Alberto G FairÃ©n

List of Publications by Year
in descending order

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119 papers	7,069 citations	76196 40 h-index	58464 82 g-index
127 all docs	127 docs citations	127 times ranked	4311 citing authors

#	Article	IF	Citations
1	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	6.0	508
2	Organic molecules in the Sheepbed Mudstone, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2015, 120, 495-514.	1.5	375
3	Habitability on Early Mars and the Search for Biosignatures with the ExoMars Rover. Astrobiology, 2017, 17, 471-510.	1.5	371
4	Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072.	6.0	326
5	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.	6.0	323
6	Mineralogy of an ancient lacustrine mudstone succession from the Murray formation, Gale crater, Mars. Earth and Planetary Science Letters, 2017, 471, 172-185.	1.8	247
7	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.	6.0	246
8	Redox stratification of an ancient lake in Gale crater, Mars. Science, 2017, 356, .	6.0	209
9	Ancient Aqueous Environments at Endeavour Crater, Mars. Science, 2014, 343, 1248097.	6.0	176
10	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
11	Inhibition of carbonate synthesis in acidic oceans on early Mars. Nature, 2004, 431, 423-426.	13.7	169
12	Episodic flood inundations of the northern plains of Mars. Icarus, 2003, 165, 53-67.	1.1	167
13	Extreme environments as Mars terrestrial analogs: The Rio Tinto case. Planetary and Space Science, 2007, 55, 370-381.	0.9	166
14	The Modern Near-Surface Martian Climate: A Review of In-situ Meteorological Data from Viking to Curiosity. Space Science Reviews, 2017, 212, 295-338.	3.7	153
15	A cold and wet Mars. Icarus, 2010, 208, 165-175.	1.1	143
16	Astrobiology through the Ages of Mars: The Study of Terrestrial Analogues to Understand the Habitability of Mars. Astrobiology, 2010, 10, 821-843.	1.5	141
17	Exploration of hydrothermal targets on Mars. Icarus, 2007, 189, 308-324.	1.1	140
18	Hygroscopic Salts and the Potential for Life on Mars. Astrobiology, 2010, 10, 617-628.	1.5	138

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19	Evidence for Hesperian impact-induced hydrothermalism on Mars. Icarus, 2010, 208, 667-683.	1.1	127
20	Stability against freezing of aqueous solutions on early Mars. Nature, 2009, 459, 401-404.	13.7	124
21	Tsunami waves extensively resurfaced the shorelines of an early Martian ocean. Scientific Reports, 2016, 6, 25106.	1.6	121
22	A Two-Tiered Approach to Assessing the Habitability of Exoplanets. Astrobiology, 2011, 11, 1041-1052.	1.5	117
23	GRS evidence and the possibility of paleooceans on Mars. Planetary and Space Science, 2009, 57, 664-684.	0.9	107
24	Surface clay formation during short-term warmer and wetter conditions on a largely cold ancient Mars. Nature Astronomy, 2018, 2, 206-213.	4.2	105
25	The Icebreaker Life Mission to Mars: A Search for Biomolecular Evidence for Life. Astrobiology, 2013, 13, 334-353.	1.5	104
26	A global Mars dust composition refined by the Alphaâ€Particle Xâ€ray Spectrometer in Gale Crater. Geophysical Research Letters, 2016, 43, 67-75.	1.5	95
27	Recent geological and hydrological activity on Mars: The Tharsis/Elysium corridor. Planetary and Space Science, 2008, 56, 985-1013.	0.9	92
28	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
29	Cold glacial oceans would have inhibited phyllosilicate sedimentation on early Mars. Nature Geoscience, 2011, 4, 667-670.	5.4	75
30	Noachian and more recent phyllosilicates in impact craters on Mars. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 12095-12100.	3.3	73
31	Searching for Life on Mars Before It Is Too Late. Astrobiology, 2017, 17, 962-970.	1.5	61
32	Evidence for Hesperian glaciation along the Martian dichotomy boundary. Geology, 2013, 41, 755-758.	2.0	59
33	Low Hesperian P _{CO2} constrained from in situ mineralogical analysis at Gale Crater, Mars. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 2166-2170.	3.3	59
34	The Mars Environmental Dynamics Analyzer, MEDA. A Suite of Environmental Sensors for the Mars 2020 Mission. Space Science Reviews, 2021, 217, 48.	3.7	57
35	Unprecedented rains decimate surface microbial communities in the hyperarid core of the Atacama Desert. Scientific Reports, 2018, 8, 16706.	1.6	54
36	Potassiumâ€rich sandstones within the Gale impact crater, Mars: The APXS perspective. Journal of Geophysical Research E: Planets, 2016, 121, 1981-2003.	1.5	51

