Javier Gomez-Elvira

List of Publications by Year
in descending order

74 papers	7,945 citations	81900 39 h-index	95266 68 g-index
76 all docs	76 docs citations	76 times ranked	4950 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	Mars Science Laboratory Mission and Science Investigation. Space Science Reviews, 2012, 170, 5-56.	8.1	650
3	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	12.6	508
4	Marsâ€™ Surface Radiation Environment Measured with the Mars Science Laboratoryâ€™s Curiosity Rover. Science, 2014, 343, 1244797.	12.6	475
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	Abundance and Isotopic Composition of Gases in the Martian Atmosphere from the Curiosity Rover. Science, 2013, 341, 263-266.	12.6	327
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	REMS: The Environmental Sensor Suite for the Mars Science Laboratory Rover. Space Science Reviews, 2012, 170, 583-640.	8.1	247
11	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.	12.6	246
12	Isotope Ratios of H, C, and O in CO ₂ and H ₂ O of the Martian Atmosphere. Science, 2013, 341, 260-263.	12.6	241
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	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.	7.1	172
16	The atmosphere of Mars as observed by InSight. Nature Geoscience, 2020, 13, 190-198.	12.9	161
17	A Microbial Oasis in the Hypersaline Atacama Subsurface Discovered by a Life Detector Chip: Implications for the Search for Life on Mars. Astrobiology, 2011, 11, 969-996.	3.0	140
18	Mars Science Laboratory Observations of the 2018/Mars Year 34 Global Dust Storm. Geophysical Research Letters, 2019, 46, 71-79.	4.0	138

#	Article	IF	Citations
19	The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463.	12.6	134
20	Winds measured by the Rover Environmental Monitoring Station (REMS) during the Mars Science Laboratory (MSL) rover's Bagnold Dunes Campaign and comparison with numerical modeling using MarsWRF. Icarus, 2017, 291, 203-231.	2.5	119
21	Curiosity's rover environmental monitoring station: Overview of the first 100 sols. Journal of Geophysical Research E: Planets, 2014, 119, 1680-1688.	3.6	112
22	The Tinto River, an extreme acidic environment under control of iron, as an analog of the Terra Meridiani hematite site of Mars. Planetary and Space Science, 2004, 52, 239-248.	1.7	110
23	SOLID3: A Multiplex Antibody Microarray-Based Optical Sensor Instrument forIn SituLife Detection in Planetary Exploration. Astrobiology, 2011, 11, 15-28.	3.0	104
24	InSight Auxiliary Payload Sensor Suite (APSS). Space Science Reviews, 2019, 215, 1.	8.1	104
25	Underground Habitats in the RÃo Tinto Basin: A Model for Subsurface Life Habitats on Mars. Astrobiology, 2008, 8, 1023-1047.	3.0	85
26	Pressure observations by the Curiosity rover: Initial results. Journal of Geophysical Research E: Planets, 2014, 119, 82-92.	3.6	84
27	A 200-Antibody Microarray Biochip for Environmental Monitoring: Searching for Universal Microbial Biomarkers through Immunoprofiling. Analytical Chemistry, 2008, 80, 7970-7979.	6.5	83
28	The meteorology of Gale Crater as determined from Rover Environmental Monitoring Station observations and numerical modeling. Part II: Interpretation. Icarus, 2016, 280, 114-138.	2.5	81
29	Preliminary interpretation of the REMS pressure data from the first 100 sols of the MSL mission. Journal of Geophysical Research E: Planets, 2014, 119, 440-453.	3.6	80
30	Instrument development to search for biomarkers on mars: Terrestrial acidophile, iron-powered chemolithoautotrophic communities as model systems. Planetary and Space Science, 2005, 53, 729-737.	1.7	77
31	Mars Science Laboratory relative humidity observations: Initial results. Journal of Geophysical Research E: Planets, 2014, 119, 2132-2147.	3.6	75
32	Observations and preliminary science results from the first 100 sols of MSL Rover Environmental Monitoring Station ground temperature sensor measurements at Gale Crater. Journal of Geophysical Research E: Planets, 2014, 119, 745-770.	3.6	67
33	SOLID2: An Antibody Array-Based Life-Detector Instrument in a Mars Drilling Simulation Experiment (MARTE). Astrobiology, 2008, 8, 987-999.	3.0	63
34	The meteorology of Gale crater as determined from rover environmental monitoring station observations and numerical modeling. Part I: Comparison of model simulations with observations. Icarus, 2016, 280, 103-113.	2.5	54
35	The 2005 MARTE Robotic Drilling Experiment in RÃo Tinto, Spain: Objectives, Approach, and Results of a Simulated Mission to Search for Life in the Martian Subsurface. Astrobiology, 2008, 8, 921-945.	3.0	52
36	The dynamic atmospheric and aeolian environment of Jezero crater, Mars. Science Advances, 2022, 8, .	10.3	47

