Abigail A Fraeman

List of Publications by Year
in descending order

64	7,402	81900	144013
papers	citations	39 h-index	57 g-index

67	67	67	4485
all docs	docs citations	times ranked	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	Subsurface water and clay mineral formation during the early history of Mars. Nature, 2011, 479, 53-60.	27.8	651
3	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	12.6	508
4	Marsâ€™ Surface Radiation Environment Measured with the Mars Science Laboratoryâ€™s Curiosity Rover. Science, 2014, 343, 1244797.	12.6	475
5	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937.	12.6	367
6	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932.	12.6	327
7	Abundance and Isotopic Composition of Gases in the Martian Atmosphere from the Curiosity Rover. Science, 2013, 341, 263-266.	12.6	327
8	Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072.	12.6	326
9	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.	12.6	323
10	Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505.	12.6	280
11	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.	12.6	246
12	In Situ Radiometric and Exposure Age Dating of the Martian Surface. Science, 2014, 343, 1247166.	12.6	224
13	Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670.	12.6	215
14	An improvement to the volcano-scan algorithm for atmospheric correction of CRISM and OMEGA spectral data. Planetary and Space Science, 2009, 57, 809-815.	1.7	166
15	Large wind ripples on Mars: A record of atmospheric evolution. Science, 2016, 353, 55-58.	12.6	144
16	The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463.	12.6	134
17	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.	3.6	123
18	A hematite-bearing layer in Gale Crater, Mars: Mapping and implications for past aqueous conditions. Geology, 2013, 41, 1103-1106.	4.4	113

#	Article	IF	Citations
19	Imaging spectroscopy of geological samples and outcrops: Novel insights from microns to meters. GSA Today, 2015, 25, 4-10.	2.0	106
20	Chemistry, mineralogy, and grain properties at Namib and High dunes, Bagnold dune field, Gale crater, Mars: A synthesis of Curiosity rover observations. Journal of Geophysical Research E: Planets, 2017, 122, 2510-2543.	3.6	95
21	Diagenetic silica enrichment and lateâ€stage groundwater activity in Gale crater, Mars. Geophysical Research Letters, 2017, 44, 4716-4724.	4.0	87
22	A Field Guide to Finding Fossils on Mars. Journal of Geophysical Research E: Planets, 2018, 123, 1012-1040.	3.6	86
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	Mars Science Laboratory Curiosity Rover Megaripple Crossings up to Sol 710 in Gale Crater. Journal of Field Robotics, 2017, 34, 495-518.	6.0	82
25	The influence of mantle melting on the evolution of Mars. Icarus, 2010, 210, 43-57.	2.5	72
26	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.	3.6	72
27	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.	3.6	69
28	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.	3.6	69
29	Spectral absorptions on Phobos and Deimos in the visible/near infrared wavelengths and their compositional constraints. Icarus, 2014, 229, 196-205.	2.5	66
30	Compositional variations in sands of the Bagnold Dunes, Gale crater, Mars, from visibleâ€shortwave infrared spectroscopy and comparison with ground truth from the Curiosity rover. Journal of Geophysical Research E: Planets, 2017, 122, 2489-2509.	3.6	64
31	Mineralogy of the MSL Curiosity landing site in Gale crater as observed by MRO/CRISM. Geophysical Research Letters, 2014, 41, 4880-4887.	4.0	59
32	Comparing orbiter and rover image-based mapping of an ancient sedimentary environment, Aeolis Palus, Gale crater, Mars. Icarus, 2016, 280, 3-21.	2.5	57
33	Analysis of diskâ€resolved OMEGA and CRISM spectral observations of Phobos and Deimos. Journal of Geophysical Research, 2012, 117, .	3.3	52
34	Brine-driven destruction of clay minerals in Gale crater, Mars. Science, 2021, 373, 198-204.	12.6	52
35	Relating geologic units and mobility system kinematics contributing to Curiosity wheel damage at Gale Crater, Mars. Journal of Terramechanics, 2017, 73, 73-93.	3.1	47
36	Terrain physical properties derived from orbital data and the first 360 sols of Mars Science Laboratory Curiosity rover observations in Gale Crater. Journal of Geophysical Research E: Planets, 2014, 119, 1322-1344.	3.6	43