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37	Fluids during diagenesis and sulfate vein formation in sediments at Gale crater, Mars. Meteoritics and Planetary Science, 2016, 51, 2175-2202.	0.7	50
38	Scenarios for the evolution of life on Mars. Journal of Geophysical Research, 2005, 110, .	3.3	48
39	Assessing the Possibility of Biological Complexity on Other Worlds, with an Estimate of the Occurrence of Complex Life in the Milky Way Galaxy. Challenges, 2014, 5, 159-174.	0.9	48
40	Quantifying Fenton reaction pathways driven by self-generated H2O2 on pyrite surfaces. Scientific Reports, 2017, 7, 43703.	1.6	46
41	Control of impact crater fracture systems on subsurface hydrology, ground subsidence, and collapse, Mars. Journal of Geophysical Research, 2005, 110, .	3.3	44
42	Marineâ€target craters on Mars? An assessment study. Meteoritics and Planetary Science, 2004, 39, 333-346.	0.7	39
43	Possible ancient giant basin and related water enrichment in the Arabia Terra province, Mars. Icarus, 2007, 190, 74-92.	1.1	39
44	Light and variable 37 Cl/ 35 Cl ratios in rocks from Gale Crater, Mars: Possible signature of perchlorate. Earth and Planetary Science Letters, 2016, 438, 14-24.	1.8	39
45	The case for life on Mars. International Journal of Astrobiology, 2008, 7, 117-141.	0.9	37
46	Evidence for Amazonian acidic liquid water on Marsâ€"A reinterpretation of MER mission results. Planetary and Space Science, 2009, 57, 276-287.	0.9	36
47	Aeolian transport of viable microbial life across the Atacama Desert, Chile: Implications for Mars. Scientific Reports, 2019, 9, 11024.	1.6	36
48	A cold hydrological system in Gale crater, Mars. Planetary and Space Science, 2014, 93-94, 101-118.	0.9	34
49	The Biological Oxidant and Life Detection (BOLD) mission: A proposal for a mission to Mars. Planetary and Space Science, 2012, 67, 57-69.	0.9	32
50	New evidence for a magmatic influence on the origin of Valles Marineris, Mars. Journal of Volcanology and Geothermal Research, 2009, 185, 12-27.	0.8	31
51	New Priorities in the Robotic Exploration of Mars: The Case for In Situ Search for Extant Life. Astrobiology, 2010, 10, 705-710.	1.5	31
52	Martian outflow channels: How did their source aquifers form and why did they drain so rapidly?. Scientific Reports, 2015, 5, 13404.	1.6	29
53	Drastic environmental change and its effects on a planetary biosphere. Icarus, 2013, 225, 775-780.	1.1	28
54	Weathering rinds on clasts: Examples from Earth and Mars as short and long term recorders of paleoenvironment. Planetary and Space Science, 2012, 73, 243-253.	0.9	27

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55	Did the martian outflow channels mostly form during the Amazonian Period?. Icarus, 2015, 257, 387-395.	1.1	27
56	Biomarker Profiling of Microbial Mats in the Geothermal Band of Cerro Caliente, Deception Island (Antarctica): Life at the Edge of Heat and Cold. Astrobiology, 2019, 19, 1490-1504.	1.5	27
57	The overprotection of Mars. Nature Geoscience, 2013, 6, 510-511.	5.4	25
58	Geological and hydrological histories of the Argyre province, Mars. Icarus, 2015, 253, 66-98.	1.1	24
59	Extraterrestrial hydrogeology. Hydrogeology Journal, 2005, 13, 51-68.	0.9	23
60	Evidence for Middle Amazonian catastrophic flooding and glaciation on Mars. Icarus, 2014, 242, 202-210.	1.1	22
61	Microbiology and Nitrogen Cycle in the Benthic Sediments of a Glacial Oligotrophic Deep Andean Lake as Analog of Ancient Martian Lake-Beds. Frontiers in Microbiology, 2019, 10, 929.	1.5	22
62	A large sedimentary basin in the Terra Sirenum region of the southern highlands of Mars. Icarus, 2011, 212, 579-589.	1.1	21
63	Inhabited subsurface wet smectites in the hyperarid core of the Atacama Desert as an analog for the search for life on Mars. Scientific Reports, 2020, 10, 19183.	1.6	21
64	The Atacama Desert in Northern Chile as an Analog Model of Mars. Frontiers in Astronomy and Space Sciences, 2022, 8, .	1.1	21
65	Reduced albedo on early Mars does not solve the climate paradox under a faint young Sun. Astronomy and Astrophysics, 2012, 540, A13.	2.1	20
66	Extraformational sediment recycling on Mars. , 2020, 16, 1508-1537.		20
67	Infiltration of Martian outflow channel floodwaters into lowland cavernous systems. Geophysical Research Letters, 2012, 39, .	1.5	19
68	A roadmap for planetary caves science and exploration. Nature Astronomy, 2021, 5, 524-525.	4.2	19
69	Groundwater flow induced collapse and flooding in Noctis Labyrinthus, Mars. Planetary and Space Science, 2016, 124, 1-14.	0.9	18
70	Fluidized-sediment pipes in Gale crater, Mars, and possible Earth analogs. Geology, 2017, 45, 7-10.	2.0	18
71	Meteorites at Meridiani Planum provide evidence for significant amounts of surface and nearâ€surface water on early Mars. Meteoritics and Planetary Science, 2011, 46, 1832-1841.	0.7	17
72	Secondary chaotic terrain formation in the higher outflow channels of southern circum-Chryse, Mars. Icarus, 2011, 213, 150-194.	1.1	17

