

Siobhan A Wilson

List of Publications by Year in descending order

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90
papers

2,656
citations

159585

30
h-index

197818

49
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92
all docs

92
docs citations

92
times ranked

1974
citing authors

#	ARTICLE	IF	CITATIONS
1	Carbon Dioxide Fixation within Mine Wastes of Ultramafic-Hosted Ore Deposits: Examples from the Clinton Creek and Cassiar Chrysotile Deposits, Canada. <i>Economic Geology</i> , 2009, 104, 95-112.	3.8	201
2	Carbon Mineralization: From Natural Analogues to Engineered Systems. <i>Reviews in Mineralogy and Geochemistry</i> , 2013, 77, 305-360.	4.8	174
3	Verifying and quantifying carbon fixation in minerals from serpentine-rich mine tailings using the Rietveld method with X-ray powder diffraction data. <i>American Mineralogist</i> , 2006, 91, 1331-1341.	1.9	140
4	Serpentinite Carbonation for CO ₂ Sequestration. <i>Elements</i> , 2013, 9, 115-121.	0.5	123
5	Biologically induced mineralization of dypingite by cyanobacteria from an alkaline wetland near Atlin, British Columbia, Canada. <i>Geochemical Transactions</i> , 2007, 8, 13.	0.7	119
6	The hydromagnesite playas of Atlin, British Columbia, Canada: A biogeochemical model for CO ₂ sequestration. <i>Chemical Geology</i> , 2009, 260, 286-300.	3.3	114
7	Offsetting of CO ₂ emissions by air capture in mine tailings at the Mount Keith Nickel Mine, Western Australia: Rates, controls and prospects for carbon neutral mining. <i>International Journal of Greenhouse Gas Control</i> , 2014, 25, 121-140.	4.6	113
8	Isotopic Disequilibrium during Uptake of Atmospheric CO ₂ into Mine Process Waters: Implications for CO ₂ Sequestration. <i>Environmental Science & Technology</i> , 2010, 44, 9522-9529.	10.0	90
9	Microbially Mediated Mineral Carbonation: Roles of Phototrophy and Heterotrophy. <i>Environmental Science & Technology</i> , 2011, 45, 9061-9068.	10.0	84
10	Subarctic Weathering of Mineral Wastes Provides a Sink for Atmospheric CO ₂ . <i>Environmental Science & Technology</i> , 2011, 45, 7727-7736.	10.0	69
11	Reconstructing <i>Rangea</i> : new discoveries from the Ediacaran of southern Namibia. <i>Journal of Paleontology</i> , 2013, 87, 1-15.	0.8	66
12	Reactive Transport Modeling of Natural Carbon Sequestration in Ultramafic Mine Tailings. <i>Vadose Zone Journal</i> , 2012, 11, vzt2011.0053.	2.2	63
13	Quantifying carbon fixation in trace minerals from processed kimberlite: A comparative study of quantitative methods using X-ray powder diffraction data with applications to the Diavik Diamond Mine, Northwest Territories, Canada. <i>Applied Geochemistry</i> , 2009, 24, 2312-2331.	3.0	62
14	Strategizing Carbon-Neutral Mines: A Case for Pilot Projects. <i>Minerals (Basel, Switzerland)</i> , 2014, 4, 399-436.	2.0	58
15	Increased thermal stability of nesquehonite (MgCO ₃ ·3H ₂ O) in the presence of humidity and CO ₂ : Implications for low-temperature CO ₂ storage. <i>International Journal of Greenhouse Gas Control</i> , 2015, 39, 366-376.	4.6	53
16	A depositional model for hydromagnesite "magnesite playas near Atlin, British Columbia, Canada. <i>Sedimentology</i> , 2014, 61, 1701-1733.	3.1	50
17	Microbially Accelerated Carbonate Mineral Precipitation as a Strategy for in Situ Carbon Sequestration and Rehabilitation of Asbestos Mine Sites. <i>Environmental Science & Technology</i> , 2016, 50, 1419-1427.	10.0	50
18	Mineral phosphorus drives glacier algal blooms on the Greenland Ice Sheet. <i>Nature Communications</i> , 2021, 12, 570.	12.8	50

