# 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 | The Atacama Desert in Northern Chile as an Analog Model of Mars. Frontiers in Astronomy and Space Sciences, 2022, 8, . | 1.1 | 21 |
| 2 | 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 |
| 3 | Fundamental Science and Engineering Questions in Planetary Cave Exploration. Journal of Geophysical Research E: Planets, 2022, 127, . | 1.5 | 8 |
| 4 | Deep Trek: Science of Subsurface Habitability & Life on Mars. , 2021, 53, . | | 3 |
| 5 | Salty Environments: The importance of evaporites and brine environments as habitats and preservers of biosignatures. , 2021, 53, . | | 3 |
| 6 | Deep Trek: Mission Concepts for Exploring Subsurface Habitability & Life on Mars â€" A Window into Subsurface Life in the Solar System. , 2021, 53, . | | 0 |
| 7 | 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 |
| 8 | A roadmap for planetary caves science and exploration. Nature Astronomy, 2021, 5, 524-525. | 4.2 | 19 |
| 9 | Long-lasting habitable periods in Gale crater constrained by glauconitic clays. Nature Astronomy, 2021, 5, 936-942. | 4.2 | 11 |
| 10 | 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 |
| 11 | 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 |
| 12 | 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 |
| 13 | Extraformational sediment recycling on Mars. , 2020, 16, 1508-1537. | | 20 |
| 14 | 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 |
| 15 | Deposits from giant floods in Gale crater and their implications for the climate of early Mars. Scientific Reports, 2020, 10, 19099. | 1.6 | 6 |
| 16 | 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 |
| 17 | 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 |
| 18 | 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 |

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|---|---|---|---|
| 19 | 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 |
| 20 | Organic chemistry on a cool and wet young Mars. Nature Astronomy, 2020, 4, 446-447. | 4.2 | 4 |
| 21 | 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 |
| 22 | 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 |
| 23 | Aeolian transport of viable microbial life across the Atacama Desert, Chile: Implications for Mars. Scientific Reports, 2019, 9, 11024. | 1.6 | 36 |
| 24 | 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 |
| 25 | 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 |
| 26 | Planetary Protection and the astrobiological exploration of Mars: Proactive steps in moving forward. Advances in Space Research, 2019, 63, 1491-1497. | 1.2 | 11 |
| 27 | FLOOD-DEPOSITED RHYTHMITES IN GALE CRATER, MARS. , 2019, , . | | 0 |
| 28 | SPECTACULAR OUTCROPS OF THE CLAY-BEARING UNIT, GALE CRATER, MARS. , 2019, , . | | 0 |
| 29 | RAPID INUNDATION OF GALE CRATER, MARS. , 2019, , . | | 0 |
| 30 | 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 |
| 31 | Is Searching for Martian Life a Priority for the Mars Community?. Astrobiology, 2018, 18, 101-107. | 1.5 | 8 |
| 32 | Unprecedented rains decimate surface microbial communities in the hyperarid core of the Atacama Desert. Scientific Reports, 2018, 8, 16706. | 1.6 | 54 |
| 33 | Low Hesperian P <sub>CO2</sub> 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 | Long-lived volcanism within Argyre basin, Mars. Icarus, 2017, 293, 8-26. | 1.1 | 8 |
| 35 | 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 |
| 36 | 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 |

