Alfonso F Davila

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/2863366/publications.pdf

Version: 2024-02-01

87 papers	4,302 citations	81900 39 h-index	118850 62 g-index

90 all docs	90 docs citations	90 times ranked	4091 citing authors

#	Article	IF	Citations
1	Colonization patterns of soil microbial communities in the Atacama Desert. Microbiome, 2013, 1, 28.	11.1	215
2	Transitory microbial habitat in the hyperarid Atacama Desert. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 2670-2675.	7.1	172
3	Facilitation of endolithic microbial survival in the hyperarid core of the Atacama Desert by mineral deliquescence. Journal of Geophysical Research, 2008, 113, .	3.3	144
4	Nearing the cold-arid limits of microbial life in permafrost of an upper dry valley, Antarctica. ISME Journal, 2016, 10, 1613-1624.	9.8	144
5	Astrobiology through the Ages of Mars: The Study of Terrestrial Analogues to Understand the Habitability of Mars. Astrobiology, 2010, 10, 821-843.	3.0	141
6	Hygroscopic Salts and the Potential for Life on Mars. Astrobiology, 2010, 10, 617-628.	3.0	138
7	Rock magnetic properties of uncultured magnetotactic bacteria. Earth and Planetary Science Letters, 2005, 237, 311-325.	4.4	131
8	Evidence for Hesperian impact-induced hydrothermalism on Mars. Icarus, 2010, 208, 667-683.	2.5	127
9	Stability against freezing of aqueous solutions on early Mars. Nature, 2009, 459, 401-404.	27.8	124
10	A Two-Tiered Approach to Assessing the Habitability of Exoplanets. Astrobiology, 2011, 11, 1041-1052.	3.0	117
11	Adaptation strategies of endolithic chlorophototrophs to survive the hyperarid and extreme solar radiation environment of the Atacama Desert. Frontiers in Microbiology, 2015, 6, 934.	3.5	108
12	Functional interactions of archaea, bacteria and viruses in a hypersaline endolithic community. Environmental Microbiology, 2016, 18, 2064-2077.	3.8	107
13	The Icebreaker Life Mission to Mars: A Search for Biomolecular Evidence for Life. Astrobiology, 2013, 13, 334-353.	3.0	104
14	Magnetic signature of daily sampled urban atmospheric particles. Atmospheric Environment, 2003, 37, 4163-4169.	4.1	99
15	The detection of bacterial magnetite in recent sediments of Lake Chiemsee (southern Germany). Earth and Planetary Science Letters, 2005, 232, 109-123.	4.4	97
16	Perchlorate on Mars: a chemical hazard and a resource for humans. International Journal of Astrobiology, 2013, 12, 321-325.	1.6	97
17	Global patterns and environmental controls of perchlorate and nitrate co-occurrence in arid and semi-arid environments. Geochimica Et Cosmochimica Acta, 2015, 164, 502-522.	3.9	90
18	Comparative analysis of the microbial communities inhabiting halite evaporites of the Atacama Desert. International Microbiology, 2010, 13, 79-89.	2.4	82

#	Article	IF	Citations
19	Comparative activity and functional ecology of permafrost soils and lithic niches in a hyperâ€arid polar desert. Environmental Microbiology, 2017, 19, 443-458.	3.8	77
20	Cold glacial oceans would have inhibited phyllosilicate sedimentation on early Mars. Nature Geoscience, 2011, 4, 667-670.	12.9	75
21	The Enceladus Orbilander Mission Concept: Balancing Return and Resources in the Search for Life. Planetary Science Journal, 2021, 2, 77.	3.6	74
22	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.	7.1	73
23	Comparison of two bioinformatics tools used to characterize the microbial diversity and predictive functional attributes of microbial mats from Lake Obersee, Antarctica. Journal of Microbiological Methods, 2017, 140, 15-22.	1.6	70
24	Ignimbrite as a substrate for endolithic life in the hyper-arid Atacama Desert: Implications for the search for life on Mars. Icarus, 2013, 224, 334-346.	2.5	66
25	Salt deliquescence drives photosynthesis in the hyperarid <scp>A</scp>tacama <scp>D</scp>esert. Environmental Microbiology Reports, 2013, 5, 583-587.	2.4	63
26	The Last Possible Outposts for Life on Mars. Astrobiology, 2016, 16, 159-168.	3.0	63
27	Halophilic microbial community compositional shift after a rare rainfall in the Atacama Desert. ISME Journal, 2019, 13, 2737-2749.	9.8	62
28	Evidence for Hesperian glaciation along the Martian dichotomy boundary. Geology, 2013, 41, 755-758.	4.4	59
29	Uninhabited habitats on Mars. Icarus, 2012, 217, 184-193.	2.5	58
30	Magnetic Pulse Affects a Putative Magnetoreceptor Mechanism. Biophysical Journal, 2005, 89, 56-63.	0.5	56
31	Mapping the Sources of Urban Dust in a Coastal Environment by Measuring Magnetic Parameters of Platanus hispanica Leaves. Environmental Science & Technology, 2006, 40, 3922-3928.	10.0	53
32	In situ metabolism in halite endolithic microbial communities of the hyperarid Atacama Desert. Frontiers in Microbiology, 2015, 6, 1035.	3.5	50
33	Radiocarbon Evidence of Active Endolithic Microbial Communities in the Hyperarid Core of the Atacama Desert. Astrobiology, 2013, 13, 607-616.	3.0	49
34	Chance and Necessity in Biochemistry: Implications for the Search for Extraterrestrial Biomarkers in Earth-like Environments. Astrobiology, 2014, 14, 534-540.	3.0	49
35	Magnetic Optimization in a Multicellular Magnetotactic Organism. Biophysical Journal, 2007, 92, 661-670.	0.5	47
36	Subsurface formation of oxidants on Mars and implications for the preservation of organic biosignatures. Earth and Planetary Science Letters, 2008, 272, 456-463.	4.4	45

