M S Rice

List of Publications by Year
in descending order

66 papers	8,150 citations	61857 43 h-index	102304 66 g-index
69 all docs	69 docs citations	69 times ranked	4556 citing authors

#	Article	IF	Citations
1	A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1242777.	6.0	687
2	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	6.0	508
3	Marsâ€™ Surface Radiation Environment Measured with the Mars Science Laboratoryâ€™s Curiosity Rover. Science, 2014, 343, 1244797.	6.0	475
4	Deposition, exhumation, and paleoclimate of an ancient lake deposit, Gale crater, Mars. Science, 2015, 350, aac7575.	6.0	471
5	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937.	6.0	367
6	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932.	6.0	327
7	Abundance and Isotopic Composition of Gases in the Martian Atmosphere from the Curiosity Rover. Science, 2013, 341, 263-266.	6.0	327
8	Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072.	6.0	326
9	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.	6.0	323
10	Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505.	6.0	280
11	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.	6.0	246
12	Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670.	6.0	215
13	Calcium sulfate veins characterized by ChemCam/Curiosity at Gale crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 1991-2016.	1.5	214
14	Ancient Impact and Aqueous Processes at Endeavour Crater, Mars. Science, 2012, 336, 570-576.	6.0	176
15	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
16	The mineral diversity of Jezero crater: Evidence for possible lacustrine carbonates on Mars. Icarus, 2020, 339, 113526.	1.1	166
17	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
18	Characteristics, distribution, origin, and significance of opaline silica observed by the Spirit rover in Gusev crater, Mars. Journal of Geophysical Research, 2011, 116, .	3.3	155

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19	Large wind ripples on Mars: A record of atmospheric evolution. Science, 2016, 353, 55-58.	6.0	144
20	The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463.	6.0	134
21	Spirit Mars Rover Mission: Overview and selected results from the northern Home Plate Winter Haven to the side of Scamander crater. Journal of Geophysical Research, 2010, 115, .	3.3	127
22	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
23	Oxidation of manganese in an ancient aquifer, Kimberley formation, Gale crater, Mars. Geophysical Research Letters, 2016, 43, 7398-7407.	1.5	110
24	Opportunity Mars Rover mission: Overview and selected results from Purgatory ripple to traverses to Endeavour crater. Journal of Geophysical Research, 2011, 116, .	3.3	106
25	Silica-rich deposits and hydrated minerals at Gusev Crater, Mars: Vis-NIR spectral characterization and regional mapping. Icarus, 2010, 205, 375-395.	1.1	93
26	Mineralogic constraints on sulfurâ€rich soils from Pancam spectra at Gusev crater, Mars. Geophysical Research Letters, 2007, 34, .	1.5	89
27	Radar imagery of Mercuryâ€™s putative polar ice: 1999â€“2005 Arecibo results. Icarus, 2011, 211, 37-50.	1.1	89
28	Diagenetic silica enrichment and lateâ€stage groundwater activity in Gale crater, Mars. Geophysical Research Letters, 2017, 44, 4716-4724.	1.5	87
29	Perseverance rover reveals an ancient delta-lake system and flood deposits at Jezero crater, Mars. Science, 2021, 374, 711-717.	6.0	86
30	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
31	Reflectance spectra diversity of silica-rich materials: Sensitivity to environment and implications for detections on Mars. Icarus, 2013, 223, 499-533.	1.1	79
32	The Mars 2020 Perseverance Rover Mast Camera Zoom (Mastcam-Z) Multispectral, Stereoscopic Imaging Investigation. Space Science Reviews, 2021, 217, 24.	3.7	76
33	The sustainability of habitability on terrestrial planets: Insights, questions, and needed measurements from Mars for understanding the evolution of Earthâ€like worlds. Journal of Geophysical Research E: Planets, 2016, 121, 1927-1961.	1.5	72
34	Mercury: Radar images of the equatorial and midlatitude zones. Icarus, 2007, 187, 374-405.	1.1	70
35	ChemCam passive reflectance spectroscopy of surface materials at the Curiosity landing site, Mars. Icarus, 2015, 249, 74-92.	1.1	70
36	The potassic sedimentary rocks in Gale Crater, Mars, as seen by ChemCam on board Curiosity. Journal of Geophysical Research E: Planets, 2016, 121, 784-804.	1.5	67