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|---|---|---|---|
| 37 | Redox stratification of an ancient lake in Gale crater, Mars. Science, 2017, 356, . | 6.0 | 209 |
| 38 | Centimeter to decimeter hollow concretions and voids in Gale Crater sediments, Mars. Icarus, 2017, 289, 144-156. | 1.1 | 12 |
| 39 | Quantifying Fenton reaction pathways driven by self-generated H2O2 on pyrite surfaces. Scientific Reports, 2017, 7, 43703. | 1.6 | 46 |
| 40 | Icy Mars lakes warmed by methane. Nature Geoscience, 2017, 10, 717-718. | 5.4 | 12 |
| 41 | Searching for Life on Mars Before It Is Too Late. Astrobiology, 2017, 17, 962-970. | 1.5 | 61 |
| 42 | 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 |
| 43 | Habitability on Early Mars and the Search for Biosignatures with the ExoMars Rover. Astrobiology, 2017, 17, 471-510. | 1.5 | 371 |
| 44 | Interiors and Surfaces of Terrestrial Planets and Major Satellites. , 2017, , 1-25. | | 0 |
| 45 | Fluidized-sediment pipes in Gale crater, Mars, and possible Earth analogs. Geology, 2017, 45, 7-10. | 2.0 | 18 |
| 46 | 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 |
| 47 | 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 |
| 48 | SEDIMENTOLOGICAL FRAMEWORK, SEQUENCE STRATIGRAPHY, AND RELATIVE DATING OF GEOLOGICAL EVENTS IN THE LANDING ELLIPSE OF THE CURIOSITY ROVER, GALE CRATER, MARS. , 2017, , . | | 0 |
| 49 | A MAGNIFICENT OUTCROP IN THE KIMBERLEY REGION OF GALE CRATER, MARS. , 2017, , . | | 0 |
| 50 | 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 |
| 51 | 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 |
| 52 | Fluids during diagenesis and sulfate vein formation in sediments at Gale crater, Mars. Meteoritics and Planetary Science, 2016, 51, 2175-2202. | 0.7 | 50 |
| 53 | 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 |
| 54 | Tsunami waves extensively resurfaced the shorelines of an early Martian ocean. Scientific Reports, 2016, 6, 25106. | 1.6 | 121 |

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|---|---|---|---|
| 55 | The Argyre Region as a Prime Target forin situAstrobiological Exploration of Mars. Astrobiology, 2016, 16, 143-158. | 1.5 | 4 |
| 56 | 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 |
| 57 | Groundwater flow induced collapse and flooding in Noctis Labyrinthus, Mars. Planetary and Space Science, 2016, 124, 1-14. | 0.9 | 18 |
| 58 | MINERALOGY OF MUDSTONE AT GALE CRATER, MARS: EVIDENCE FOR DYNAMIC LACUSTRINE ENVIRONMENTS. , 2016, , . | | 1 |
| 59 | LONG-LIVED DEEP LAKES IN EARLY MARS: SEDIMENTOLOGICAL EVIDENCE FROM THE CURIOSITY ROVER AT GALE CRATER. , 2016, , . | | 0 |
| 60 | Organic molecules in the Sheepbed Mudstone, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2015, 120, 495-514. | 1.5 | 375 |
| 61 | Martian outflow channels: How did their source aquifers form and why did they drain so rapidly?. Scientific Reports, 2015, 5, 13404. | 1.6 | 29 |
| 62 | Tracking the weathering of basalts on M ars using lithium isotope fractionation models. Geochemistry, Geophysics, Geosystems, 2015, 16, 1172-1197. | 1.0 | 12 |
| 63 | Did the martian outflow channels mostly form during the Amazonian Period?. Icarus, 2015, 257, 387-395. | 1.1 | 27 |
| 64 | Geological and hydrological histories of the Argyre province, Mars. Icarus, 2015, 253, 66-98. | 1.1 | 24 |
| 65 | 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 |
| 66 | New insights into the Late Amazonian zonal shrinkage of the martian south polar plateau. Icarus, 2015, 248, 407-411. | 1.1 | 6 |
| 67 | 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 |
| 68 | 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 |
| 69 | 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 |
| 70 | Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267. | 6.0 | 323 |
| 71 | Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480. | 6.0 | 508 |
| 72 | Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734. | 6.0 | 246 |

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|---|---|---|---|
| 73 | Ancient Aqueous Environments at Endeavour Crater, Mars. Science, 2014, 343, 1248097. | 6.0 | 176 |
| 74 | Evidence for Middle Amazonian catastrophic flooding and glaciation on Mars. Icarus, 2014, 242, 202-210. | 1.1 | 22 |
| 75 | 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 |
| 76 | A cold hydrological system in Gale crater, Mars. Planetary and Space Science, 2014, 93-94, 101-118. | 0.9 | 34 |
| 77 | 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 |
| 78 | 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 |
| 79 | Drastic environmental change and its effects on a planetary biosphere. Icarus, 2013, 225, 775-780. | 1.1 | 28 |
| 80 | The Icebreaker Life Mission to Mars: A Search for Biomolecular Evidence for Life. Astrobiology, 2013, 13, 334-353. | 1.5 | 104 |
| 81 | The overprotection of Mars. Nature Geoscience, 2013, 6, 510-511. | 5.4 | 25 |
| 82 | Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072. | 6.0 | 326 |
| 83 | Evidence for Hesperian glaciation along the Martian dichotomy boundary. Geology, 2013, 41, 755-758. | 2.0 | 59 |
| 84 | Locally Targeted Ecosynthesis: A Proactive in situ Search for Extant Life on Other Worlds. Astrobiology, 2013, 13, 674-678. | 1.5 | 16 |
| 85 | Infiltration of Martian outflow channel floodwaters into lowland cavernous systems. Geophysical Research Letters, 2012, 39, . | 1.5 | 19 |
| 86 | 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 |
| 87 | 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 |
| 88 | 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 |
| 89 | 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 |
| 90 | 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 |

