Shaunna M Morrison

List of Publications by Year
in descending order

89 papers	6,159 citations	117625 34 h-index	106344 65 g-index
96 all docs	96 docs citations	96 times ranked	3226 citing authors

#	Article	IF	Citations
1	A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1242777.	12.6	687
2	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	12.6	508
3	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937.	12.6	367
4	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932.	12.6	327
5	Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072.	12.6	326
6	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.	12.6	323
7	Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505.	12.6	280
8	Mineralogy of an ancient lacustrine mudstone succession from the Murray formation, Gale crater, Mars. Earth and Planetary Science Letters, 2017, 471, 172-185.	4.4	247
9	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.	12.6	246
10	In Situ Radiometric and Exposure Age Dating of the Martian Surface. Science, 2014, 343, 1247166.	12.6	224
11	Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670.	12.6	215
12	Mineralogy, provenance, and diagenesis of a potassic basaltic sandstone on Mars: CheMin Xâ€ray diffraction of the Windjana sample (Kimberley area, Gale Crater). Journal of Geophysical Research E: Planets, 2016, 121, 75-106.	3.6	159
13	Silicic volcanism on Mars evidenced by tridymite in high-SiO ₂ sedimentary rock at Gale crater. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 7071-7076.	7.1	158
14	Clay mineral diversity and abundance in sedimentary rocks of Gale crater, Mars. Science Advances, 2018, 4, eaar3330.	10.3	150
15	Multiple stages of aqueous alteration along fractures in mudstone and sandstone strata in Gale Crater, Mars. Earth and Planetary Science Letters, 2017, 471, 186-198.	4.4	137
16	The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463.	12.6	134
17	The origin and implications of clay minerals from Yellowknife Bay, Gale crater, Mars. American Mineralogist, 2015, 100, 824-836.	1.9	122
18	Mineralogy of an active eolian sediment from the Namib dune, Gale crater, Mars. Journal of Geophysical Research E: Planets, 2017, 122, 2344-2361.	3.6	98

#	Article	IF	Citations
19	Gypsum, bassanite, and anhydrite at Gale crater, Mars. American Mineralogist, 2018, 103, 1011-1020.	1.9	96
20	Crystal chemistry of martian minerals from Bradbury Landing through Naukluft Plateau, Gale crater, Mars. American Mineralogist, 2018, 103, 857-871.	1.9	94
21	Mineralogy of Vera Rubin Ridge From the Mars Science Laboratory CheMin Instrument. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006306.	3.6	86
22	Ferrian saponite from the Santa Monica Mountains (California, U.S.A., Earth): Characterization as an analog for clay minerals on Mars with application to Yellowknife Bay in Gale Crater. American Mineralogist, 2014, 99, 2234-2250.	1.9	67
23	Network analysis of mineralogical systems. American Mineralogist, 2017, 102, 1588-1596.	1.9	63
24	An evolutionary system of mineralogy. Part I: Stellar mineralogy (>13 to 4.6 Ga). American Mineralogist, 2020, 105, 627-651.	1.9	53
25	Sand Mineralogy Within the Bagnold Dunes, Gale Crater, as Observed In Situ and From Orbit. Geophysical Research Letters, 2018, 45, 9488-9497.	4.0	52
26	Chemical alteration of fine-grained sedimentary rocks at Gale crater. Icarus, 2019, 321, 619-631.	2.5	52
27	Brine-driven destruction of clay minerals in Gale crater, Mars. Science, 2021, 373, 198-204.	12.6	52
28	A surface gravity traverse on Mars indicates low bedrock density at Gale crater. Science, 2019, 363, 535-537.	12.6	49
29	Data-Driven Discovery in Mineralogy: Recent Advances in Data Resources, Analysis, and Visualization. Engineering, 2019, 5, 397-405.	6.7	47
30	Evidence for Multiple Diagenetic Episodes in Ancient Fluvialâ€Lacustrine Sedimentary Rocks in Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006295.	3.6	45
31	Cobalt mineral ecology. American Mineralogist, 2017, 102, 108-116.	1.9	43
32	Relationships between unit-cell parameters and composition for rock-forming minerals on Earth, Mars, and other extraterrestrial bodies. American Mineralogist, 2018, 103, 848-856.	1.9	40
33	The first X-ray diffraction measurements on Mars. IUCrJ, 2014, 1, 514-522.	2.2	38
34	An evolutionary system of mineralogy, part II: Interstellar and solar nebula primary condensation mineralogy (> 4.565 Ga). American Mineralogist, 2020, 105, 1508-1535.	1.9	36
35	Structural and chemical complexity of minerals: an update. Mineralogical Magazine, 2022, 86, 183-204.	1.4	34
36	Chromium mineral ecology. American Mineralogist, 2017, 102, 612-619.	1.9	31

