eau Claire Shale Under CO₂ Storage Conditions. Environmental Science & Technology, 2013, 47, 252-261.	10.0	102
14	Rockâ^'Water Interactions Controlling Zinc, Cadmium, and Lead Concentrations in Surface Waters and Sediments, U.S. Tri-State Mining District. 2. Geochemical Interpretation. Environmental Science & Technology, 1998, 32, 956-965.	10.0	93
15	Evaporite Caprock Integrity: An Experimental Study of Reactive Mineralogy and Pore-Scale Heterogeneity during Brine-CO₂ Exposure. Environmental Science & Technology, 2013, 47, 262-268.	10.0	91
16	Rates of mineral dissolution under CO2 storage conditions. Chemical Geology, 2015, 399, 134-144.	3.3	91
17	Chemical and Mechanical Properties of Wellbore Cement Altered by CO₂-Rich Brine Using a Multianalytical Approach. Environmental Science & Technology, 2013, 47, 1745-1752.	10.0	87
18	X-Ray Absorption Spectroscopy of Strontium(II) Coordination. Journal of Colloid and Interface Science, 2000, 222, 184-197.	9.4	84

#	Article	IF	Citations
19	Metal Speciation and Bioavailability in Contaminated Estuary Sediments, Alameda Naval Air Station, California. Environmental Science & Technology, 2000, 34, 3665-3673.	10.0	82
20	Geochemical detection of carbon dioxide in dilute aquifers. Geochemical Transactions, 2009, 10, 4.	0.7	77
21	Permeability of Wellbore-Cement Fractures Following Degradation by Carbonated Brine. Rock Mechanics and Rock Engineering, 2013, 46, 455-464.	5.4	73
22	Evaluation of silica-water surface chemistry using NMR spectroscopy. Geochimica Et Cosmochimica Acta, 2002, 66, 913-926.	3.9	70
23	Experimental Study of Cement - Sandstone/Shale - Brine - CO2Interactions. Geochemical Transactions, 2011, 12, 9.	0.7	65
24	Water Challenges for Geologic Carbon Capture and Sequestration. Environmental Management, 2010, 45, 651-661.	2.7	64
25	Development of scaling parameters to describe CO2â€“rock interactions within Weyburn-Midale carbonate flow units. International Journal of Greenhouse Gas Control, 2013, 16, S185-S193.	4.6	63
26	Experimental calibration of a numerical model describing the alteration of cement/caprock interfaces by carbonated brine. International Journal of Greenhouse Gas Control, 2014, 22, 176-188.	4.6	62
27	Direct electrolytic dissolution of silicate minerals for air CO ₂ mitigation and carbon-negative H ₂ production. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 10095-10100.	7.1	61
28	Mechanical and hydraulic coupling in cementâ€“caprock interfaces exposed to carbonated brine. International Journal of Greenhouse Gas Control, 2014, 25, 109-120.	4.6	59
29	Kinetics of chlorite dissolution at elevated temperatures and CO2 conditions. Chemical Geology, 2013, 347, 1-8.	3.3	56
30	Interactions of U(VI), Nd, and Th(IV) at the Calcite-Solution Interface. Radiochimica Acta, 1992, 58-59, 245-252.	1.2	50
31	Managing geologic CO₂storage with pre-injection brine production: a strategy evaluated with a model of CO₂injection at SnÃ¸hvit. Energy and Environmental Science, 2016, 9, 1504-1512.	30.8	50
32	Speciation and fate of trace metals in estuarine sediments under reduced and oxidized conditions, Seaplane Lagoon, Alameda Naval Air Station (USA). Geochemical Transactions, 2002, 3, 1.	0.7	47
33	Trace Metal Source Terms in Carbon Sequestration Environments. Environmental Science & Technology, 2013, 47, 322-329.	10.0	46
34	Surface complexation model for strontium sorption to amorphous silica and goethite. Geochemical Transactions, 2008, 9, 2.	0.7	45
35	Influence of Chemical, Mechanical, and Transport Processes on Wellbore Leakage from Geologic CO₂ Storage Reservoirs. Accounts of Chemical Research, 2017, 50, 1829-1837.	15.6	39
