

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	Science Objectives for Flagship-Class Mission Concepts for the Search for Evidence of Life at Enceladus. <i>Astrobiology</i> , 2022, 22, 685-712.	3.0	21
2	Climate and energy balance of the ground in University Valley, Antarctica. <i>Antarctic Science</i> , 2022, 34, 144-171.	0.9	4
3	The Atacama Desert: a window into late Mars surface habitability?. , 2021, , 333-355.		2
4	The Enceladus Orbilander Mission Concept: Balancing Return and Resources in the Search for Life. <i>Planetary Science Journal</i> , 2021, 2, 77.	3.6	74
5	Life on Mars: Independent Genesis or Common Ancestor?. <i>Astrobiology</i> , 2021, 21, 802-812.	3.0	3
6	Habitability Models for Astrobiology. <i>Astrobiology</i> , 2021, 21, 1017-1027.	3.0	13
7	Contamination Control for Ultra-Sensitive Life-Detection Missions. <i>Frontiers in Space Technologies</i> , 2021, 2, .	1.4	6
8	Environmental Factors Driving Spatial Heterogeneity in Desert Halophile Microbial Communities. <i>Frontiers in Microbiology</i> , 2020, 11, 578669.	3.5	12
9	Returning Samples From Enceladus for Life Detection. <i>Frontiers in Astronomy and Space Sciences</i> , 2020, 7, .	2.8	32
10	Halophilic microbial community compositional shift after a rare rainfall in the Atacama Desert. <i>ISME Journal</i> , 2019, 13, 2737-2749.	9.8	62
11	Microbial Activity and Habitability of an Antarctic Dry Valley Water Track. <i>Astrobiology</i> , 2019, 19, 757-770.	3.0	12
12	Transitory microbial habitat in the hyperarid Atacama Desert. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 2670-2675.	7.1	172
13	Corrosion of bare carbon steel as a passive sensor to assess moisture availability for biological activity in Atacama Desert soils. <i>Antonie Van Leeuwenhoek</i> , 2018, 111, 1293-1299.	1.7	1
14	The thermal structure of the anoxic trough in Lake Untersee, Antarctica. <i>Antarctic Science</i> , 2018, 30, 333-344.	0.9	3
15	Identification of Chlorobenzene in the Viking Gas Chromatographâ€Mass Spectrometer Data Sets: Reanalysis of Viking Mission Data Consistent With Aromatic Organic Compounds on Mars. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 1674-1683.	3.6	31
16	Effects of Gamma and Electron Radiation on the Structural Integrity of Organic Molecules and Macromolecular Biomarkers Measured by Microarray Immunoassays and Their Astrobiological Implications. <i>Astrobiology</i> , 2018, 18, 1497-1516.	3.0	23
17	Constraints on the Metabolic Activity of Microorganisms in Atacama Surface Soils Inferred from Refractory Biomarkers: Implications for Martian Habitability and Biomarker Detection. <i>Astrobiology</i> , 2018, 18, 955-966.	3.0	20
18	Habitability and Biomarker Preservation in the Martian Near-Surface Radiation Environment. , 2018, , 211-231.		5

#	ARTICLE	IF	CITATIONS
19	Comparative activity and functional ecology of permafrost soils and lithic niches in a hyper-arid polar desert. <i>Environmental Microbiology</i> , 2017, 19, 443-458.	3.8	77
20	Cryostratigraphy and the Sublimation Unconformity in Permafrost from an Ultraxerous Environment, University Valley, McMurdo Dry Valleys of Antarctica. <i>Permafrost and Periglacial Processes</i> , 2017, 28, 649-662.	3.4	10
21	Distribution and origin of ground ice in University Valley, McMurdo Dry Valleys, Antarctica. <i>Antarctic Science</i> , 2017, 29, 183-198.	0.9	12