#	Article	IF	Citations
37	Surface energy budget and thermal inertia at Gale Crater: Calculations from groundâ€based measurements. Journal of Geophysical Research E: Planets, 2014, 119, 1822-1838.	3.6	46
38	Gale surface wind characterization based on the Mars Science Laboratory REMS dataset. Part I: Wind retrieval and Gale's wind speeds and directions. Icarus, 2019, 319, 909-925.	2.5	45
39	Diurnal variations of energetic particle radiation at the surface of Mars as observed by the Mars Science Laboratory Radiation Assessment Detector. Journal of Geophysical Research E: Planets, 2014, 119, 1345-1358.	3.6	44
40	Likely frost events at Gale crater: Analysis from MSL/REMS measurements. Icarus, 2016, 280, 93-102.	2.5	44
41	Comparison of Martian surface ionizing radiation measurements from MSLâ€RAD with Badhwarâ€O'Neill 2011/HZETRN model calculations. Journal of Geophysical Research E: Planets, 2014, 119, 1311-1321.	3.6	42
42	The Rover Environmental Monitoring Station Ground Temperature Sensor: A Pyrometer for Measuring Ground Temperature on Mars. Sensors, 2010, 10, 9211-9231.	3.8	40
43	Effects of the MY34/2018 Global Dust Storm as Measured by MSL REMS in Gale Crater. Journal of Geophysical Research E: Planets, 2019, 124, 1899-1912.	3.6	40
44	Gale surface wind characterization based on the Mars Science Laboratory REMS dataset. Part II: Wind probability distributions. Icarus, 2019, 319, 645-656.	2.5	36
45	A multi-array competitive immunoassay for the detection of broad-range molecular size organic compounds relevant for astrobiology. Planetary and Space Science, 2006, 54, 1612-1621.	1.7	35
46	MARTE: Technology development and lessons learned from a Mars drilling mission simulation. Journal of Field Robotics, 2007, 24, 877-905.	6.0	33
47	Protein Microarrays-Based Strategies for Life Detection in Astrobiology. Space Science Reviews, 2008, 135, 293-311.	8.1	31
48	A chamber for studying planetary environments and its applications to astrobiology. Measurement Science and Technology, 2006, 17, 2274-2280.	2.6	29
49	Classification of Modern and Old RÃo Tinto Sedimentary Deposits Through the Biomolecular Record Using a Life Marker Biochip: Implications for Detecting Life on Mars. Astrobiology, 2011, 11, 29-44.	3.0	24
50	Mars Science Laboratory Mission and Science Investigation. , 2012, , 5-56.		23
51	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.	3.0	16
52	Analysis of wind-induced dynamic pressure fluctuations during one and a half Martian years at Gale Crater. Icarus, 2017, 288, 78-87.	2.5	15
53	Joint Europa Mission (JEM): a multi-scale study of Europa to characterize its habitability and search for extant life. Planetary and Space Science, 2020, 193, 104960.	1.7	15
54	Infrared temperature measurement uncertainty for unchopped thermopile in presence of case thermal gradients. Infrared Physics and Technology, 2011, 54, 75-83.	2.9	14

