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	On the paragenetic modes of minerals: A mineral evolution perspective. American Mineralogist, 2022, 107, 1262-1287.	1.9	31
2	Lumping and splitting: Toward a classification of mineral natural kinds. American Mineralogist, 2022, 107, 1288-1301.	1.9	13
3	Evidence that the GOE was a prolonged event with a peak around 1900 Ma. Geosystems and Geoenvironment, 2022, 1, 100036.	3.2	13
4	Evidence for the oxidation of Earthâ€™s crust from the evolution of manganese minerals. Nature Communications, 2022, 13, 960.	12.8	15
5	Structural and chemical complexity of minerals: an update. Mineralogical Magazine, 2022, 86, 183-204.	1.4	34
6	Mineral Element Insiders and Outliers Play Crucial Roles in Biological Evolution. Life, 2022, 12, 951.	2.4	0
7	Global earth mineral inventory: A data legacy. Geoscience Data Journal, 2021, 8, 74-89.	4.4	21
8	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
9	Cluster Analysis of Presolar Silicon Carbide Grains: Evaluation of Their Classification and Astrophysical Implications. Astrophysical Journal Letters, 2021, 907, L39.	8.3	18
10	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
11	An evolutionary system of mineralogy. Part III: Primary chondrule mineralogy (4566 to 4561 Ma). American Mineralogist, 2021, 106, 325-350.	1.9	17
12	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
13	Brine-driven destruction of clay minerals in Gale crater, Mars. Science, 2021, 373, 198-204.	12.6	52
14	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
15	An evolutionary system of mineralogy, Part V: Aqueous and thermal alteration of planetesimals (~4565) Tj ETQq1 1 0.784314 rgBT /Ove	1.9	13
16	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
17	MINERAL NETWORK ANALYSIS: EXPLORING GEOLOGICAL, GEOCHEMICAL, AND BIOLOGICAL PATTERNS IN MINERALIZATION VIA MULTIDIMENSIONAL ANALYSIS. , 2021, , .		2
18	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

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19	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
20	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
21	Exploring Carbon Mineral Systems: Recent Advances in C Mineral Evolution, Mineral Ecology, and Network Analysis. Frontiers in Earth Science, 2020, 8, .	1.8	29
22	An evolutionary system of mineralogy. Part I: Stellar mineralogy (>13 to 4.6 Ga). American Mineralogist, 2020, 105, 627-651.	1.9	53
23	Mineralogy of Vera Rubin Ridge From the Mars Science Laboratory CheMin Instrument. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006306.	3.6	86
24	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
25	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
26	AN EVOLUTIONARY SYSTEM OF MINERALOGY: NETWORK ANALYSIS OF PRE-TERRESTRIAL MINERALS. , 2020, , .		0
27	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
28	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
29	Deep Carbon through Deep Time. , 2019, , 620-652.		10
30	A surface gravity traverse on Mars indicates low bedrock density at Gale crater. Science, 2019, 363, 535-537.	12.6	49
31	Data-Driven Discovery in Mineralogy: Recent Advances in Data Resources, Analysis, and Visualization. Engineering, 2019, 5, 397-405.	6.7	47
32	Bayesian Estimation of Earthâ€™s Undiscovered Mineralogical Diversity Using Noninformative Priors. Mathematical Geosciences, 2019, 51, 401-417.	2.4	25
33	Chemical alteration of fine-grained sedimentary rocks at Gale crater. Icarus, 2019, 321, 619-631.	2.5	52
34	CHARACTERIZING CARBON MINERALOGY AND FORMATIONAL ENVIRONMENTS THROUGH DEEP TIME WITH ADVANCED ANALYTICS AND VISUALIZATION. , 2019, , .		0
35	NATURAL KIND CLUSTERING, PLANETARY EVOLUTION,ÂAND THE CLASSIFICATION OF CARBON-BEARING MINERALS. , 2019, , .		0
36	Predicting Martian mineral compositions <i>in situ</i>: crystal chemical techniques. Acta Crystallographica Section A: Foundations and Advances, 2019, 75, a202-a202.	0.1	0