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37	Photogeologic Map of the Perseverance Rover Field Site in Jezero Crater Constructed by the Mars 2020 Science Team. Space Science Reviews, 2020, 216, 1.	3.7	67
38	Hydrated silica on Mars: Combined analysis with near-infrared and thermal-infrared spectroscopy. Icarus, 2013, 223, 633-648.	1.1	61
39	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
40	Shaler: inÂsitu analysis of a fluvial sedimentary deposit on Mars. Sedimentology, 2018, 65, 96-122.	1.6	59
41	Comparing orbiter and rover image-based mapping of an ancient sedimentary environment, Aeolis Palus, Gale crater, Mars. Icarus, 2016, 280, 3-21.	1.1	57
42	The Case for Ancient Hot Springs in Gusev Crater, Mars. Astrobiology, 2020, 20, 475-499.	1.5	56
43	The rock abrasion record at Gale Crater: Mars Science Laboratory results from Bradbury Landing to Rocknest. Journal of Geophysical Research E: Planets, 2014, 119, 1374-1389.	1.5	46
44	Visible to near-infrared MSL/Mastcam multispectral imaging: Initial results from select high-interest science targets within Gale Crater, Mars. American Mineralogist, 2017, 102, 1202-1217.	0.9	43
45	Surface albedo observations at Gusev Crater and Meridiani Planum, Mars. Journal of Geophysical Research, 2008, 113, .	3.3	37
46	Diagenesis of Vera Rubin Ridge, Gale Crater, Mars, From Mastcam Multispectral Images. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006322.	1.5	33
47	Pre-Flight Calibration of the Mars 2020 Rover Mastcam Zoom (Mastcam-Z) Multispectral, Stereoscopic Imager. Space Science Reviews, 2021, 217, 29.	3.7	31
48	Synergistic Ground and Orbital Observations of Iron Oxides on Mt. Sharp and Vera Rubin Ridge. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006294.	1.5	27
49	Radiometric Calibration Targets for the Mastcam-Z Camera on the Mars 2020 Rover Mission. Space Science Reviews, 2020, 216, 1.	3.7	27
50	VNIR multispectral observations of aqueous alteration materials by the Pancams on the Spirit and Opportunity Mars Exploration Rovers. American Mineralogist, 2016, 101, 2005-2019.	0.9	25
51	Field reconnaissance geologic mapping of the Columbia Hills, Mars, based on Mars Exploration Rover Spirit and MRO HiRISE observations. Journal of Geophysical Research, 2011, 116, .	3.3	24
52	VNIR multispectral observations of rocks at Cape York, Endeavour crater, Mars by the Opportunity roverâ€™s Pancam. Icarus, 2013, 225, 709-725.	1.1	23
53	Sedimentology, chemostratigraphy, and stromatolites of lower Paleoproterozoic carbonates, Turee Creek Group, Western Australia. Precambrian Research, 2015, 266, 194-211.	1.2	22
54	Temporal observations of bright soil exposures at Gusev crater, Mars. Journal of Geophysical Research, 2011, 116, .	3.3	19

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55	Observations of rock spectral classes by the Opportunity rover's Pancam on northern Cape York and on Matijevic Hill, Endeavour Crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 2349-2369.	1.5	19
56	Discordant Kâ€Ar and young exposure dates for the Windjana sandstone, Kimberley, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2016, 121, 2176-2192.	1.5	19
57	Influence of fault-controlled topography on fluvio-deltaic sedimentary systems in Eberswalde crater, Mars. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	18
58	The persistence of a chlorophyll spectral biosignature from Martian evaporite and spring analogues under Mars-like conditions. International Journal of Astrobiology, 2014, 13, 203-223.	0.9	18
59	Identification and Description of a Silicic Volcaniclastic Layer in Gale Crater, Mars, Using Active Neutron Interrogation. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006180.	1.5	16
60	The albedo of Mars: Six Mars years of observations from Pancam on the Mars Exploration Rovers and comparisons to MOC, CTX and HiRISE. Icarus, 2018, 314, 159-174.	1.1	10
61	A hypersaline spring analogue in Manitoba, Canada for potential ancient spring deposits on Mars. Icarus, 2013, 224, 399-412.	1.1	9
62	Photometric characterization of Lucideon and Avian Technologies color standards including application for calibration of the Mastcam-Z instrument on the Mars 2020 rover. Optical Engineering, 2019, 58, 1.	0.5	8
63	Scarp orientation in regions of active aeolian erosion on Mars. Icarus, 2020, 335, 113384.	1.1	7
64	Overview of Spirit Microscopic Imager Results. Journal of Geophysical Research E: Planets, 2019, 124, 528-584.	1.5	4
65	Compositional and Mineralogic Analyses of Mars Using Multispectral Imaging on the Mars Exploration Rover, Phoenix, and Mars Science Laboratory Missions. , 2019, , 513-537.		3
66	Optimizing ExoMars Rover Remote Sensing Multispectral Science: Crossâ€Rover Comparison Using Laboratory and Orbital Data. Earth and Space Science, 2022, 9, .	1.1	1