

John Grotzinger

List of Publications by Year in descending order

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83
papers

11,834
citations

28274

55
h-index

62596

80
g-index

83
all docs

83
docs citations

83
times ranked

5526
citing authors

#	ARTICLE	IF	CITATIONS
1	A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1242777.	12.6	687
2	Mars Science Laboratory Mission and Science Investigation. <i>Space Science Reviews</i> , 2012, 170, 5-56.	8.1	650
3	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1243480.	12.6	508
4	Mars's Surface Radiation Environment Measured with the Mars Science Laboratory's Curiosity Rover. <i>Science</i> , 2014, 343, 1244797.	12.6	475
5	Deposition, exhumation, and paleoclimate of an ancient lake deposit, Gale crater, Mars. <i>Science</i> , 2015, 350, aac7575.	12.6	471
6	Anomalous Carbonate Precipitates: Is the Precambrian the Key to the Permian?. <i>Palaios</i> , 1995, 10, 578.	1.3	380
7	Organic molecules in the Sheepbed Mudstone, Gale Crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2015, 120, 495-514.	3.6	375
8	New Constraints on Precambrian Ocean Composition. <i>Journal of Geology</i> , 1993, 101, 235-243.	1.4	369
9	Organic matter preserved in 3-billion-year-old mudstones at Gale crater, Mars. <i>Science</i> , 2018, 360, 1096-1101.	12.6	369
10	Paleoclimate of Mars as captured by the stratigraphic record in Gale Crater. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	368
11	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. <i>Science</i> , 2013, 341, 1238937.	12.6	367
12	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. <i>Science</i> , 2013, 341, 1238932.	12.6	327
13	Martian Fluvial Conglomerates at Gale Crater. <i>Science</i> , 2013, 340, 1068-1072.	12.6	326
14	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1245267.	12.6	323
15	Evidence for perchlorates and the origin of chlorinated hydrocarbons detected by SAM at the Rocknest aeolian deposit in Gale Crater. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 1955-1973.	3.6	306
16	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. <i>Science</i> , 2014, 343, 1244734.	12.6	246
17	Isotope Ratios of H, C, and O in CO ₂ and H ₂ O of the Martian Atmosphere. <i>Science</i> , 2013, 341, 260-263.	12.6	241
18	In Situ Radiometric and Exposure Age Dating of the Martian Surface. <i>Science</i> , 2014, 343, 1247166.	12.6	224

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19	Redox stratification of an ancient lake in Gale crater, Mars. <i>Science</i> , 2017, 356, .	12.6	209
20	Evidence for indigenous nitrogen in sedimentary and aeolian deposits from the <i>Curiosity</i> rover investigations at Gale crater, Mars. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 4245-4250.	7.1	172
21	Evolved gas analyses of sedimentary rocks and eolian sediment in Gale Crater, Mars: Results of the <i>Curiosity</i> rover's sample analysis at Mars instrument from Yellowknife Bay to the Namib Dune. <i>Journal of Geophysical Research E: Planets</i> , 2017, 122, 2574-2609.	3.6	168
22	The SuperCam Instrument Suite on the NASA Mars 2020 Rover: Body Unit and Combined System Tests. <i>Space Science Reviews</i> , 2021, 217, 4.	8.1	160
23	Mineralogy, provenance, and diagenesis of a potassic basaltic sandstone on Mars: <i>CheMin X-ray</i> diffraction of the Windjana sample (Kimberley area, Gale Crater). <i>Journal of Geophysical Research E: Planets</i> , 2016, 121, 75-106.	3.6	159
24	Silicic volcanism on Mars evidenced by tridymite in high-SiO ₂ sedimentary rock at Gale crater. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 7071-7076.	7.1	158
25	Clay mineral diversity and abundance in sedimentary rocks of Gale crater, Mars. <i>Science Advances</i> , 2018, 4, eaar3330.	10.3	150
26	Large wind ripples on Mars: A record of atmospheric evolution. <i>Science</i> , 2016, 353, 55-58.	12.6	144
27	Ancient Martian aeolian processes and palaeomorphology reconstructed from the Stimson formation on the lower slope of Aeolis Mons, Gale crater, Mars. <i>Sedimentology</i> , 2018, 65, 993-1042.	3.1	143
28	Spatial grain size sorting in eolian ripples and estimation of wind conditions on planetary surfaces: Application to Meridiani Planum, Mars. <i>Journal of Geophysical Research</i> , 2006, 111, n/a-n/a.	3.3	137
29	The Petrochemistry of Jake_M: A Martian Mugarite. <i>Science</i> , 2013, 341, 1239463.	12.6	134
30	The stratigraphy and evolution of lower Mount Sharp from spectral, morphological, and thermophysical orbital data sets. <i>Journal of Geophysical Research E: Planets</i> , 2016, 121, 1713-1736.	3.6	123
31	The origin and implications of clay minerals from Yellowknife Bay, Gale crater, Mars. <i>American Mineralogist</i> , 2015, 100, 824-836.	1.9	122
32	A hematite-bearing layer in Gale Crater, Mars: Mapping and implications for past aqueous conditions. <i>Geology</i> , 2013, 41, 1103-1106.	4.4	113
33	The imprint of atmospheric evolution in the D/H of Hesperian clay minerals on Mars. <i>Science</i> , 2015, 347, 412-414.	12.6	113
34	The origin of life as a planetary phenomenon. <i>Science Advances</i> , 2020, 6, eaax3419.	10.3	111
35	Oxidation of manganese in an ancient aquifer, Kimberley formation, Gale crater, Mars. <i>Geophysical Research Letters</i> , 2016, 43, 7398-7407.	4.0	110
36	Overview of the Mars Science Laboratory mission: Bradbury Landing to Yellowknife Bay and beyond. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 1134-1161.	3.6	104