#	Article	IF	Citations
37	Excess ground ice of condensationâ€“diffusion origin in University Valley, Dry Valleys of Antarctica: Evidence from isotope geochemistry and numerical modeling. Geochimica Et Cosmochimica Acta, 2013, 120, 280-297.	3.9	45
38	Xeropreservation of functionalized lipid biomarkers in hyperarid soils in the Atacama Desert. Organic Geochemistry, 2017, 103, 97-104.	1.8	44
39	Widespread occurrence of (per)chlorate in the Solar System. Earth and Planetary Science Letters, 2015, 430, 470-476.	4.4	42
40	Deposition, accumulation, and alteration of Clâ^', NO3â^', ClO4â^' and ClO3â^' salts in a hyper-arid polar environment: Mass balance and isotopic constraints. Geochimica Et Cosmochimica Acta, 2016, 182, 197-215.	3.9	42
41	Abiotic and Biotic Formation of Amino Acids in the Enceladus Ocean. Astrobiology, 2017, 17, 862-875.	3.0	40
42	The case for life on Mars. International Journal of Astrobiology, 2008, 7, 117-141.	1.6	37
43	Evidence for Amazonian acidic liquid water on Marsâ€"A reinterpretation of MER mission results. Planetary and Space Science, 2009, 57, 276-287.	1.7	36
44	A cold hydrological system in Gale crater, Mars. Planetary and Space Science, 2014, 93-94, 101-118.	1.7	34
45	The Biological Oxidant and Life Detection (BOLD) mission: A proposal for a mission to Mars. Planetary and Space Science, 2012, 67, 57-69.	1.7	32
46	Solar Radiation and Air and Ground Temperature Relations in the Cold and Hyperâ€Arid Quartermain Mountains, McMurdo Dry Valleys of Antarctica. Permafrost and Periglacial Processes, 2016, 27, 163-176.	3.4	32
47	Returning Samples From Enceladus for Life Detection. Frontiers in Astronomy and Space Sciences, 2020, 7, .	2.8	32
48	New evidence for a magmatic influence on the origin of Valles Marineris, Mars. Journal of Volcanology and Geothermal Research, 2009, 185, 12-27.	2.1	31
49	New Priorities in the Robotic Exploration of Mars: The Case for In Situ Search for Extant Life. Astrobiology, 2010, 10, 705-710.	3.0	31
50	Perchlorate and chlorate biogeochemistry in ice-covered lakes of the McMurdo Dry Valleys, Antarctica. Geochimica Et Cosmochimica Acta, 2012, 98, 19-30.	3.9	31
51	Identification of Chlorobenzene in the Viking Gas Chromatographâ€Mass Spectrometer Data Sets: Reanalysis of Viking Mission Data Consistent With Aromatic Organic Compounds on Mars. Journal of Geophysical Research E: Planets, 2018, 123, 1674-1683.	3.6	31
52	Distribution of depth to ice-cemented soils in the high-elevation Quartermain Mountains, McMurdo Dry Valleys, Antarctica. Antarctic Science, 2013, 25, 575-582.	0.9	30
53	Stability of massive ground ice bodies in University Valley, McMurdo Dry Valleys of Antarctica: Using stable Oâ€“H isotope as tracers of sublimation in hyper-arid regions. Earth and Planetary Science Letters, 2011, 301, 403-411.	4.4	24
54	Mitochondria and the evolutionary roots of cancer. Physical Biology, 2013, 10, 026008.	1.8	24