22	Red Dragon drill missions to Mars. <i>Acta Astronautica</i> , 2017, 141, 79-88.	3.2	6
23	Mineral paragenesis on Mars: The roles of reactive surface area and diffusion. <i>Journal of Geophysical Research E: Planets</i> , 2017, 122, 1855-1879.	3.6	5
24	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. <i>Polar Journal</i> , 2017, 7, 303-318.	0.8	10
25	Abiotic and Biotic Formation of Amino Acids in the Enceladus Ocean. <i>Astrobiology</i> , 2017, 17, 862-875.	3.0	40
26	Comparison of two bioinformatics tools used to characterize the microbial diversity and predictive functional attributes of microbial mats from Lake Obersee, Antarctica. <i>Journal of Microbiological Methods</i> , 2017, 140, 15-22.	1.6	70
27	Xeropreservation of functionalized lipid biomarkers in hyperarid soils in the Atacama Desert. <i>Organic Geochemistry</i> , 2017, 103, 97-104.	1.8	44
28	Physicochemical and Biological Controls on Carbon and Nitrogen in Permafrost from an Ultraxerous Environment, McMurdo Dry Valleys of Antarctica. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2017, 122, 2593-2604.	3.0	8
29	Abiotic and Biotic Formation of Amino Acids in the Enceladus Ocean. <i>Astrobiology</i> , 2017, 17, 862-875.	3.0	12
30	Functional interactions of archaea, bacteria and viruses in a hypersaline endolithic community. <i>Environmental Microbiology</i> , 2016, 18, 2064-2077.	3.8	107
31	Solar Radiation and Air and Ground Temperature Relations in the Cold and Hyper-arid Quartermain Mountains, McMurdo Dry Valleys of Antarctica. <i>Permafrost and Periglacial Processes</i> , 2016, 27, 163-176.	3.4	32
32	Ground surface temperature and humidity, ground temperature cycles and the ice table depths in University Valley, McMurdo Dry Valleys of Antarctica. <i>Journal of Geophysical Research F: Earth Surface</i> , 2016, 121, 2069-2084.	2.8	17
33	Deposition, accumulation, and alteration of Cl ⁻ , NO ₃ ⁻ , ClO ₄ ⁻ and ClO ₃ ⁻ salts in a hyper-arid polar environment: Mass balance and isotopic constraints. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 182, 197-215.	3.9	42
34	Nearing the cold-arid limits of microbial life in permafrost of an upper dry valley, Antarctica. <i>ISME Journal</i> , 2016, 10, 1613-1624.	9.8	144
35	The Last Possible Outposts for Life on Mars. <i>Astrobiology</i> , 2016, 16, 159-168.	3.0	63
36	Surface evolution of salt-encrusted playas under extreme and continued dryness. <i>Earth Surface Processes and Landforms</i> , 2015, 40, 1939-1950.	2.5	21

#	ARTICLE	IF	CITATIONS
37	Tracking the weathering of basalts on Mars using lithium isotope fractionation models. <i>Geochemistry, Geophysics, Geosystems</i> , 2015, 16, 1172-1197.	2.5	12
38	Adaptation strategies of endolithic chlorophototrophs to survive the hyperarid and extreme solar radiation environment of the Atacama Desert. <i>Frontiers in Microbiology</i> , 2015, 6, 934.	3.5	108
39	In situ metabolism in halite endolithic microbial communities of the hyperarid Atacama Desert. <i>Frontiers in Microbiology</i> , 2015, 6, 1035.	3.5	50
40	Global patterns and environmental controls of perchlorate and nitrate co-occurrence in arid and semi-arid environments. <i>Geochimica Et Cosmochimica Acta</i> , 2015, 164, 502-522.	3.9	90
41	Widespread occurrence of (per)chlorate in the Solar System. <i>Earth and Planetary Science Letters</i> , 2015, 430, 470-476.	4.4	42