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19	Potential for offsetting diamond mine carbon emissions through mineral carbonation of processed kimberlite: an assessment of De Beers mine sites in South Africa and Canada. <i>Mineralogy and Petrology</i> , 2018, 112, 755-765.	1.1	47
20	Stratigraphy, palaeontology and geochemistry of the late Neoproterozoic Aar Member, southwest Namibia: Reflecting environmental controls on Ediacara fossil preservation during the terminal Proterozoic in African Gondwana. <i>Precambrian Research</i> , 2013, 238, 214-232.	2.7	45
21	Ancient micrometeorites suggestive of an oxygen-rich Archaean upper atmosphere. <i>Nature</i> , 2016, 533, 235-238.	27.8	45
22	Accelerating Mineral Carbonation in Ultramafic Mine Tailings via Direct CO ₂ Reaction and Heap Leaching with Potential for Base Metal Enrichment and Recovery. <i>Economic Geology</i> , 2020, 115, 303-323.	3.8	45
23	Hydrotalcites and hydrated Mg-carbonates as carbon sinks in serpentinite mineral wastes from the Woodsreef chrysotile mine, New South Wales, Australia: Controls on carbonate mineralogy and efficiency of CO ₂ air capture in mine tailings. <i>International Journal of Greenhouse Gas Control</i> , 2018, 79, 38-60.	4.6	42
24	Modern carbonate microbialites from an asbestos open pit pond, Yukon, Canada. <i>Geobiology</i> , 2011, 9, 180-195.	2.4	40
25	Gasâ€“Solid Reactions: Theory, Experiments and Case Studies Relevant to Earth and Planetary Processes. <i>Reviews in Mineralogy and Geochemistry</i> , 2018, 84, 1-56.	4.8	39
26	Fate of transition metals during passive carbonation of ultramafic mine tailings via air capture with potential for metal resource recovery. <i>International Journal of Greenhouse Gas Control</i> , 2018, 71, 155-167.	4.6	37
27	Investigation of the H7 ordinary chondrite, Watson 012: Implications for recognition and classification of Type 7 meteorites. <i>Geochimica Et Cosmochimica Acta</i> , 2014, 134, 175-196.	3.9	34
28	Production of magnesium-rich solutions by acid leaching of chrysotile: A precursor to field-scale deployment of microbially enabled carbonate mineral precipitation. <i>Chemical Geology</i> , 2015, 413, 119-131.	3.3	33
29	Magnesite formation in playa environments near Atlin, British Columbia, Canada. <i>Geochimica Et Cosmochimica Acta</i> , 2019, 255, 1-24.	3.9	33
30	Experimental Deployment of Microbial Mineral Carbonation at an Asbestos Mine: Potential Applications to Carbon Storage and Tailings Stabilization. <i>Minerals (Basel, Switzerland)</i> , 2017, 7, 191.	2.0	31
31	The crystal structure of stichtite, re-examination of barbertonite, and the nature of polytypism in MgCr hydrotalcites. <i>American Mineralogist</i> , 2011, 96, 179-187.	1.9	30
32	Changes in Crystallinity and Tracer-Isotope Distribution of Goethite during Fe(II)-Accelerated Recrystallization. <i>ACS Earth and Space Chemistry</i> , 2018, 2, 1271-1282.	2.7	28
33	Nesquehonite sequesters transition metals and CO ₂ during accelerated carbon mineralisation. <i>International Journal of Greenhouse Gas Control</i> , 2016, 55, 73-81.	4.6	24
34	Microbial Populations of Stony Meteorites: Substrate Controls on First Colonizers. <i>Frontiers in Microbiology</i> , 2017, 8, 1227.	3.5	22
35	Evaluating feedstocks for carbon dioxide removal by enhanced rock weathering and CO ₂ mineralization. <i>Applied Geochemistry</i> , 2021, 129, 104955.	3.0	21
36	Effects of Curing Environment on the Strength and Mineralogy of Lime-GGBSâ€“Treated Acid Sulphate Soils. <i>Journal of Materials in Civil Engineering</i> , 2014, 26, 1003-1008.	2.9	20