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37	Parisite-(La), ideally CaLa₂(CO₃)₃F₂, a new mineral from Novo Horizonte, Bahia, Brazil. Mineralogical Magazine, 2018, 82, 133-144.	1.4	9
38	Gypsum, bassanite, and anhydrite at Gale crater, Mars. American Mineralogist, 2018, 103, 1011-1020.	1.9	96
39	Crystal chemistry of martian minerals from Bradbury Landing through Naukluft Plateau, Gale crater, Mars. American Mineralogist, 2018, 103, 857-871.	1.9	94
40	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
41	The Paleomineralogy of the Hadean Eon Revisited. Life, 2018, 8, 64.	2.4	27
42	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
43	Analysis and visualization of vanadium mineral diversity and distribution. American Mineralogist, 2018, 103, 1080-1086.	1.9	28
44	Clay mineral diversity and abundance in sedimentary rocks of Gale crater, Mars. Science Advances, 2018, 4, eaar3330.	10.3	150
45	ECOLOGY AND EVOLUTION OF MANGANESE MINERALS: IMPLICATIONS FOR THE REDOX HISTORY OF EARTH AND LIFE. , 2018, , .		1
46	SOURCE CHARACTERISTICS, CHEMICAL WEATHERING, AND LITHIFICATION OF THE STIMSON SANDSTONE AND LESSONS FOR THE MARTIAN SEDIMENTARY RECORD. , 2018, , .		0
47	ADVANCED ANALYTICAL AND VISUALIZATION TECHNIQUES APPLIED TO MINERAL EVOLUTION AND ECOLOGY. , 2018, , .		0
48	FUTURE AND CURRENT APPROACHES FOR MODELING THE DISTRIBUTION OF MINERALS ON EARTH AND OTHER PLANETS. , 2018, , .		0
49	APPLICATIONS IN COMPARATIVE PLANETOLOGY: ADVANCED ANALYTICS AND VISUALIZATION OF MINERAL SYSTEMS. , 2018, , .		0
50	ESTIMATING EARTHâ€™S UNDISCOVERED, MINERALOGICAL DIVERSITY USING A BAYESIAN APPROACH. , 2018, , .		0
51	AN OVERVIEW OF ALTERATION IN THE MURRAY FORMATION, GALE CRATER, MARS. , 2018, , .		0
52	USING MINERALOGY OF THE BAGNOLD DUNE FIELD IN GALE CRATER TO INTERPRET EOLIAN SEDIMENT SORTING ON THE MARTIAN SURFACE. , 2018, , .		0
53	Cobalt mineral ecology. American Mineralogist, 2017, 102, 108-116.	1.9	43
54	Chromium mineral ecology. American Mineralogist, 2017, 102, 612-619.	1.9	31

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55	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
56	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
57	Network analysis of mineralogical systems. American Mineralogist, 2017, 102, 1588-1596.	1.9	63
58	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
59	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
60	THE AMORPHOUS COMPOSITION OF THREE MUDSTONE SAMPLES FROM GALE CRATER: IMPLICATIONS FOR WEATHERING AND DIAGENETIC PROCESSES ON MARS. , 2017, , .		2
61	MINERALOGICAL CHANGES IN A PREDOMINANTLY FLUVIOLACUSTRINE SUCCESSION AT GALE CRATER, MARS. , 2017, , .		1
62	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
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	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
65	MINERALOGY OF MUDSTONE AT GALE CRATER, MARS: EVIDENCE FOR DYNAMIC LACUSTRINE ENVIRONMENTS. , 2016, , .		1
66	CHROMIUM AND VANADIUM MINERAL ECOLOGY. , 2016, , .		0
67	QUANTIFYING AND VISUALIZING EARTHâ€™S MINERAL CHEMISTRY THROUGH GEOLOGIC TIME. , 2016, , .		1
68	SOCIAL NETWORK OF COPPER MINERALS: A MINERAL ECOLOGY STUDY. , 2016, , .		0
69	THE CO-EVOLUTION OF THE GEO- AND BIOSPHERES: AN INTEGRATED PROGRAM FOR DATA-DRIVEN, ABDUCTIVE DISCOVERY IN THE EARTH SCIENCES. , 2016, , .		0
70	MINERAL ECOLOGY: SOCIAL NETWORK ANALYSIS AND SOCIOGRAMS OF MINERAL CONNECTIONS, DISTRIBUTIONS, AND SEGMENTATION. , 2016, , .		0
71	The origin and implications of clay minerals from Yellowknife Bay, Gale crater, Mars. American Mineralogist, 2015, 100, 824-836.	1.9	122
72	The first X-ray diffraction measurements on Mars. IUCrJ, 2014, 1, 514-522.	2.2	38

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73	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
74	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.	12.6	323
75	A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1242777.	12.6	687
76	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	12.6	508
77	In Situ Radiometric and Exposure Age Dating of the Martian Surface. Science, 2014, 343, 1247166.	12.6	224
78	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.	12.6	246
79	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932.	12.6	327
80	Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505.	12.6	280
81	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937.	12.6	367
82	Agardite-(Y), Cu2+6Y(AsO4)3(OH)6Â·3H2O. Acta Crystallographica Section E: Structure Reports Online, 2013, 69, i61-i62.	0.2	6
83	Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072.	12.6	326
84	The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463.	12.6	134
85	Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670.	12.6	215
86	Lanthanite-(Nd), Nd₂(CO₃)₃Â·8H₂O. Acta Crystallographica Section E: Structure Reports Online, 2013, 69, i15-i16.	0.2	4
87	Nioboaeschynite-(Ce), Ce(NbTi)O₆. Acta Crystallographica Section E: Structure Reports Online, 2012, 68, i64-i65.	0.2	0
88	Redetermination of kovdorskite, Mg₂PO₄(OH)Â·3H₂O. Acta Crystallographica Section E: Structure Reports Online, 2012, 68, i12-i13.	0.2	3
89	Robertsite, Ca2MnIII3O2(PO4)3Â·3H2O. Acta Crystallographica Section E: Structure Reports Online, 2012, 68, i74-i75.	0.2	3