#	Article	IF	Citations
37	On the paragenetic modes of minerals: A mineral evolution perspective. American Mineralogist, 2022, 107, 1262-1287.	1.9	31
38	Exploring Carbon Mineral Systems: Recent Advances in C Mineral Evolution, Mineral Ecology, and Network Analysis. Frontiers in Earth Science, 2020, 8, .	1.8	29
39	Analysis and visualization of vanadium mineral diversity and distribution. American Mineralogist, 2018, 103, 1080-1086.	1.9	28
40	Using Visual Exploratory Data Analysis to Facilitate Collaboration and Hypothesis Generation in Cross-Disciplinary Research. ISPRS International Journal of Geo-Information, 2017, 6, 368.	2.9	27
41	The Paleomineralogy of the Hadean Eon Revisited. Life, 2018, 8, 64.	2.4	27
42	Bayesian Estimation of Earthâ€™s Undiscovered Mineralogical Diversity Using Noninformative Priors. Mathematical Geosciences, 2019, 51, 401-417.	2.4	25
43	A Review of the Phyllosilicates in Gale Crater as Detected by the CheMin Instrument on the Mars Science Laboratory, Curiosity Rover. Minerals (Basel, Switzerland), 2021, 11, 847.	2.0	23
44	Global earth mineral inventory: A data legacy. Geoscience Data Journal, 2021, 8, 74-89.	4.4	21
45	Formation of Tridymite and Evidence for a Hydrothermal History at Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006569.	3.6	21
46	Statistical analysis of mineral evolution and mineral ecology: The current state and a vision for the future. Applied Computing and Geosciences, 2019, 1, 100005.	2.2	20
47	Constraining Ancient Magmatic Evolution on Mars Using Crystal Chemistry of Detrital Igneous Minerals in the Sedimentary Bradbury Group, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006467.	3.6	20
48	An evolutionary system of mineralogy, Part IV: Planetesimal differentiation and impact mineralization (4566 to 4560 Ma). American Mineralogist, 2021, 106, 730-761.	1.9	19
49	Historical natural kinds and mineralogy: Systematizing contingency in the context of necessity. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	19
50	Cluster Analysis of Presolar Silicon Carbide Grains: Evaluation of Their Classification and Astrophysical Implications. Astrophysical Journal Letters, 2021, 907, L39.	8.3	18
51	An evolutionary system of mineralogy. Part III: Primary chondrule mineralogy (4566 to 4561 Ma). American Mineralogist, 2021, 106, 325-350.	1.9	17
52	Evidence for the oxidation of Earthâ€™s crust from the evolution of manganese minerals. Nature Communications, 2022, 13, 960.	12.8	15
53	Hydrothermal Precipitation of Sanidine (Adularia) Having Full Al,Si Structural Disorder and Specular Hematite at Maunakea Volcano (Hawai'i) and at Gale Crater (Mars). Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006324.	3.6	14
54	An evolutionary system of mineralogy, Part V: Aqueous and thermal alteration of planetesimals (~4565) Tj ETQq0 0 0 rgBT /Overlock 10	1.9	13

#	Article	IF	Citations
55	Lumping and splitting: Toward a classification of mineral natural kinds. American Mineralogist, 2022, 107, 1288-1301.	1.9	13
56	Evidence that the GOE was a prolonged event with a peak around 1900 Ma. Geosystems and Geoenvironment, 2022, 1, 100036.	3.2	13
57	Deep Carbon through Deep Time. , 2019, , 620-652.		10
58	Parisite-(La), ideally CaLa₂(CO₃)₃F₂, a new mineral from Novo Horizonte, Bahia, Brazil. Mineralogical Magazine, 2018, 82, 133-144.	1.4	9
59	Agardite-(Y), Cu2+6Y(AsO4)3(OH)6Â·3H2O. Acta Crystallographica Section E: Structure Reports Online, 2013, 69, i61-i62.	0.2	6
60	Lanthanite-(Nd), Nd₂(CO₃)₃Â·8H₂O. Acta Crystallographica Section E: Structure Reports Online, 2013, 69, i15-i16.	0.2	4
61	Redetermination of kovdorskite, Mg₂PO₄(OH)Â·3H₂O. Acta Crystallographica Section E: Structure Reports Online, 2012, 68, i12-i13.	0.2	3
62	Robertsite, Ca2MnIII3O2(PO4)3Â·3H2O. Acta Crystallographica Section E: Structure Reports Online, 2012, 68, i74-i75.	0.2	3
63	Petersite-(Ce), Cu2+6Ce(PO4)3(OH)6Â·3H2O, A New Mixite Group Mineral From Yavapai County, Arizona, USA. Canadian Mineralogist, 2016, 54, 1505-1511.	1.0	3
64	Mineralogical Environments of the Hadean Eon: Rare Elements Were Ubiquitous in Surface Sites of Rock-Forming Minerals. Advances in Astrobiology and Biogeophysics, 2021, , 43-61.	0.6	3
65	Geological Factors Impacted Cadmium Availability and use as an Alternative Cofactor for Zinc in the Carbon Fixation Pathways of Marine Diatoms. Journal of Geophysical Research G: Biogeosciences, 2021, 126, e2020JG005966.	3.0	2
66	THE AMORPHOUS COMPOSITION OF THREE MUDSTONE SAMPLES FROM GALE CRATER: IMPLICATIONS FOR WEATHERING AND DIAGENETIC PROCESSES ON MARS. , 2017, , .		2
67	MINERAL NETWORK ANALYSIS: EXPLORING GEOLOGICAL, GEOCHEMICAL, AND BIOLOGICAL PATTERNS IN MINERALIZATION VIA MULTIDIMENSIONAL ANALYSIS. , 2021, , .		2
68	MINERALOGY OF MUDSTONE AT GALE CRATER, MARS: EVIDENCE FOR DYNAMIC LACUSTRINE ENVIRONMENTS. , 2016, , .		1
69	MINERALOGICAL CHANGES IN A PREDOMINANTLY FLUVIOLACUSTRINE SUCCESSION AT GALE CRATER, MARS. , 2017, , .		1
70	ECOLOGY AND EVOLUTION OF MANGANESE MINERALS: IMPLICATIONS FOR THE REDOX HISTORY OF EARTH AND LIFE. , 2018, , .		1
71	QUANTIFYING AND VISUALIZING EARTHâ€™S MINERAL CHEMISTRY THROUGH GEOLOGIC TIME. , 2016, , .		1
72	Nioboaeschynite-(Ce), Ce(NbTi)O₆. Acta Crystallographica Section E: Structure Reports Online, 2012, 68, i64-i65.	0.2	0

