Pierre-Yves Meslin

List of Publications by Year
in descending order

69	7,808	61984 43	91884 69
papers	citations	h-index	g-index

73	73	73	3965
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	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	12.6	508
3	Mars methane detection and variability at Gale crater. Science, 2015, 347, 415-417.	12.6	373
4	The ChemCam Instrument Suite on the Mars Science Laboratory (MSL) Rover: Science Objectives and Mast Unit Description. Space Science Reviews, 2012, 170, 95-166.	8.1	372
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	Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072.	12.6	326
8	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.	12.6	323
9	Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505.	12.6	280
10	Pre-flight calibration and initial data processing for the ChemCam laser-induced breakdown spectroscopy instrument on the Mars Science Laboratory rover. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2013, 82, 1-27.	2.9	258
11	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.	12.6	246
12	In situ evidence for continental crust on early Mars. Nature Geoscience, 2015, 8, 605-609.	12.9	233
13	Background levels of methane in Marsâ€™ atmosphere show strong seasonal variations. Science, 2018, 360, 1093-1096.	12.6	224
14	Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670.	12.6	215
15	Calcium sulfate veins characterized by ChemCam/Curiosity at Gale crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 1991-2016.	3.6	214
16	The SuperCam Instrument Suite on the NASA Mars 2020 Rover: Body Unit and Combined System Tests. Space Science Reviews, 2021, 217, 4.	8.1	160
17	The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463.	12.6	134
18	ChemCam activities and discoveries during the nominal mission of the Mars Science Laboratory in Gale crater, Mars. Journal of Analytical Atomic Spectrometry, 2016, 31, 863-889.	3.0	134

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19	The SuperCam Instrument Suite on the Mars 2020 Rover: Science Objectives and Mast-Unit Description. Space Science Reviews, 2021, 217, 1.	8.1	131
20	First detection of fluorine on Mars: Implications for Gale Crater's geochemistry. Geophysical Research Letters, 2015, 42, 1020-1028.	4.0	107
21	Low Upper Limit to Methane Abundance on Mars. Science, 2013, 342, 355-357.	12.6	103
22	Hydration state of calcium sulfates in Gale crater, Mars: Identification of bassanite veins. Earth and Planetary Science Letters, 2016, 452, 197-205.	4.4	103
23	Gypsum, bassanite, and anhydrite at Gale crater, Mars. American Mineralogist, 2018, 103, 1011-1020.	1.9	96
24	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
25	Chemistry of diagenetic features analyzed by ChemCam at Pahrump Hills, Gale crater, Mars. Icarus, 2017, 281, 121-136.	2.5	90
26	Diagenetic silica enrichment and lateâ€stage groundwater activity in Gale crater, Mars. Geophysical Research Letters, 2017, 44, 4716-4724.	4.0	87
27	Trace element geochemistry (Li, Ba, Sr, and Rb) using Curiosity's ChemCam: Early results for Gale crater from Bradbury Landing Site to Rocknest. Journal of Geophysical Research E: Planets, 2014, 119, 255-285.	3.6	86
28	Mineralogy of Vera Rubin Ridge From the Mars Science Laboratory CheMin Instrument. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006306.	3.6	86
29	Constraints on abundance, composition, and nature of Xâ€ray amorphous components of soils and rocks at Gale crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 2640-2657.	3.6	73
30	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.	3.6	67
31	Magmatic complexity on early Mars as seen through a combination of orbital, in-situ and meteorite data. Lithos, 2016, 254-255, 36-52.	1.4	66
32	Quantification of water content by laser induced breakdown spectroscopy on Mars. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2017, 130, 82-100.	2.9	65
33	Hydrogen detection with ChemCam at Gale crater. Icarus, 2015, 249, 43-61.	2.5	58
34	Listening to laser sparks: a link between Laser-Induced Breakdown Spectroscopy, acoustic measurements and crater morphology. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2019, 153, 50-60.	2.9	57
35	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.	3.6	53
36	Mars Science Laboratory Observations of Chloride Salts in Gale Crater, Mars. Geophysical Research Letters, 2019, 46, 10754-10763.	4.0	52

