J A Rodriguez-Manfredi

List of Publications by Year
in descending order

91 papers	9,959 citations	50170 46 h-index	58464 82 g-index
94 all docs	94 docs citations	94 times ranked	5565 citing authors

#	Article	IF	Citations
1	A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1242777.	6.0	687
2	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	6.0	508
3	Marsâ€™ Surface Radiation Environment Measured with the Mars Science Laboratoryâ€™s Curiosity Rover. Science, 2014, 343, 1244797.	6.0	475
4	Organic molecules in the Sheepbed Mudstone, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2015, 120, 495-514.	1.5	375
5	Mars methane detection and variability at Gale crater. Science, 2015, 347, 415-417.	6.0	373
6	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937.	6.0	367
7	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932.	6.0	327
8	Abundance and Isotopic Composition of Gases in the Martian Atmosphere from the Curiosity Rover. Science, 2013, 341, 263-266.	6.0	327
9	Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072.	6.0	326
10	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.	6.0	323
11	Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505.	6.0	280
12	Initial results from the InSight mission on Mars. Nature Geoscience, 2020, 13, 183-189.	5.4	274
13	REMS: The Environmental Sensor Suite for the Mars Science Laboratory Rover. Space Science Reviews, 2012, 170, 583-640.	3.7	247
14	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.	6.0	246
15	Isotope Ratios of H, C, and O in CO ₂ and H ₂ O of the Martian Atmosphere. Science, 2013, 341, 260-263.	6.0	241
16	Mars 2020 Mission Overview. Space Science Reviews, 2020, 216, 1.	3.7	239
17	SEIS: Insightâ€™s Seismic Experiment for Internal Structure of Mars. Space Science Reviews, 2019, 215, 12.	3.7	238
18	In Situ Radiometric and Exposure Age Dating of the Martian Surface. Science, 2014, 343, 1247166.	6.0	224

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19	Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670.	6.0	215
20	Constraints on the shallow elastic and anelastic structure of Mars from InSight seismic data. Nature Geoscience, 2020, 13, 213-220.	5.4	207
21	The seismicity of Mars. Nature Geoscience, 2020, 13, 205-212.	5.4	194
22	Evidence for indigenous nitrogen in sedimentary and aeolian deposits from the <i>Curiosity</i> 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
23	The atmosphere of Mars as observed by InSight. Nature Geoscience, 2020, 13, 190-198.	5.4	161
24	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.	1.5	140
25	The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463.	6.0	134
26	The imprint of atmospheric evolution in the D/H of Hesperian clay minerals on Mars. Science, 2015, 347, 412-414.	6.0	113
27	Curiosity's rover environmental monitoring station: Overview of the first 100 sols. Journal of Geophysical Research E: Planets, 2014, 119, 1680-1688.	1.5	112
28	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.	0.9	110
29	SOLID3: A Multiplex Antibody Microarray-Based Optical Sensor Instrument for<i>In Situ</i>Life Detection in Planetary Exploration. Astrobiology, 2011, 11, 15-28.	1.5	104
30	InSight Auxiliary Payload Sensor Suite (APSS). Space Science Reviews, 2019, 215, 1.	3.7	104
31	Low Upper Limit to Methane Abundance on Mars. Science, 2013, 342, 355-357.	6.0	103
32	The NASA Mars 2020 Rover Mission and the Search for Extraterrestrial Life. , 2018, , 275-308.		95
33	Atmospheric Science with InSight. Space Science Reviews, 2018, 214, 1.	3.7	88
34	Trace element geochemistry (Li, Ba, Sr, and Rb) using <i>Curiosity</i>'s ChemCam: Early results for Gale crater from Bradbury Landing Site to Rocknest. Journal of Geophysical Research E: Planets, 2014, 119, 255-285.	1.5	86
35	Pressure observations by the Curiosity rover: Initial results. Journal of Geophysical Research E: Planets, 2014, 119, 82-92.	1.5	84
36	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.	1.5	80

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37	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.	0.9	77
38	Mars Science Laboratory relative humidity observations: Initial results. Journal of Geophysical Research E: Planets, 2014, 119, 2132-2147.	1.5	75
39	ChemCam passive reflectance spectroscopy of surface materials at the Curiosity landing site, Mars. Icarus, 2015, 249, 74-92.	1.1	70
40	RÃo Tinto: A Geochemical and Mineralogical Terrestrial Analogue of Mars. Life, 2014, 4, 511-534.	1.1	68
41	Compositions of coarse and fine particles in martian soils at gale: A window into the production of soils. Icarus, 2015, 249, 22-42.	1.1	64
42	SOLID2: An Antibody Array-Based Life-Detector Instrument in a Mars Drilling Simulation Experiment (MARTE). Astrobiology, 2008, 8, 987-999.	1.5	63
43	Meteorological Predictions for Mars 2020 Perseverance Rover Landing Site at Jezero Crater. Space Science Reviews, 2020, 216, 1.	3.7	62
44	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
45	Curiosity's Mission of Exploration at Gale Crater, Mars. Elements, 2015, 11, 19-26.	0.5	55
46	ChemCam: Chemostratigraphy by the First Mars Microprobe. Elements, 2015, 11, 33-38.	0.5	54
47	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.	1.5	52
48	The dynamic atmospheric and aeolian environment of Jezero crater, Mars. Science Advances, 2022, 8, .	4.7	47
49	Correcting for variable laser-target distances of laser-induced breakdown spectroscopy measurements with ChemCam using emission lines of Martian dust spectra. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2014, 96, 51-60.	1.5	45
50	Atmospheric tides in Gale Crater, Mars. Icarus, 2016, 268, 37-49.	1.1	45
51	Prokaryotic communities and operating metabolisms in the surface and the permafrost of Deception Island (Antarctica). Environmental Microbiology, 2012, 14, 2495-2510.	1.8	44
52	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.	1.5	44
53	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.	1.5	42
54	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.	1.5	40