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37	Formation of gypsum and bassanite by cation exchange reactions in the absence of free liquid H ₂ O: Implications for Mars. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	19
38	Stability of Mg-sulfate minerals in the presence of smectites: Possible mineralogical controls on H ₂ O cycling and biomarker preservation on Mars. <i>Geochimica Et Cosmochimica Acta</i> , 2012, 96, 120-133.	3.9	19
39	Field-based accounting of CO ₂ sequestration in ultramafic mine wastes using portable X-ray diffraction. <i>American Mineralogist</i> , 2017, 102, 1302-1310.	1.9	19
40	Critical metals in the critical zone: controls, resources and future prospectivity of regolith-hosted rare earth elements. <i>Australian Journal of Earth Sciences</i> , 2017, 64, 1045-1054.	1.0	19
41	Comparison of Rietveld-compatible structureless fitting analysis methods for accurate quantification of carbon dioxide fixation in ultramafic mine tailings. <i>American Mineralogist</i> , 2018, 103, 1649-1662.	1.9	19
42	The decomposition of konyaite: importance in CO ₂ fixation in mine tailings. <i>Mineralogical Magazine</i> , 2010, 74, 903-917.	1.4	17
43	Enhanced silicate weathering is not limited by silicic acid saturation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, E41; author reply E42.	7.1	17
44	Direct measurement of CO ₂ drawdown in mine wastes and rock powders: Implications for enhanced rock weathering. <i>International Journal of Greenhouse Gas Control</i> , 2022, 113, 103554.	4.6	15
45	Rapid immobilisation of U(VI) by Eucalyptus bark: Adsorption without reduction. <i>Applied Geochemistry</i> , 2018, 96, 1-10.	3.0	13
46	Tiny particles building huge ore deposits – Particle-based crystallisation in banded iron formation-hosted iron ore deposits (Hamersley Province, Australia). <i>Ore Geology Reviews</i> , 2019, 104, 160-174.	2.7	13
47	Quantitative Mineral Mapping of Drill Core Surfaces I: A Method for μ XRF Mineral Calculation and Mapping of Hydrothermally Altered, Fine-Grained Sedimentary Rocks from a Carlin-Type Gold Deposit. <i>Economic Geology</i> , 2021, 116, 803-819.	3.8	12
48	Chromium Reaction Mechanisms for Speciation using Synchrotron in-Situ High-Temperature X-ray Diffraction. <i>Environmental Science & Technology</i> , 2015, 49, 8246-8253.	10.0	11
49	Contribution to the crystallography of hydrotalcites: the crystal structures of woodallite and takovite. <i>Journal of Geosciences (Czech Republic)</i> , 2013, , 273-279.	0.6	10
50	First non-destructive internal imaging of Rangea, an icon of complex Ediacaran life. <i>Precambrian Research</i> , 2017, 299, 303-308.	2.7	10
51	Evaluation of meteorites as habitats for terrestrial microorganisms: Results from the Nullarbor Plain, Australia, a Mars analogue site. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 215, 1-16.	3.9	10
52	High Survivability of Micrometeorites on Mars: Sites With Enhanced Availability of Limiting Nutrients. <i>Journal of Geophysical Research E: Planets</i> , 2019, 124, 1802-1818.	3.6	10
53	Mineralisation of atmospheric CO ₂ in hydromagnesite in ultramafic mine tailings – Insights from Mg isotopes. <i>Geochimica Et Cosmochimica Acta</i> , 2021, 309, 191-208.	3.9	10
54	Problem Solving with the TOPAS Macro Language: Corrections and Constraints in Simulated Annealing and Rietveld Refinement. <i>Materials Science Forum</i> , 2010, 651, 11-25.	0.3	9

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55	Improvement of acid sulfate soils using lime-activated slag. Proceedings of the Institution of Civil Engineers: Ground Improvement, 2014, 167, 235-248.	1.0	9
56	Time-Dependent Strength and Mineralogy of Lime-GGBS Treated Naturally Occurring Acid Sulfate Soils. Journal of Materials in Civil Engineering, 2016, 28, .	2.9	9
57	Iron isotope geochemistry and mineralogy of jarosite in sulfur-rich sediments. Geochimica Et Cosmochimica Acta, 2020, 270, 282-295.	3.9	9
58	Non-classical crystallization of very high magnesium calcite and magnesite in the Coorong Lakes, Australia. Sedimentology, 2022, 69, 2246-2266.	3.1	9
59	Cation Exchange in Smectites as a New Approach to Mineral Carbonation. Frontiers in Climate, 0, 4, .	2.8	9
60	9. Carbon Mineralization: From Natural Analogues to Engineered Systems. , 2013, , 305-360.		8
61	Colloidal origin of microbands in banded iron formations. Geochemical Perspectives Letters, 0, , 43-49.	5.0	7
62	Angastonite, CaMgAl ₂ (PO ₄) ₂ (OH)4·7H ₂ O: a new phosphate mineral from Angaston, South Australia. Mineralogical Magazine, 2008, 72, 1011-1020.	1.4	6
63	Tellurium biogeochemical transformation and cycling in a metalliferous semi-arid environment. Geochimica Et Cosmochimica Acta, 2022, 321, 265-292.	3.9	6
64	Carbon accounting of mined landscapes, and deployment of a geochemical treatment system for enhanced weathering at Woodsreef Chrysotile Mine, NSW, Australia. Journal of Geochemical Exploration, 2021, 220, 106655.	3.2	5
65	A preliminary report on new Ediacaran fossils from Iran. Alcheringa, 2018, 42, 230-243.	1.2	5
66	Regrowth of arsenate-sulfate efflorescences on processing plant walls at the Ottery arsenic-tin mine, New South Wales, Australia: Implications for arsenic mobility and remediation of mineral processing sites. Applied Geochemistry, 2017, 79, 91-106.	3.0	4
67	Analysis of the Potential for Negative CO ₂ Emission Mine Sites through Bacteria-mediated Carbon Mineralisation: Evidence from Australia. Energy Procedia, 2017, 114, 6124-6132.	1.8	4
68	Unlocking the potential of hydraulic fracturing flowback and produced water for CO ₂ removal via mineral carbonation. Applied Geochemistry, 2022, 142, 105345.	3.0	4
69	Trace Elemental Partitioning on Clays Derived From Hydrothermal Muds of the El Tatio Geyser Field, Chile. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB021422.	3.4	3
70	Effects of salinity on the leaching of ionic species from hydrocarbon target formations during hydraulic fracturing. Chemical Geology, 2022, 591, 120718.	3.3	3
71	Mineral Diversity on Europa: Exploration of Phases Formed in the MgSO ₄ ·H ₂ O-SO ₄ ·2H ₂ O Ternary. ACS Earth and Space Chemistry, 2021, 5, 1716-1725.	2.7	2
72	Preservation of Terrestrial Microorganisms and Organics Within Alteration Products of Chondritic Meteorites from the Nullarbor Plain, Australia. Astrobiology, 2022, 22, 399-415.	3.0	2