36	Effect of thermal stress on wellbore integrity during CO2 injection. International Journal of Greenhouse Gas Control, 2018, 77, 14-26.	4.6	38

#	Article	IF	Citations
37	Pre-injection brine production in CO2 storage reservoirs: An approach to augment the development, operation, and performance of CCS while generating water. International Journal of Greenhouse Gas Control, 2016, 54, 499-512.	4.6	35
38	Development and calibration of a reactive transport model for carbonate reservoir porosity and permeability changes based on CO2 core-flood experiments. International Journal of Greenhouse Gas Control, 2017, 57, 73-88.	4.6	35
39	Effect of solution saturation state and temperature on diopside dissolution. Geochemical Transactions, 2007, 8, 3.	0.7	34
40	Mineral-Solution Interactions in the U(VI)-CO₂-H₂O System. Radiochimica Acta, 1991, 52-53, 187-194.	1.2	33
41	Applicability of aquifer impact models to support decisions at CO2 sequestration sites. International Journal of Greenhouse Gas Control, 2016, 52, 319-330.	4.6	33
42	Incorporating reaction-rate dependence in reaction-front models of wellbore-cement/carbonated-brine systems. International Journal of Greenhouse Gas Control, 2017, 59, 160-171.	4.6	30
43	Quantification of Key Long-term Risks at CO2 Sequestration Sites: Latest Results from US DOE's National Risk Assessment Partnership (NRAP) Project. Energy Procedia, 2014, 63, 4816-4823.	1.8	29
44	Muscovite dissolution kinetics as a function of pH at elevated temperature. Chemical Geology, 2017, 466, 149-158.	3.3	27
45	Assessment of geophysical monitoring methods for detection of brine and CO2 leakage in drinking water aquifers. International Journal of Greenhouse Gas Control, 2019, 90, 102803.	4.6	26
46	Transport and detection of carbon dioxide in dilute aquifers. Energy Procedia, 2009, 1, 2111-2118.	1.8	24
47	Value of information methodology for assessing the ability of electrical resistivity to detect CO2/brine leakage into a shallow aquifer. International Journal of Greenhouse Gas Control, 2013, 18, 101-113.	4.6	24
48	Illite dissolution kinetics from 100 to 280 Â°C and pH 3 to 9. Geochimica Et Cosmochimica Acta, 2017, 209, 9-23.	3.9	22
49	A risk-based approach to evaluating the Area of Review and leakage risks at CO2 storage sites. International Journal of Greenhouse Gas Control, 2020, 93, 102884.	4.6	22
50	Assessment of two-phase flow on the chemical alteration and sealing of leakage pathways in cemented wellbores. International Journal of Greenhouse Gas Control, 2018, 69, 72-80.	4.6	21
51	Real Time 3D Observations of Portland Cement Carbonation at CO₂ Storage Conditions. Environmental Science & Technology, 2020, 54, 8323-8332.	10.0	21
52	Multiscale modeling of CO2-induced carbonate dissolution: From core to meter scale. International Journal of Greenhouse Gas Control, 2019, 88, 272-289.	4.6	19
53	Precipitation of Nd-Ca carbonate solid solution at 25Â°C. Geochimica Et Cosmochimica Acta, 1993, 57, 3383-3393.	3.9	17
54	Determination of Diffusion Profiles in Altered Wellbore Cement Using X-ray Computed Tomography Methods. Environmental Science & Technology, 2014, 48, 7094-7100.	10.0	17

#	Article	IF	Citations
55	Chlorite dissolution kinetics at pH 3â€“10 and temperature to 275 Â°C. Chemical Geology, 2016, 421, 55-64.	3.3	16
56	Downhole pressure and chemical monitoring for CO2 and brine leak detection in aquifers above a CO2 storage reservoir. International Journal of Greenhouse Gas Control, 2019, 91, 102812.	4.6	15
57	Merits of pressure and geochemical data as indicators of CO2/brine leakage into a heterogeneous, sedimentary aquifer. International Journal of Greenhouse Gas Control, 2016, 52, 237-249.	4.6	14