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73	Characterization of the acidic cold seep emplaced jarositic Golden Deposit, NWT, Canada, as an analogue for jarosite deposition on Mars. Icarus, 2013, 224, 382-398.	1.1	16
74	Locally Targeted Ecosynthesis: A Proactive in situ Search for Extant Life on Other Worlds. Astrobiology, 2013, 13, 674-678.	1.5	16
75	The Complex Molecules Detector (CMOLD): A Fluidic-Based Instrument Suite to Search for (Bio)chemical Complexity on Mars and Icy Moons. Astrobiology, 2020, 20, 1076-1096.	1.5	16
76	Groundwater influence on the aeolian sequence stratigraphy of the Mechertateâ€“Chritaâ€“Sidi El Hani system, Tunisian Sahel: Analogies to the wetâ€“dry aeolian sequence stratigraphy at Meridiani Planum, Terby crater, and Gale crater, Mars. Planetary and Space Science, 2014, 95, 56-78.	0.9	15
77	Origin and significance of decameter-scale polygons in the lower Peace Vallis fan of Gale crater, Mars. Icarus, 2016, 277, 56-72.	1.1	15
78	Constraining the preservation of organic compounds in Mars analog nontronites after exposure to acid and alkaline fluids. Scientific Reports, 2020, 10, 15097.	1.6	15
79	Tracking the weathering of basalts on M ars using lithium isotope fractionation models. Geochemistry, Geophysics, Geosystems, 2015, 16, 1172-1197.	1.0	12
80	Centimeter to decimeter hollow concretions and voids in Gale Crater sediments, Mars. Icarus, 2017, 289, 144-156.	1.1	12
81	Icy Mars lakes warmed by methane. Nature Geoscience, 2017, 10, 717-718.	5.4	12
82	Planetary Protection and the astrobiological exploration of Mars: Proactive steps in moving forward. Advances in Space Research, 2019, 63, 1491-1497.	1.2	11
83	Origin and composition of three heterolithic boulder- and cobble-bearing deposits overlying the Murray and Stimson formations, Gale Crater, Mars. Icarus, 2020, 350, 113897.	1.1	11
84	Long-lasting habitable periods in Gale crater constrained by glauconitic clays. Nature Astronomy, 2021, 5, 936-942.	4.2	11
85	Models of Formation and Activity of Spring Mounds in the Mechertate-Chrita-Sidi El Hani System, Eastern Tunisia: Implications for the Habitability of Mars. Life, 2014, 4, 386-432.	1.1	10
86	Mineralogy, chemistry and biological contingents of an early-middle Miocene Antarctic paleosol and its relevance as a Martian analogue. Planetary and Space Science, 2014, 104, 253-269.	0.9	8
87	Long-lived volcanism within Argyre basin, Mars. Icarus, 2017, 293, 8-26.	1.1	8
88	Is Searching for Martian Life a Priority for the Mars Community?. Astrobiology, 2018, 18, 101-107.	1.5	8
89	Fundamental Science and Engineering Questions in Planetary Cave Exploration. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	8
90	A new hypothesis for the origin and redistribution of sulfates in the equatorial region of western Mars. Geophysical Research Letters, 2008, 35, .	1.5	7