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37	Gypsum, bassanite, and anhydrite at Gale crater, Mars. <i>American Mineralogist</i> , 2018, 103, 1011-1020.	1.9	96
38	The timing of alluvial activity in Gale crater, Mars. <i>Geophysical Research Letters</i> , 2014, 41, 1142-1149.	4.0	88
39	Diagenetic silica enrichment and late-stage groundwater activity in Gale crater, Mars. <i>Geophysical Research Letters</i> , 2017, 44, 4716-4724.	4.0	87
40	A Field Guide to Finding Fossils on Mars. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 1012-1040.	3.6	86
41	Mineralogy of Vera Rubin Ridge From the Mars Science Laboratory CheMin Instrument. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006306.	3.6	86
42	Perseverance rover reveals an ancient delta-lake system and flood deposits at Jezero crater, Mars. <i>Science</i> , 2021, 374, 711-717.	12.6	86
43	Diagenetic origin of nodules in the Sheepbed member, Yellowknife Bay formation, Gale crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 1637-1664.	3.6	80
44	Evidence for plunging river plume deposits in the Pahrump Hills member of the Murray formation, Gale crater, Mars. <i>Sedimentology</i> , 2019, 66, 1768-1802.	3.1	80
45	The Mars 2020 Perseverance Rover Mast Camera Zoom (Mastcam-Z) Multispectral, Stereoscopic Imaging Investigation. <i>Space Science Reviews</i> , 2021, 217, 24.	8.1	76
46	Chemistry of fracture-filling raised ridges in Yellowknife Bay, Gale Crater: Window into past aqueous activity and habitability on Mars. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 2398-2415.	3.6	70
47	Evidence for a Diagenetic Origin of Vera Rubin Ridge, Gale Crater, Mars: Summary and Synthesis of Curiosity's Exploration Campaign. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2020JE006527.	3.6	69
48	A Lacustrine Paleoenvironment Recorded at Vera Rubin Ridge, Gale Crater: Overview of the Sedimentology and Stratigraphy Observed by the Mars Science Laboratory Curiosity Rover. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006307.	3.6	69
49	Sulfur-bearing phases detected by evolved gas analysis of the Rocknest aeolian deposit, Gale Crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 373-393.	3.6	65
50	Sorting out compositional trends in sedimentary rocks of the Bradbury group (Aeolis Palus), Gale crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2017, 122, 295-328.	3.6	64
51	Geologic overview of the Mars Science Laboratory rover mission at the Kimberley, Gale crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2017, 122, 2-20.	3.6	60
52	The Sedimentary Rock Record of Mars: Distribution, Origins, and Global Stratigraphy. , 2012, , 1-48.		60
53	Reconstructing the transport history of pebbles on Mars. <i>Nature Communications</i> , 2015, 6, 8366.	12.8	59
54	Shaler: in situ analysis of a fluvial sedimentary deposit on Mars. <i>Sedimentology</i> , 2018, 65, 96-122.	3.1	59

