John Grotzinger

List of Publications by Year
in descending order

83 papers	11,834 citations	28242 55 h-index	62565 80 g-index
83 all docs	83 docs citations	83 times ranked	5526 citing authors

#	Article	IF	Citations
1	The Curiosity Rover's Exploration of Glen Torridon, Gale Crater, Mars: An Overview of the Campaign and Scientific Results. Journal of Geophysical Research E: Planets, 2023, 128, .	1.5	27
2	Ancient Winds, Waves, and Atmosphere in Gale Crater, Mars, Inferred From Sedimentary Structures and Wave Modeling. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	7
3	Early impacts of climate change on a coastal marine microbial mat ecosystem. Science Advances, 2022, 8, .	4.7	7
4	Burial and Exhumation of Sedimentary Rocks Revealed by the Base Stimson Erosional Unconformity, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	3
5	The Mars 2020 Perseverance Rover Mast Camera Zoom (Mastcam-Z) Multispectral, Stereoscopic Imaging Investigation. Space Science Reviews, 2021, 217, 24.	3.7	76
6	A Rock Record of Complex Aeolian Bedforms in a Hesperian Desert Landscape: The Stimson Formation as Exposed in the Murray Buttes, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006554.	1.5	34
7	Searching for biosignatures in sedimentary rocks from early Earth and Mars. Nature Reviews Earth & Environment, 2021, 2, 490-506.	12.2	24
8	Formation of Magnesium Carbonates on Earth and Implications for Mars. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006828.	1.5	12
9	Brine-driven destruction of clay minerals in Gale crater, Mars. Science, 2021, 373, 198-204.	6.0	52
10	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.	0.8	23
11	The SuperCam Instrument Suite on the NASA Mars 2020 Rover: Body Unit and Combined System Tests. Space Science Reviews, 2021, 217, 4.	3.7	160
12	Perseverance rover reveals an ancient delta-lake system and flood deposits at Jezero crater, Mars. Science, 2021, 374, 711-717.	6.0	86
13	Extraformational sediment recycling on Mars. , 2020, 16, 1508-1537.		20
14	PIXL: Planetary Instrument for X-Ray Lithochemistry. Space Science Reviews, 2020, 216, 1.	3.7	58
15	Evidence for a Diagenetic Origin of Vera Rubin Ridge, Gale Crater, Mars: Summary and Synthesis of Curiosity's Exploration Campaign. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006527.	1.5	69
16	Diagenesis of Vera Rubin Ridge, Gale Crater, Mars, From Mastcam Multispectral Images. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006322.	1.5	33
17	Mineralogy of Vera Rubin Ridge From the Mars Science Laboratory CheMin Instrument. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006306.	1.5	86
18	A Lacustrine Paleoenvironment Recorded at Vera RubinRidge, Gale Crater: Overview of the Sedimentology and Stratigraphy Observed by the Mars ScienceLaboratory Curiosity Rover. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006307.	1.5	69