#	Article	IF	Citations
55	Effects of Gamma and Electron Radiation on the Structural Integrity of Organic Molecules and Macromolecular Biomarkers Measured by Microarray Immunoassays and Their Astrobiological Implications. Astrobiology, 2018, 18, 1497-1516.	3.0	23
56	A large sedimentary basin in the Terra Sirenum region of the southern highlands of Mars. Icarus, 2011, 212, 579-589.	2.5	21
57	Pyrite nanoparticles as a Fenton-like reagent for in situ remediation of organic pollutants. Beilstein Journal of Nanotechnology, 2014, 5, 855-864.	2.8	21
58	Surface evolution of saltâ€encrusted playas under extreme and continued dryness. Earth Surface Processes and Landforms, 2015, 40, 1939-1950.	2.5	21
59	Science Objectives for Flagship-Class Mission Concepts for the Search for Evidence of Life at Enceladus. Astrobiology, 2022, 22, 685-712.	3.0	21
60	Constraints on the Metabolic Activity of Microorganisms in Atacama Surface Soils Inferred from Refractory Biomarkers: Implications for Martian Habitability and Biomarker Detection. Astrobiology, 2018, 18, 955-966.	3.0	20
61	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.	1.6	17
62	Ground surface temperature and humidity, ground temperature cycles and the ice table depths in University Valley, McMurdo Dry Valleys of Antarctica. Journal of Geophysical Research F: Earth Surface, 2016, 121, 2069-2084.	2.8	17
63	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.	2.5	16
64	Locally Targeted Ecosynthesis: A Proactive in situ Search for Extant Life on Other Worlds. Astrobiology, 2013, 13, 674-678.	3.0	16
65	Habitability Models for Astrobiology. Astrobiology, 2021, 21, 1017-1027.	3.0	13
66	Tracking the weathering of basalts on M ars using lithium isotope fractionation models. Geochemistry, Geophysics, Geosystems, 2015, 16, 1172-1197.	2.5	12
67	Distribution and origin of ground ice in University Valley, McMurdo Dry Valleys, Antarctica. Antarctic Science, 2017, 29, 183-198.	0.9	12
68	Microbial Activity and Habitability of an Antarctic Dry Valley Water Track. Astrobiology, 2019, 19, 757-770.	3.0	12
69	Environmental Factors Driving Spatial Heterogeneity in Desert Halophile Microbial Communities. Frontiers in Microbiology, 2020, 11, 578669.	3.5	12
70	Abiotic and Biotic Formation of Amino Acids in the Enceladus Ocean. Astrobiology, 2017, 17, 862-875.	3.0	12
71	What Can In Situ Ion Chromatography Offer for Mars Exploration?. Astrobiology, 2014, 14, 577-588.	3.0	11
72	Cryostratigraphy and the Sublimation Unconformity in Permafrost from an Ultraxerous Environment, University Valley, McMurdo Dry Valleys of Antarctica. Permafrost and Periglacial Processes, 2017, 28, 649-662.	3.4	10

#	Article	IF	Citations
73	Antarctic environments as models of planetary habitats: University Valley as a model for modern Mars and Lake Untersee as a model for Enceladus and ancient Mars. Polar Journal, 2017, 7, 303-318.	0.8	10
74	Physicochemical and Biological Controls on Carbon and Nitrogen in Permafrost from an Ultraxerous Environment, McMurdo Dry Valleys of Antarctica. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 2593-2604.	3.0	8
75	Testing of a 1 meter Mars IceBreaker Drill in a 3.5 meter Vacuum Chamber and in an Antarctic Mars Analog Site. , 2011, , .		6
76	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.	1.7	6
77	Red Dragon drill missions to Mars. Acta Astronautica, 2017, 141, 79-88.	3.2	6
78	Contamination Control for Ultra-Sensitive Life-Detection Missions. Frontiers in Space Technologies, 2021, 2, .	1.4	6
79	The Next Phase in Our Search for Life:An Expert Discussion. Astrobiology, 2011, 11, 2-8.	3.0	5
80	Mineral paragenesis on Mars: The roles of reactive surface area and diffusion. Journal of Geophysical Research E: Planets, 2017, 122, 1855-1879.	3.6	5
81	Habitability and Biomarker Preservation in the Martian Near-Surface Radiation Environment. , 2018, , 211-231.		5
82	Climate and energy balance of the ground in University Valley, Antarctica. Antarctic Science, 2022, 34, 144-171.	0.9	4
83	The thermal structure of the anoxic trough in Lake Untersee, Antarctica. Antarctic Science, 2018, 30, 333-344.	0.9	3
84	Life on Mars: Independent Genesis or Common Ancestor?. Astrobiology, 2021, 21, 802-812.	3.0	3
85	The Atacama Desert: a window into late Mars surface habitability?. , 2021, , 333-355.		2
86	Corrosion of bare carbon steel as a passive sensor to assess moisture availability for biological activity in Atacama Desert soils. Antonie Van Leeuwenhoek, 2018, 111, 1293-1299.	1.7	1
87	Looking for life on Mars? Try the salty bits. New Scientist, 2011, 209, 28-29.	0.0	0