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73	Accelerating mineral carbonation in hydraulic fracturing flowback and produced water using CO ₂ -rich gas. <i>Applied Geochemistry</i> , 2022, 143, 105380.	3.0	2
74	Eukaryotic Colonization of Micrometer-Scale Cracks in Rocks: A “Microfluidics” Experiment Using Naturally Weathered Meteorites from the Nullarbor Plain, Australia. <i>Astrobiology</i> , 2020, 20, 364-374.	3.0	1
75	Mineral carbonation at Venetia and Gahcho Kuã© diamond mines: Characterization of the highly reactive clay fraction. , 2021, , .		1
76	1. Gas “Solid Reactions: Theory, Experiments and Case Studies Relevant to Earth and Planetary Processes. , 2018, , 1-56.		0
77	The influence of invertebrate faecal material on compositional heterogeneity, diagenesis and trace metal distribution in the Ogeechee River estuary, Georgia, USA. <i>Sedimentology</i> , 2021, 68, 788-804.	3.1	0
78	New Perspectives on Carbonate Mineral Behaviour for Carbon Accounting and Carbon Utilization. , 2020, , .		0
79	Transition Metal Mobility and Partitioning in Weathered Tailings, Serpentinite and Skarn from the Lord Brassey Mine, Tasmania, Australia. , 2020, , .		0
80	Predicting CO ₂ Mineralization in Mine Residues: Insights from Leaching and Geochemical Modeling. , 2020, , .		0
81	Non-Classical Crystallization of Anhydrous Ca and Mg Carbonates from the Coorong Lakes, Australia. , 2020, , .		0
82	Direct measurement of CO ₂ fluxes into kimberlite residues and powdered rocks: Implications for enhanced weathering. , 2021, , .		0
83	Partitioning of Fe during carbonation of Fe-rich brucite. , 2021, , .		0
84	Quantifying the potential for mineral carbonation of processed kimberlite with the Rietveld-PONKCS method. , 2021, , .		0
85	Cation Exchange: A New Strategy for Mineral Carbonation of Smectite-Rich Kimberlites. , 2020, , .		0
86	Enhanced Weathering and Carbonation of Kimberlite Residues from South African Mines. , 2020, , .		0
87	Magnesium Isotope Signatures of Hydrotalcite Supergroup Minerals during Weathering and Carbonation of Ultramafic Mineral Wastes. , 2020, , .		0
88	Carbonation of Hydraulic Fracturing Flowback and Produced Water for Carbon Capture, Utilization and Storage. , 2020, , .		0
89	Migration of Transition Metals and Potential for Mineral Carbonation during Acid Leaching of Kimberlite Mine Tailings. , 2020, , .		0
90	Transition Metal Mobility and Recovery from Weathered Serpentinite and Serpentinite Skarn Tailings from Lord Brassey Mine, Australia and Record Ridge, British Columbia, Canada. , 2021, , .		0