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19	Evidence for Multiple Diagenetic Episodes in Ancient Fluvialâ€Lacustrine Sedimentary Rocks in Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006295.	1.5	45
20	The Chemostratigraphy of the Murray Formation and Role of Diagenesis at Vera Rubin Ridge in Gale Crater, Mars, as Observed by the ChemCam Instrument. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006320.	1.5	41
21	The origin of life as a planetary phenomenon. Science Advances, 2020, 6, eaax3419.	4.7	111
22	Reevaluation of Perchlorate in Gale Crater Rocks Suggests Geologically Recent Perchlorate Addition. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006156.	1.5	10
23	Regional Structural Orientation of the Mount Sharp Group Revealed by In Situ Dip Measurements and Stratigraphic Correlations on the Vera Rubin Ridge. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006298.	1.5	26
24	Diagenetic controls on the isotopic composition of carbonateâ€associated sulphate in the Permian Capitan Reef Complex, West Texas. Sedimentology, 2019, 66, 2605-2626.	1.6	26
25	Evidence for plunging river plume deposits in the Pahrump Hills member of the Murray formation, Gale crater, Mars. Sedimentology, 2019, 66, 1768-1802.	1.6	80
26	The Sedimentary Cycle on Early Mars. Annual Review of Earth and Planetary Sciences, 2019, 47, 91-118.	4.6	59
27	Ancient Martian aeolian processes and palaeomorphology reconstructed from the Stimson formation on the lower slope of Aeolis Mons, Gale crater, Mars. Sedimentology, 2018, 65, 993-1042.	1.6	143
28	A Field Guide to Finding Fossils on Mars. Journal of Geophysical Research E: Planets, 2018, 123, 1012-1040.	1.5	86
29	Shaler: inÂsitu analysis of a fluvial sedimentary deposit on Mars. Sedimentology, 2018, 65, 96-122.	1.6	59
30	Gypsum, bassanite, and anhydrite at Gale crater, Mars. American Mineralogist, 2018, 103, 1011-1020.	0.9	96
31	Sand Mineralogy Within the Bagnold Dunes, Gale Crater, as Observed In Situ and From Orbit. Geophysical Research Letters, 2018, 45, 9488-9497.	1.5	52
32	Clay mineral diversity and abundance in sedimentary rocks of Gale crater, Mars. Science Advances, 2018, 4, eaar3330.	4.7	150
33	Organic matter preserved in 3-billion-year-old mudstones at Gale crater, Mars. Science, 2018, 360, 1096-1101.	6.0	369
34	Sorting out compositional trends in sedimentary rocks of the Bradbury group (Aeolis Palus), Gale crater, Mars. Journal of Geophysical Research E: Planets, 2017, 122, 295-328.	1.5	64
35	Mineralogy and stratigraphy of the Gale crater rim, wall, and floor units. Journal of Geophysical Research E: Planets, 2017, 122, 1090-1118.	1.5	26
36	Diagenetic silica enrichment and lateâ€stage groundwater activity in Gale crater, Mars. Geophysical Research Letters, 2017, 44, 4716-4724.	1.5	87

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37	Redox stratification of an ancient lake in Gale crater, Mars. Science, 2017, 356, .	6.0	209
38	Geologic overview of the Mars Science Laboratory rover mission at the Kimberley, Gale crater, Mars. Journal of Geophysical Research E: Planets, 2017, 122, 2-20.	1.5	60
39	Large sulfur isotope fractionations in Martian sediments at Gale crater. Nature Geoscience, 2017, 10, 658-662.	5.4	53
40	Evolved gas analyses of sedimentary rocks and eolian sediment in Gale Crater, Mars: Results of the Curiosity rover's sample analysis at Mars instrument from Yellowknife Bay to the Namib Dune. Journal of Geophysical Research E: Planets, 2017, 122, 2574-2609.	1.5	168
41	Oxidation of manganese in an ancient aquifer, Kimberley formation, Gale crater, Mars. Geophysical Research Letters, 2016, 43, 7398-7407.	1.5	110
42	Composition of conglomerates analyzed by the Curiosity rover: Implications for Gale Crater crust and sediment sources. Journal of Geophysical Research E: Planets, 2016, 121, 353-387.	1.5	53
43	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.	1.5	159
44	The stratigraphy and evolution of lower Mount Sharp from spectral, morphological, and thermophysical orbital data sets. Journal of Geophysical Research E: Planets, 2016, 121, 1713-1736.	1.5	123
45	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.	3.3	158
46	Large wind ripples on Mars: A record of atmospheric evolution. Science, 2016, 353, 55-58.	6.0	144
47	Organic molecules in the Sheepbed Mudstone, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2015, 120, 495-514.	1.5	375
48	The origin and implications of clay minerals from Yellowknife Bay, Gale crater, Mars. American Mineralogist, 2015, 100, 824-836.	0.9	122
49	Evidence for indigenous nitrogen in sedimentary and aeolian deposits from the Curiosity rover investigations at Gale crater, Mars. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4245-4250.	3.3	172
50	Reconstructing the transport history of pebbles on Mars. Nature Communications, 2015, 6, 8366.	5.8	59
51	Deposition, exhumation, and paleoclimate of an ancient lake deposit, Gale crater, Mars. Science, 2015, 350, aac7575.	6.0	471
52	Dynamic changes in sulfate sulfur isotopes preceding the Ediacaran Shuram Excursion. Geochimica Et Cosmochimica Acta, 2015, 170, 204-224.	1.6	36
53	The imprint of atmospheric evolution in the D/H of Hesperian clay minerals on Mars. Science, 2015, 347, 412-414.	6.0	113
54	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.	6.0	323