#	Article	IF	Citations
55	The Subsurface Geology of RÃo Tinto: Material Examined During a Simulated Mars Drilling Mission for the Mars Astrobiology Research and Technology Experiment (MARTE). Astrobiology, 2008, 8, 1013-1021.	3.0	12
56	Pyrometer model based on sensor physical structure and thermal operation. Applied Thermal Engineering, 2010, 30, 2403-2411.	6.0	12
57	Temperature gradient distribution in permafrost active layer, using a prototype of the ground temperature sensor (REMS-MSL) on deception island (Antarctica). Cold Regions Science and Technology, 2012, 72, 23-32.	3.5	12
58	Planetary Protection and the astrobiological exploration of Mars: Proactive steps in moving forward. Advances in Space Research, 2019, 63, 1491-1497.	2.6	11
59	A multiplex antigen microarray for simultaneous IgG and IgM detection against SARSâ€CoVâ€2 reveals higher seroprevalence than reported. Microbial Biotechnology, 2021, 14, 1228-1236.	4.2	11
60	The Cyborg Astrobiologist: first field experience. International Journal of Astrobiology, 2004, 3, 189-207.	1.6	10
61	The Cyborg Astrobiologist: scouting red beds for uncommon features with geological significance. International Journal of Astrobiology, 2005, 4, 101.	1.6	9
62	Advective Fluxes in the Martian Regolith as a Mechanism Driving Methane and Other Trace Gas Emissions to the Atmosphere. Geophysical Research Letters, 2020, 47, e2019GL085694.	4.0	9
63	FTIR reflectance of selected minerals and their mixtures: implications for ground temperature-sensor monitoring on Mars surface environment (NASA/MSL-Rover Environmental Monitoring Station). Journal of Environmental Monitoring, 2009, 11, 1428.	2.1	8
64	â€œStrategies of Life Detectionâ€: Summary and Outlook. Space Science Reviews, 2008, 135, 371-380.	8.1	6
65	Experimental and Numerical Characterization of the Flow Around the Mars 2020 Rover. Journal of Spacecraft and Rockets, 2018, 55, 1136-1143.	1.9	6
66	The Cyborg Astrobiologist: porting from a wearable computer to the Astrobiology Phone-cam. International Journal of Astrobiology, 2007, 6, 255-261.	1.6	3
67	Introductionâ€"Centro de AstrobiologÃa: 20 Years Building Astrobiology. Astrobiology, 2020, 20, 1025-1028.	3.0	2
68	REMS GTS: a pyrometer for Mars ground temperature measurement. Proceedings of SPIE, 2009, , .	0.8	1
69	Solid: an antibody microarray-based instrument for life detection and planetary exploration. , 2006, , .		0
70	An Autonomous System for the Locomotion of a Hexapod Exploration Robot. , 2009, , .		0
71	Astrobiological Field Campaign to a Volcanosedimentary Mars Analogue Methane Producing Subsurface Protected Ecosystem: Imuruk Lake (Alaska). Advances in Astronomy, 2011, 2011, 1-8.	1.1	0
72	â€œStrategies of Life Detectionâ€: Summary and Outlook. Space Sciences Series of ISSI, 2008, , 371-380.	0.0	0

#	Article	IF	Citations
73	FRISER-IRMIX Database: A Web-Based Support System with Implications in Planetary Mineralogical Studies, Ground Temperature Measurements and Astrobiology. Lecture Notes in Earth System Sciences, 2014, , 783-786.	0.6	0
74	Protein Microarrays-Based Strategies for Life Detection in Astrobiology. Space Sciences Series of ISSI, 2008, , 293-311.	0.0	0