42	Pyrite nanoparticles as a Fenton-like reagent for in situ remediation of organic pollutants. <i>Beilstein Journal of Nanotechnology</i> , 2014, 5, 855-864.	2.8	21
43	What Can <i>In Situ</i> Ion Chromatography Offer for Mars Exploration?. <i>Astrobiology</i> , 2014, 14, 577-588.	3.0	11
44	Chance and Necessity in Biochemistry: Implications for the Search for Extraterrestrial Biomarkers in Earth-like Environments. <i>Astrobiology</i> , 2014, 14, 534-540.	3.0	49
45	A cold hydrological system in Gale crater, Mars. <i>Planetary and Space Science</i> , 2014, 93-94, 101-118.	1.7	34
46	Salt deliquescence drives photosynthesis in the hyperarid Atacama Desert. <i>Environmental Microbiology Reports</i> , 2013, 5, 583-587.	2.4	63
47	Radiocarbon Evidence of Active Endolithic Microbial Communities in the Hyperarid Core of the Atacama Desert. <i>Astrobiology</i> , 2013, 13, 607-616.	3.0	49
48	Ignimbrite as a substrate for endolithic life in the hyper-arid Atacama Desert: Implications for the search for life on Mars. <i>Icarus</i> , 2013, 224, 334-346.	2.5	66
49	Excess ground ice of condensation diffusion origin in University Valley, Dry Valleys of Antarctica: Evidence from isotope geochemistry and numerical modeling. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 120, 280-297.	3.9	45
50	Characterization of the acidic cold seep emplaced jarositic Golden Deposit, NWT, Canada, as an analogue for jarosite deposition on Mars. <i>Icarus</i> , 2013, 224, 382-398.	2.5	16
51	The Icebreaker Life Mission to Mars: A Search for Biomolecular Evidence for Life. <i>Astrobiology</i> , 2013, 13, 334-353.	3.0	104
52	Evidence for Hesperian glaciation along the Martian dichotomy boundary. <i>Geology</i> , 2013, 41, 755-758.	4.4	59
53	Locally Targeted Ecosynthesis: A Proactive <i>In Situ</i> Search for Extant Life on Other Worlds. <i>Astrobiology</i> , 2013, 13, 674-678.	3.0	16
54	Mitochondria and the evolutionary roots of cancer. <i>Physical Biology</i> , 2013, 10, 026008.	1.8	24

#	ARTICLE	IF	CITATIONS
55	Perchlorate on Mars: a chemical hazard and a resource for humans. <i>International Journal of Astrobiology</i> , 2013, 12, 321-325.	1.6	97
56	Distribution of depth to ice-cemented soils in the high-elevation Quartermain Mountains, McMurdo Dry Valleys, Antarctica. <i>Antarctic Science</i> , 2013, 25, 575-582.	0.9	30
57	Colonization patterns of soil microbial communities in the Atacama Desert. <i>Microbiome</i> , 2013, 1, 28.	11.1	215
58	Glacial paleoenvironments on Mars revealed by the paucity of hydrated silicates in the Noachian crust of the Northern Lowlands. <i>Planetary and Space Science</i> , 2012, 70, 126-133.	1.7	6
59	Perchlorate and chlorate biogeochemistry in ice-covered lakes of the McMurdo Dry Valleys, Antarctica. <i>Geochimica Et Cosmochimica Acta</i> , 2012, 98, 19-30.	3.9	31
60	Uninhabited habitats on Mars. <i>Icarus</i> , 2012, 217, 184-193.	2.5	58
61	The Biological Oxidant and Life Detection (BOLD) mission: A proposal for a mission to Mars. <i>Planetary and Space Science</i> , 2012, 67, 57-69.	1.7	32
62	Looking for life on Mars? Try the salty bits. <i>New Scientist</i> , 2011, 209, 28-29.	0.0	0
63	Stability of massive ground ice bodies in University Valley, McMurdo Dry Valleys of Antarctica: Using stable O ¹⁸ H isotope as tracers of sublimation in hyper-arid regions. <i>Earth and Planetary Science Letters</i> , 2011, 301, 403-411.	4.4	24
64	The Next Phase in Our Search for Life:An Expert Discussion. <i>Astrobiology</i> , 2011, 11, 2-8.	3.0	5