58	Wellbore integrity in carbon sequestration environments: 1. Experimental study of Cementâ€“Sandstone/Shaleâ€“Brineâ€“CO2. Energy Procedia, 2011, 4, 5186-5194.	1.8	13
59	Wellbore integrity at the Krechba Carbon Storage Site, In Salah, Algeria: 2. Reactive transport modeling of geochemical interactions near the Cementâ€“Formation interface. Energy Procedia, 2011, 4, 5195-5202.	1.8	13
60	Calibration of NMR porosity to estimate permeability in carbonate reservoirs. International Journal of Greenhouse Gas Control, 2019, 87, 19-26.	4.6	13
61	Risk-based Monitoring Network Design for Geologic Carbon Storage Sites. Energy Procedia, 2017, 114, 4345-4356.	1.8	12
62	A Review of Well Integrity Based on Field Experience at Carbon Utilization and Storage Sites. International Journal of Greenhouse Gas Control, 2022, 113, 103533.	4.6	12
63	The formation of metastable aluminosilicates in the Alâ€“Siâ€“H2O system: Results from solution chemistry and solid-state NMR spectroscopy. Geochimica Et Cosmochimica Acta, 2011, 75, 6080-6093.	3.9	10
64	Probing the Surface Structure of Divalent Transition Metals Using Surface Specific Solid-State NMR Spectroscopy. Environmental Science & Technology, 2012, 46, 2806-2812.	10.0	10
65	Experiments and modeling of variably permeable carbonate reservoir samples in contact with CO2-acidified brines. Energy Procedia, 2014, 63, 3126-3137.	1.8	10
66	Fracture-scale model of immiscible fluid flow. Physical Review E, 2013, 87, 013012.	2.1	9
67	Managing Geologic CO2 Storage with Pre-injection Brine Production in Tandem Reservoirs. Energy Procedia, 2017, 114, 4757-4764.	1.8	9
68	Reduced Order Models for Prediction of Groundwater Quality Impacts from CO2 and Brine Leakage. Energy Procedia, 2014, 63, 4875-4883.	1.8	8
69	Impact of Chemical and Mechanical Processes on Leakage from Damaged Wells in CO2 Storage Sites. Environmental Science & Technology, 2020, 54, 1196-1203.	10.0	6
70	The Role of Wellbore Remediation on the Evolution of Groundwater Quality from CO2 and Brine Leakage. Energy Procedia, 2014, 63, 4799-4806.	1.8	4
71	Framing Monitoring Needs to Detect Leakage from Wells to the Overburden. Energy Procedia, 2017, 114, 3628-3635.	1.8	4
72	Experimental investigation of cement, Topopah Spring tuff, and water interactions at 200Â°C. Applied Geochemistry, 1998, 13, 571-579.	3.0	3

#	Article	IF	Citations
73	Calibration of NMR well logs from carbonate reservoirs with laboratory NMR measurements and Î¼XRCT. Energy Procedia, 2014, 63, 3089-3096.	1.8	3
74	Assessment of Thermal Stress on Well Integrity as a Function of Size and Material Properties. Energy Procedia, 2017, 114, 5241-5248.	1.8	3
75	Boiling Temperature and Reversed Deliquescence Relative Humidity Measurements for Mineral Assemblages in the NaCl + NaNO3 + KNO3 + Ca(NO3)2 + H2O System. Journal of Solution Chemistry, 2006, 35, 1187-1215.	1.2	2
76	Fabrication and Transport of Double Emulsion Microcapsules for Applications in Unconventional Resources. , 2015, , .		2
77	Non-invasive measurement of proppant pack deformation. International Journal of Rock Mechanics and Minings Sciences, 2016, 87, 39-47.	5.8	2
78	Validation of a reactive transport model for predicting changes in porosity and permeability in carbonate core samples. International Journal of Greenhouse Gas Control, 2019, 90, 102797.	4.6	2
79	Application of the Aquifer Impact Model to support decisions at a CO₂ sequestration site. , 2017, 7, 1020-1034.		1
80	Evaporative Evolution of Carbonate-Rich Brines from Synthetic Topopah Spring Tuff Pore Water, YuccaMountain, NV. Materials Research Society Symposia Proceedings, 2004, 824, 481.	0.1	0