| # | Article | IF | Citations |
|---|---|---|---|
| 91 | A Two-Tiered Approach to Assessing the Habitability of Exoplanets. Astrobiology, 2011, 11, 1041-1052. | 1.5 | 117 |
| 92 | A large sedimentary basin in the Terra Sirenum region of the southern highlands of Mars. Icarus, 2011, 212, 579-589. | 1.1 | 21 |
| 93 | Secondary chaotic terrain formation in the higher outflow channels of southern circum-Chryse, Mars. Icarus, 2011, 213, 150-194. | 1.1 | 17 |
| 94 | Cold glacial oceans would have inhibited phyllosilicate sedimentation on early Mars. Nature Geoscience, 2011, 4, 667-670. | 5.4 | 75 |
| 95 | Evidence for Hesperian impact-induced hydrothermalism on Mars. Icarus, 2010, 208, 667-683. | 1.1 | 127 |
| 96 | 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 |
| 97 | Hygroscopic Salts and the Potential for Life on Mars. Astrobiology, 2010, 10, 617-628. | 1.5 | 138 |
| 98 | 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 |
| 99 | A cold and wet Mars. Icarus, 2010, 208, 165-175. | 1.1 | 143 |
| 100 | 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 |
| 101 | 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 |
| 102 | Stability against freezing of aqueous solutions on early Mars. Nature, 2009, 459, 401-404. | 13.7 | 124 |
| 103 | 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 |
| 104 | GRS evidence and the possibility of paleooceans on Mars. Planetary and Space Science, 2009, 57, 664-684. | 0.9 | 107 |
| 105 | Recent geological and hydrological activity on Mars: The Tharsis/Elysium corridor. Planetary and Space Science, 2008, 56, 985-1013. | 0.9 | 92 |
| 106 | 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 |
| 107 | The case for life on Mars. International Journal of Astrobiology, 2008, 7, 117-141. | 0.9 | 37 |
| 108 | The Biological Oxidant and Life Detection (BOLD) mission: an outline for a new mission to Mars. Proceedings of SPIE, 2007, , . | 0.8 | 2 |

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|---|---|---|---|
| 109 | Exploration of hydrothermal targets on Mars. Icarus, 2007, 189, 308-324. | 1.1 | 140 |
| 110 | Extreme environments as Mars terrestrial analogs: The Rio Tinto case. Planetary and Space Science, 2007, 55, 370-381. | 0.9 | 166 |
| 111 | Possible ancient giant basin and related water enrichment in the Arabia Terra province, Mars. Icarus, 2007, 190, 74-92. | 1.1 | 39 |
| 112 | Seas under ice: Stability of liquid-water oceans within icy worlds. Earth, Moon and Planets, 2006, 97, 79-90. | 0.3 | 4 |
| 113 | Extraterrestrial hydrogeology. Hydrogeology Journal, 2005, 13, 51-68. | 0.9 | 23 |
| 114 | Control of impact crater fracture systems on subsurface hydrology, ground subsidence, and collapse, Mars. Journal of Geophysical Research, 2005, 110, . | 3.3 | 44 |
| 115 | Scenarios for the evolution of life on Mars. Journal of Geophysical Research, 2005, 110, . | 3.3 | 48 |
| 116 | Inhibition of carbonate synthesis in acidic oceans on early Mars. Nature, 2004, 431, 423-426. | 13.7 | 169 |
| 117 | Marineâ€target craters on Mars? An assessment study. Meteoritics and Planetary Science, 2004, 39, 333-346. | 0.7 | 39 |
| 118 | Episodic flood inundations of the northern plains of Mars. Icarus, 2003, 165, 53-67. | 1.1 | 167 |
| 119 | Active ground patterns near Mars' equator in the Glen Torridon region of Gale Crater. Journal of Geophysical Research E: Planets, 0, , . | 1.5 | 3 |