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55	A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1242777.	6.0	687
56	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	6.0	508
57	Marsâ€™ Surface Radiation Environment Measured with the Mars Science Laboratoryâ€™s Curiosity Rover. Science, 2014, 343, 1244797.	6.0	475
58	In Situ Radiometric and Exposure Age Dating of the Martian Surface. Science, 2014, 343, 1247166.	6.0	224
59	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.	6.0	246
60	Diagenetic origin of nodules in the Sheepbed member, Yellowknife Bay formation, Gale crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 1637-1664.	1.5	80
61	Volumetric estimates of ancient water on Mount Sharp based on boxwork deposits, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 189-198.	1.5	29
62	Overview of the Mars Science Laboratory mission: Bradbury Landing to Yellowknife Bay and beyond. Journal of Geophysical Research E: Planets, 2014, 119, 1134-1161.	1.5	104
63	Subaqueous shrinkage cracks in the Sheepbed mudstone: Implications for early fluid diagenesis, Gale crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 1597-1613.	1.5	50
64	Sulfur-bearing phases detected by evolved gas analysis of the Rocknest aeolian deposit, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 373-393.	1.5	65
65	Chemistry of fractureâ€filling raised ridges in Yellowknife Bay, Gale Crater: Window into past aqueous activity and habitability on Mars. Journal of Geophysical Research E: Planets, 2014, 119, 2398-2415.	1.5	70
66	The timing of alluvial activity in Gale crater, Mars. Geophysical Research Letters, 2014, 41, 1142-1149.	1.5	88
67	A hematite-bearing layer in Gale Crater, Mars: Mapping and implications for past aqueous conditions. Geology, 2013, 41, 1103-1106.	2.0	113
68	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932.	6.0	327
69	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937.	6.0	367
70	Isotope Ratios of H, C, and O in CO ₂ and H ₂ O of the Martian Atmosphere. Science, 2013, 341, 260-263.	6.0	241
71	Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072.	6.0	326
72	The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463.	6.0	134

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73	Evidence for perchlorates and the origin of chlorinated hydrocarbons detected by SAM at the Rocknest aeolian deposit in Gale Crater. Journal of Geophysical Research E: Planets, 2013, 118, 1955-1973.	1.5	306
74	Mars Science Laboratory Mission and Science Investigation. Space Science Reviews, 2012, 170, 5-56.	3.7	650
75	The Sedimentary Rock Record of Mars: Distribution, Origins, and Global Stratigraphy. , 2012, , 1-48.		60
76	Stratigraphic Architecture of Bedrock Reference Section, Victoria Crater, Meridiani Planum, Mars. , 2012, , 195-209.		16
77	Reconstruction of eolian bed forms and paleocurrents from cross-bedded strata at Victoria Crater, Meridiani Planum, Mars. Journal of Geophysical Research, 2011, 116, .	3.3	38
78	Physicochemical properties of concentrated Martian surface waters. Journal of Geophysical Research, 2011, 116, .	3.3	35
79	Paleoclimate of Mars as captured by the stratigraphic record in Gale Crater. Geophysical Research Letters, 2010, 37, .	1.5	368
80	Sulfate-Rich Eolian and Wet Interdune Deposits, Erebus Crater, Meridiani Planum, Mars. Journal of Sedimentary Research, 2009, 79, 247-264.	0.8	57
81	Spatial grain size sorting in eolian ripples and estimation of wind conditions on planetary surfaces: Application to Meridiani Planum, Mars. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	137
82	Anomalous Carbonate Precipitates: Is the Precambrian the Key to the Permian?. Palaios, 1995, 10, 578.	0.6	380
83	New Constraints on Precambrian Ocean Composition. Journal of Geology, 1993, 101, 235-243.	0.7	369