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37	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.	1.9	43
38	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.	3.6	41
39	Visible/nearâ€infrared spectral diversity from in situ observations of the Bagnold Dune Field sands in Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2017, 122, 2655-2684.	3.6	40
40	Diagenesis of Vera Rubin Ridge, Gale Crater, Mars, From Mastcam Multispectral Images. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006322.	3.6	33
41	Constraints on iron sulfate and iron oxide mineralogy from ChemCam visible/near-infrared reflectance spectroscopy of Mt. Sharp basal units, Gale Crater, Mars. American Mineralogist, 2016, 101, 1501-1514.	1.9	31
42	APXSâ€Derived Compositional Characteristics of Vera Rubin Ridge and Murray Formation, Gale Crater, Mars: Geochemical Implications for the Origin of the Ridge. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006319.	3.6	31
43	Iron Mobility During Diagenesis at Vera Rubin Ridge, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006299.	3.6	30
44	Widespread hematite at high latitudes of the Moon. Science Advances, 2020, 6, .	10.3	28
45	Synergistic Ground and Orbital Observations of Iron Oxides on Mt. Sharp and Vera Rubin Ridge. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006294.	3.6	27
46	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, .	3.6	27
47	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.	3.6	26
48	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
49	Spectral, Compositional, and Physical Properties of the Upper Murray Formation and Vera Rubin Ridge, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006290.	3.6	20
50	Orbital and Inâ€Situ Investigation of Periodic Bedrock Ridges in Glen Torridon, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	18
51	Bagnold Dunes Campaign Phase 2: Visible/Nearâ€Infrared Reflectance Spectroscopy of Longitudinal Ripple Sands. Geophysical Research Letters, 2018, 45, 9480-9487.	4.0	17
52	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
53	Merging Perspectives on Secondary Minerals on Mars: A Review of Ancient Water-Rock Interactions in Gale Crater Inferred from Orbital and In-Situ Observations. Minerals (Basel, Switzerland), 2021, 11, 986.	2.0	12
54	Diagenesis Revealed by Fineâ€Scale Features at Vera Rubin Ridge, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2021, 126, e2019JE006311.	3.6	7

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55	Early diagenesis at and below Vera Rubin ridge, Gale crater, Mars. Meteoritics and Planetary Science, 2021, 56, 1905-1932.	1.6	7
56	Manned sample return mission to phobos: A technology demonstration for human exploration of Mars. , 2014, , .		4
57	THINGS ARE NOT ALWAYS AS THEY SEEM: DETANGLING INTERSECTING PLANAR AND CURVI-PLANAR VEINS AND FRACTURES FROM PRIMARY BEDDING IN THE VERA RUBIN RIDGE MEMBER, MURRAY FORMATION, MARS. , 2018, , .		3
58	Log-Likelihood Method of Reducing Noise in CRISM Along-Track Oversampled Hyperspectral Images. , 2015, , .		3
59	Using VSWIR microimaging spectroscopy to explore the mineralogical diversity of HED meteorites. , 2016, , .		2
60	Characterizing low-temperature aqueous alteration of Mars-analog basalts from Mauna Kea at multiple scales. American Mineralogist, 2020, 105, 1306-1316.	1.9	2
61	Mission to the Trojan asteroids: Lessons learned during a JPL Planetary Science Summer School mission design exercise. Planetary and Space Science, 2013, 76, 68-82.	1.7	1
62	Curiosityâ€™s Traverse from The Kimberley to the Base of Mt. Sharp: An Orbital Data Perspective. , 2015, , .		0
63	Unraveling the History of Meridiani Planum, Mars: New Chemical Clues From the Rim of Endeavour Crater. Journal of Geophysical Research E: Planets, 2018, 123, 690-694.	3.6	0
64	Resolving Martian enigmas, discovering new ones: the case ofÂCuriosity and Gale crater. , 2021, , 1-10.		0