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55	The Sedimentary Cycle on Early Mars. <i>Annual Review of Earth and Planetary Sciences</i> , 2019, 47, 91-118.	11.0	59
56	PIXL: Planetary Instrument for X-Ray Lithochemistry. <i>Space Science Reviews</i> , 2020, 216, 1.	8.1	58
57	Sulfate-Rich Eolian and Wet Interdune Deposits, Erebus Crater, Meridiani Planum, Mars. <i>Journal of Sedimentary Research</i> , 2009, 79, 247-264.	1.6	57
58	Composition of conglomerates analyzed by the Curiosity rover: Implications for Gale Crater crust and sediment sources. <i>Journal of Geophysical Research E: Planets</i> , 2016, 121, 353-387.	3.6	53
59	Large sulfur isotope fractionations in Martian sediments at Gale crater. <i>Nature Geoscience</i> , 2017, 10, 658-662.	12.9	53
60	Sand Mineralogy Within the Bagnold Dunes, Gale Crater, as Observed In Situ and From Orbit. <i>Geophysical Research Letters</i> , 2018, 45, 9488-9497.	4.0	52
61	Brine-driven destruction of clay minerals in Gale crater, Mars. <i>Science</i> , 2021, 373, 198-204.	12.6	52
62	Subaqueous shrinkage cracks in the Sheepbed mudstone: Implications for early fluid diagenesis, Gale crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 1597-1613.	3.6	50
63	Evidence for Multiple Diagenetic Episodes in Ancient Fluvial-Lacustrine Sedimentary Rocks in Gale Crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006295.	3.6	45
64	The Chemostratigraphy of the Murray Formation and Role of Diagenesis at Vera Rubin Ridge in Gale Crater, Mars, as Observed by the ChemCam Instrument. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006320.	3.6	41
65	Reconstruction of eolian bed forms and paleocurrents from cross-bedded strata at Victoria Crater, Meridiani Planum, Mars. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	38
66	Dynamic changes in sulfate sulfur isotopes preceding the Ediacaran Shuram Excursion. <i>Geochimica Et Cosmochimica Acta</i> , 2015, 170, 204-224.	3.9	36
67	Physicochemical properties of concentrated Martian surface waters. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	35
68	A Rock Record of Complex Aeolian Bedforms in a Hesperian Desert Landscape: The Stimson Formation as Exposed in the Murray Buttes, Gale Crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2020JE006554.	3.6	34
69	Diagenesis of Vera Rubin Ridge, Gale Crater, Mars, From Mastcam Multispectral Images. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006322.	3.6	33
70	Volumetric estimates of ancient water on Mount Sharp based on boxwork deposits, Gale Crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 189-198.	3.6	29
71	The Curiosity Rover's Exploration of Glen Torridon, Gale Crater, Mars: An Overview of the Campaign and Scientific Results. <i>Journal of Geophysical Research E: Planets</i> , 2023, 128, .	3.6	27
72	Mineralogy and stratigraphy of the Gale crater rim, wall, and floor units. <i>Journal of Geophysical Research E: Planets</i> , 2017, 122, 1090-1118.	3.6	26

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73	Diagenetic controls on the isotopic composition of carbonate-associated sulphate in the Permian Capitan Reef Complex, West Texas. <i>Sedimentology</i> , 2019, 66, 2605-2626.	3.1	26
74	Regional Structural Orientation of the Mount Sharp Group Revealed by In Situ Dip Measurements and Stratigraphic Correlations on the Vera Rubin Ridge. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006298.	3.6	26
75	Searching for biosignatures in sedimentary rocks from early Earth and Mars. <i>Nature Reviews Earth & Environment</i> , 2021, 2, 490-506.	29.7	24
76	A Review of the Phyllosilicates in Gale Crater as Detected by the CheMin Instrument on the Mars Science Laboratory, Curiosity Rover. <i>Minerals (Basel, Switzerland)</i> , 2021, 11, 847.	2.0	23
77	Extraformational sediment recycling on Mars. , 2020, 16, 1508-1537.		20
78	Stratigraphic Architecture of Bedrock Reference Section, Victoria Crater, Meridiani Planum, Mars. , 2012, , 195-209.		16
79	Formation of Magnesium Carbonates on Earth and Implications for Mars. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2021JE006828.	3.6	12
80	Reevaluation of Perchlorate in Gale Crater Rocks Suggests Geologically Recent Perchlorate Addition. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006156.	3.6	10
81	Ancient Winds, Waves, and Atmosphere in Gale Crater, Mars, Inferred From Sedimentary Structures and Wave Modeling. <i>Journal of Geophysical Research E: Planets</i> , 2022, 127, .	3.6	7
82	Early impacts of climate change on a coastal marine microbial mat ecosystem. <i>Science Advances</i> , 2022, 8, .	10.3	7
83	Burial and Exhumation of Sedimentary Rocks Revealed by the Base Stimson Erosional Unconformity, Gale Crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2022, 127, .	3.6	3