#	Article	IF	Citations
73	Crystal chemistry of Eu-bearing tuite synthesized at high-pressure and high-temperature conditions. Physics and Chemistry of Minerals, 2019, 46, 157-163.	0.8	0
74	CHROMIUM AND VANADIUM MINERAL ECOLOGY. , 2016, , .		0
75	SOCIAL NETWORK OF COPPER MINERALS: A MINERAL ECOLOGY STUDY. , 2016, , .		0
76	THE CO-EVOLUTION OF THE GEO- AND BIOSPHERES: AN INTEGRATED PROGRAM FOR DATA-DRIVEN, ABDUCTIVE DISCOVERY IN THE EARTH SCIENCES. , 2016, , .		0
77	MINERAL ECOLOGY: SOCIAL NETWORK ANALYSIS AND SOCIOGRAMS OF MINERAL CONNECTIONS, DISTRIBUTIONS, AND SEGMENTATION. , 2016, , .		0
78	SOURCE CHARACTERISTICS, CHEMICAL WEATHERING, AND LITHIFICATION OF THE STIMSON SANDSTONE AND LESSONS FOR THE MARTIAN SEDIMENTARY RECORD. , 2018, , .		0
79	ADVANCED ANALYTICAL AND VISUALIZATION TECHNIQUES APPLIED TO MINERAL EVOLUTION AND ECOLOGY. , 2018, , .		0
80	FUTURE AND CURRENT APPROACHES FOR MODELING THE DISTRIBUTION OF MINERALS ON EARTH AND OTHER PLANETS. , 2018, , .		0
81	APPLICATIONS IN COMPARATIVE PLANETOLOGY: ADVANCED ANALYTICS AND VISUALIZATION OF MINERAL SYSTEMS. , 2018, , .		0
82	ESTIMATING EARTHâ€™S UNDISCOVERED, MINERALOGICAL DIVERSITY USING A BAYESIAN APPROACH. , 2018, , .		0
83	AN OVERVIEW OF ALTERATION IN THE MURRAY FORMATION, GALE CRATER, MARS. , 2018, , .		0
84	USING MINERALOGY OF THE BAGNOLD DUNE FIELD IN GALE CRATER TO INTERPRET EOLIAN SEDIMENT SORTING ON THE MARTIAN SURFACE. , 2018, , .		0
85	CHARACTERIZING CARBON MINERALOGY AND FORMATIONAL ENVIRONMENTS THROUGH DEEP TIME WITH ADVANCED ANALYTICS AND VISUALIZATION. , 2019, , .		0
86	NATURAL KIND CLUSTERING, PLANETARY EVOLUTION,ÂAND THE CLASSIFICATION OF CARBON-BEARING MINERALS. , 2019, , .		0
87	Predicting Martian mineral compositions in situ: crystal chemical techniques. Acta Crystallographica Section A: Foundations and Advances, 2019, 75, a202-a202.	0.1	0
88	AN EVOLUTIONARY SYSTEM OF MINERALOGY: NETWORK ANALYSIS OF PRE-TERRESTRIAL MINERALS. , 2020, , .		0
89	Mineral Element Insiders and Outliers Play Crucial Roles in Biological Evolution. Life, 2022, 12, 951.	2.4	0