65	Meteorites at Meridiani Planum provide evidence for significant amounts of surface and near-surface water on early Mars. <i>Meteoritics and Planetary Science</i> , 2011, 46, 1832-1841.	1.6	17
66	A Two-Tiered Approach to Assessing the Habitability of Exoplanets. <i>Astrobiology</i> , 2011, 11, 1041-1052.	3.0	117
67	A large sedimentary basin in the Terra Sirenum region of the southern highlands of Mars. <i>Icarus</i> , 2011, 212, 579-589.	2.5	21
68	Testing of a 1 meter Mars IceBreaker Drill in a 3.5 meter Vacuum Chamber and in an Antarctic Mars Analog Site. , 2011, , .		6
69	Cold glacial oceans would have inhibited phyllosilicate sedimentation on early Mars. <i>Nature Geoscience</i> , 2011, 4, 667-670.	12.9	75
70	Evidence for Hesperian impact-induced hydrothermalism on Mars. <i>Icarus</i> , 2010, 208, 667-683.	2.5	127
71	Noachian and more recent phyllosilicates in impact craters on Mars. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 12095-12100.	7.1	73
72	Hygroscopic Salts and the Potential for Life on Mars. <i>Astrobiology</i> , 2010, 10, 617-628.	3.0	138

#	ARTICLE	IF	CITATIONS
73	Astrobiology through the Ages of Mars: The Study of Terrestrial Analogues to Understand the Habitability of Mars. <i>Astrobiology</i> , 2010, 10, 821-843.	3.0	141
74	New Priorities in the Robotic Exploration of Mars: The Case for <i>In Situ</i> Search for Extant Life. <i>Astrobiology</i> , 2010, 10, 705-710.	3.0	31
75	Comparative analysis of the microbial communities inhabiting halite evaporites of the Atacama Desert. <i>International Microbiology</i> , 2010, 13, 79-89.	2.4	82
76	New evidence for a magmatic influence on the origin of Valles Marineris, Mars. <i>Journal of Volcanology and Geothermal Research</i> , 2009, 185, 12-27.	2.1	31
77	Stability against freezing of aqueous solutions on early Mars. <i>Nature</i> , 2009, 459, 401-404.	27.8	124
78	Evidence for Amazonian acidic liquid water on Mars—A reinterpretation of MER mission results. <i>Planetary and Space Science</i> , 2009, 57, 276-287.	1.7	36
79	Facilitation of endolithic microbial survival in the hyperarid core of the Atacama Desert by mineral deliquescence. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	144
80	Subsurface formation of oxidants on Mars and implications for the preservation of organic biosignatures. <i>Earth and Planetary Science Letters</i> , 2008, 272, 456-463.	4.4	45
81	The case for life on Mars. <i>International Journal of Astrobiology</i> , 2008, 7, 117-141.	1.6	37
82	Magnetic Optimization in a Multicellular Magnetotactic Organism. <i>Biophysical Journal</i> , 2007, 92, 661-670.	0.5	47
83	Mapping the Sources of Urban Dust in a Coastal Environment by Measuring Magnetic Parameters of <i>Platanus hispanica</i> Leaves. <i>Environmental Science & Technology</i> , 2006, 40, 3922-3928.	10.0	53
84	The detection of bacterial magnetite in recent sediments of Lake Chiemsee (southern Germany). <i>Earth and Planetary Science Letters</i> , 2005, 232, 109-123.	4.4	97
85	Rock magnetic properties of uncultured magnetotactic bacteria. <i>Earth and Planetary Science Letters</i> , 2005, 237, 311-325.	4.4	131
86	Magnetic Pulse Affects a Putative Magnetoreceptor Mechanism. <i>Biophysical Journal</i> , 2005, 89, 56-63.	0.5	56
87	Magnetic signature of daily sampled urban atmospheric particles. <i>Atmospheric Environment</i> , 2003, 37, 4163-4169.	4.1	99