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55	Determining Mineralogy on Mars with the CheMin X-Ray Diffractometer. Elements, 2015, 11, 45-50.	0.5	39
56	Gale crater and impact processes â€“ Curiosityâ€™s first 364 Sols on Mars. Icarus, 2015, 249, 108-128.	1.1	37
57	Multi-model Meteorological and Aeolian Predictions for Mars 2020 and the Jezero Crater Region. Space Science Reviews, 2021, 217, 20.	3.7	35
58	MARTE: Technology development and lessons learned from a Mars drilling mission simulation. Journal of Field Robotics, 2007, 24, 877-905.	3.2	33
59	Local variations of bulk hydrogen and chlorineâ€equivalent neutron absorption content measured at the contact between the Sheepbed and Gillespie Lake units in Yellowknife Bay, Gale Crater, using the DAN instrument onboard Curiosity. Journal of Geophysical Research E: Planets, 2014, 119, 1259-1275.	1.5	33
60	Molecular preservation in haliteâ€and perchlorateâ€rich hypersaline subsurface deposits in the Salar Grande basin (Atacama Desert, Chile): Implications for the search for molecular biomarkers on Mars. Journal of Geophysical Research G: Biogeosciences, 2013, 118, 922-939.	1.3	30
61	Effects of a Large Dust Storm in the Nearâ€Surface Atmosphere as Measured by InSight in Elysium Planitia, Mars. Comparison With Contemporaneous Measurements by Mars Science Laboratory. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006493.	1.5	30
62	In situ recording of Mars soundscape. Nature, 2022, 605, 653-658.	13.7	30
63	A full martian year of line-of-sight extinction within Gale Crater, Mars as acquired by the MSL Navcam through sol 900. Icarus, 2016, 264, 102-108.	1.1	29
64	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.	1.5	24
65	ExoMars Raman laser spectrometer for Exomars. Proceedings of SPIE, 2011, , .	0.8	23
66	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.	1.5	23
67	Abiotic Input of Fixed Nitrogen by Bolide Impacts to Gale Crater During the Hesperian: Insights From the Mars Science Laboratory. Journal of Geophysical Research E: Planets, 2019, 124, 94-113.	1.5	23
68	Iberian Pyrite Belt Subsurface Life (IPBSL), a Drilling Project of Biohydrometallurgical Interest. Advanced Materials Research, 0, 825, 15-18.	0.3	18
69	Radiation and Dust Sensor for Mars Environmental Dynamic Analyzer Onboard M2020 Rover. Sensors, 2022, 22, 2907.	2.1	18
70	Strategies for detection of putative life on Europa. Advances in Space Research, 2011, 48, 678-688.	1.2	17
71	The Thermal Infrared Sensor (TIRS) of the Mars Environmental Dynamics Analyzer (MEDA) instrument onboard Mars 2020, a general description and performance analysis. Measurement: Journal of the International Measurement Confederation, 2018, 122, 432-442.	2.5	17
72	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

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73	Radiometric and angular calibration tests for the MEDA-TIRS radiometer onboard NASAâ€™s Mars 2020 mission. Measurement: Journal of the International Measurement Confederation, 2020, 164, 107968.	2.5	15
74	Images from Curiosity: A New Look at Mars. Elements, 2015, 11, 27-32.	0.5	13
75	Volatile and Isotopic Imprints of Ancient Mars. Elements, 2015, 11, 51-56.	0.5	12
76	Spiders: Water-Driven Erosive Structures in the Southern Hemisphere of Mars. Astrobiology, 2006, 6, 651-667.	1.5	11
77	The Cyborg Astrobiologist: first field experience. International Journal of Astrobiology, 2004, 3, 189-207.	0.9	10
78	The Cyborg Astrobiologist: scouting red beds for uncommon features with geological significance. International Journal of Astrobiology, 2005, 4, 101.	0.9	9
79	Habitability: Where to look for life? Halophilic habitats: Earth analogs to study Mars habitability. Planetary and Space Science, 2012, 68, 48-55.	0.9	8
80	ExoMars Raman laser spectrometer overview. Proceedings of SPIE, 2010, , .	0.8	6
81	A Miniaturized 3D Heat Flux Sensor to Characterize Heat Transfer in Regolith of Planets and Small Bodies. Sensors, 2020, 20, 4135.	2.1	4
82	Denoising Atmospheric Temperature Measurements Taken by the Mars Science Laboratory on the Martian Surface. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-10.	2.4	4
83	The Cyborg Astrobiologist: porting from a wearable computer to the Astrobiology Phone-cam. International Journal of Astrobiology, 2007, 6, 255-261.	0.9	3
84	The Thermal Infrared Sensor (TIRS) of the Mars Environmental Dynamics Analyzer (MEDA) instrument onboard Mars 2020. , 2017, , .		2
85	A new spectrometer concept for Mars exploration. , 2011, , .		1
86	ExoMars Raman laser spectrometer breadboard overview. Proceedings of SPIE, 2011, , .	0.8	1
87	Performance analysis of the MEDA's Thermal InfraRed Sensor (TIRS) on board the Mars 2020. , 2017, , .		1
88	<title>Robotic telescope network of Centro de Astrobiologia</title>. , 2002, 4848, 434.		0
89	Astrobiological Field Campaign to a Volcanosedimentary Mars Analogue Methane Producing Subsurface Protected Ecosystem: Imuruk Lake (Alaska). Advances in Astronomy, 2011, 2011, 1-8.	0.5	0
90	MEDA Instrument Processing and Data Management for the Mars2020 Mission. , 2017, , .		0

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91	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.	0.5	0