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91	Glacial paleoenvironments on Mars revealed by the paucity of hydrated silicates in the Noachian crust of the Northern Lowlands. Planetary and Space Science, 2012, 70, 126-133.	0.9	6
92	New insights into the Late Amazonian zonal shrinkage of the martian south polar plateau. Icarus, 2015, 248, 407-411.	1.1	6
93	Deposits from giant floods in Gale crater and their implications for the climate of early Mars. Scientific Reports, 2020, 10, 19099.	1.6	6
94	Mineral paragenesis on Mars: The roles of reactive surface area and diffusion. Journal of Geophysical Research E: Planets, 2017, 122, 1855-1879.	1.5	5
95	Crystalline water in gypsum is unavailable for cyanobacteria in laboratory experiments and in natural desert endolithic habitats. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 27786-27787.	3.3	5
96	Geomicrobiological Heterogeneity of Lithic Habitats in the Extreme Environment of Antarctic Nunataks: A Potential Early Mars Analog. Frontiers in Microbiology, 2021, 12, 670982.	1.5	5
97	Seas under ice: Stability of liquid-water oceans within icy worlds. Earth, Moon and Planets, 2006, 97, 79-90.	0.3	4
98	The Argyre Region as a Prime Target forin situAstrobiological Exploration of Mars. Astrobiology, 2016, 16, 143-158.	1.5	4
99	Organic chemistry on a cool and wet young Mars. Nature Astronomy, 2020, 4, 446-447.	4.2	4
100	Deep Trek: Science of Subsurface Habitability & Life on Mars. , 2021, 53, .		3
101	Salty Environments: The importance of evaporites and brine environments as habitats and preservers of biosignatures. , 2021, 53, .		3
102	Active ground patterns near Mars' equator in the Glen Torridon region of Gale Crater. Journal of Geophysical Research E: Planets, 0, , .	1.5	3
103	The Biological Oxidant and Life Detection (BOLD) mission: an outline for a new mission to Mars. Proceedings of SPIE, 2007, , .	0.8	2
104	Can Halophilic and Psychrophilic Microorganisms Modify the Freezing/Melting Curve of Cold Salty Solutions? Implications for Mars Habitability. Astrobiology, 2020, 20, 1067-1075.	1.5	2
105	Evaluating the Microbial Habitability of Rogue Planets and Proposing Speculative Scenarios on How They Might Act as Vectors for Panspermia. Life, 2021, 11, 833.	1.1	2
106	Fluvial Depositional Systems of the African Humid Period: An Analog for an Early, Wet Mars in the Eastern Sahara. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	2
107	A Test in a High Altitude Lake of a Multi-Parametric Rapid Methodology for Assessing Life in Liquid Environments on Planetary Bodies: A Potential New Freshwater Polychaete Tubeworm Community. Frontiers in Environmental Science, 2019, 7, .	1.5	1
108	Geomorphology of the southwest Sinus Sabaeus region: evidence for an ancient hydrological cycle on Mars. Journal of Maps, 2021, 17, 512-518.	1.0	1

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109	MINERALOGY OF MUDSTONE AT GALE CRATER, MARS: EVIDENCE FOR DYNAMIC LACUSTRINE ENVIRONMENTS. , 2016, , .		1
110	THE LAST RECORDED DELTAIC DEPOSITION IN GALE CRATER BEFORE MARS WENT COLD: EVIDENCE FROM THE RUGGED TERRAIN UNIT IN THE CURIOSITY ROVER'S LANDING ELLIPSE. , 2017, , .		1
111	Interiors and Surfaces of Terrestrial Planets and Major Satellites. , 2017, , 1-25.		0
112	Deep Trek: Mission Concepts for Exploring Subsurface Habitability & Life on Mars â€" A Window into Subsurface Life in the Solar System. , 2021, 53, .		0
113	LONG-LIVED DEEP LAKES IN EARLY MARS: SEDIMENTOLOGICAL EVIDENCE FROM THE CURIOSITY ROVER AT GALE CRATER. , 2016, , .		0
114	DEPOSITIONAL ENVIRONMENTS OF THE MURRAY FORMATION AT THE PAHRUMP HILLS LOCALITY, GALE CRATER, MARS: SEDIMENTATION ON A LAKE-FLOOR FAN DRIVEN BY CLIMATIC-RELATED LAKE-LEVEL FLUCTUATIONS. , 2017, , .		0
115	SEDIMENTOLOGICAL FRAMEWORK, SEQUENCE STRATIGRAPHY, AND RELATIVE DATING OF GEOLOGICAL EVENTS IN THE LANDING ELLIPSE OF THE CURIOSITY ROVER, GALE CRATER, MARS. , 2017, , .		0
116	A MAGNIFICENT OUTCROP IN THE KIMBERLEY REGION OF GALE CRATER, MARS. , 2017, , .		0
117	FLOOD-DEPOSITED RHYTHMITES IN GALE CRATER, MARS. , 2019, , .		0
118	SPECTACULAR OUTCROPS OF THE CLAY-BEARING UNIT, GALE CRATER, MARS. , 2019, , .		0
119	RAPID INUNDATION OF GALE CRATER, MARS. , 2019, , .		0