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37	Chemical alteration of fine-grained sedimentary rocks at Gale crater. Icarus, 2019, 321, 619-631.	2.5	52
38	Chemical variations in Yellowknife Bay formation sedimentary rocks analyzed by ChemCam on board the Curiosity rover on Mars. Journal of Geophysical Research E: Planets, 2015, 120, 452-482.	3.6	51
39	Understanding the signature of rock coatings in laser-induced breakdown spectroscopy data. Icarus, 2015, 249, 62-73.	2.5	49
40	Chemistry and texture of the rocks at Rocknest, Gale Crater: Evidence for sedimentary origin and diagenetic alteration. Journal of Geophysical Research E: Planets, 2014, 119, 2109-2131.	3.6	48
41	Alkali trace elements in Gale crater, Mars, with ChemCam: Calibration update and geological implications. Journal of Geophysical Research E: Planets, 2017, 122, 650-679.	3.6	48
42	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.	3.6	46
43	Geochemistry of the Bagnold dune field as observed by ChemCam and comparison with other aeolian deposits at Gale Crater. Journal of Geophysical Research E: Planets, 2017, 122, 2144-2162.	3.6	46
44	SuperCam Calibration Targets: Design and Development. Space Science Reviews, 2020, 216, 138.	8.1	44
45	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
46	Martian Eolian Dust Probed by ChemCam. Geophysical Research Letters, 2018, 45, 10,968.	4.0	40
47	Post-landing major element quantification using SuperCam laser induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2022, 188, 106347.	2.9	40
48	In Situ Analysis of Opal in Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2018, 123, 1955-1972.	3.6	36
49	Roughness effects on the hydrogen signal in laser-induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2017, 137, 13-22.	2.9	34
50	Chemical variability in mineralized veins observed by ChemCam on the lower slopes of Mount Sharp in Gale crater, Mars. Icarus, 2018, 311, 69-86.	2.5	34
51	Characterization of Hydrogen in Basaltic Materials With Laserâ€Induced Breakdown Spectroscopy (<scp>LIBS</scp>) for Application to <scp>MSL</scp> ChemCam Data. Journal of Geophysical Research E: Planets, 2018, 123, 1996-2021.	3.6	32
52	The Methane Diurnal Variation and Microseepage Flux at Gale Crater, Mars as Constrained by the ExoMars Trace Gas Orbiter and Curiosity Observations. Geophysical Research Letters, 2019, 46, 9430-9438.	4.0	31
53	Analyses of Highâ€Iron Sedimentary Bedrock and Diagenetic Features Observed With ChemCam at Vera Rubin Ridge, Gale Crater, Mars: Calibration and Characterization. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006314.	3.6	30
54	Iron Mobility During Diagenesis at Vera Rubin Ridge, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006299.	3.6	30

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55	In situ recording of Mars soundscape. Nature, 2022, 605, 653-658.	27.8	30
56	Little variability of methane on Mars induced by adsorption in the regolith. Planetary and Space Science, 2011, 59, 247-258.	1.7	25
57	Recording laser-induced sparks on Mars with the SuperCam microphone. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2020, 174, 106000.	2.9	25
58	Methane seasonal cycle at Gale Crater on Mars consistent with regolith adsorption and diffusion. Nature Geoscience, 2019, 12, 321-325.	12.9	24
59	Copper enrichments in the Kimberley formation in Gale crater, Mars: Evidence for a Cu deposit at the source. Icarus, 2019, 321, 736-751.	2.5	23
60	Bedrock Geochemistry and Alteration History of the Clayâ€Bearing Glen Torridon Region of Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	17
61	Disambiguating the soils of Mars. Planetary and Space Science, 2020, 186, 104922.	1.7	16
62	Hydrogen Variability in the Murray Formation, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006289.	3.6	12
63	Experimental Wind Characterization with the SuperCam Microphone under a Simulated martian Atmosphere. Icarus, 2021, 354, 114060.	2.5	12
64	Laser-Induced Breakdown Spectroscopy (LIBS) characterization of granular soils: Implications for ChemCam analyses at Gale crater, Mars. Icarus, 2021, 365, 114481.	2.5	11
65	Homogeneity assessment of the SuperCam calibration targets onboard rover perseverance. Analytica Chimica Acta, 2022, 1209, 339837.	5.4	9
66	Effects of environmental factors on the monitoring of environmental radioactivity by airborne gamma-ray spectrometry. Journal of Environmental Radioactivity, 2021, 237, 106695.	1.7	8
67	Evidence of210Po on Martian dust at Meridiani Planum. Journal of Geophysical Research, 2006, 111, .	3.3	5
68	The Impact of Measurement Scale on the Univariate Statistics of K, Th, and U in the Earth Crust. Earth and Space Science, 2021, 8, e2021EA001786.	2.6	1
69	Cryogenic origin of fractionation between perchlorate and chloride under modern martian climate. Communications Earth & Environment, 2022, 3, .	6.8	1