Olga Prieto-Ballesteros

List of Publications by Year
in descending order

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75 papers	2,664 citations	236925 25 h-index	189892 50 g-index
76 all docs	76 docs citations	76 times ranked	2830 citing authors

#	Article	IF	Citations
1	The Raman laser spectrometer ExoMars simulator (RLS Sim): A heavyâ€duty Raman tool for ground testing on ExoMars. Journal of Raman Spectroscopy, 2022, 53, 382-395.	2.5	8
2	Interpreting Molecular and Isotopic Biosignatures in Methane-Derived Authigenic Carbonates in the Light of a Potential Carbon Cycle in the Icy Moons. Astrobiology, 2022, 22, 552-567.	3.0	1
3	Raman spectroscopic peculiarities of Icelandic poorly crystalline minerals and their implications for Mars exploration. Scientific Reports, 2022, 12, 5640.	3.3	4
4	Thermal conductivity measurements of macroscopic frozen salt ice analogues of Jovian icy moons in support of the planned JUICE mission. Monthly Notices of the Royal Astronomical Society, 2022, 510, 4166-4179.	4.4	2
5	The Raman Laser Spectrometer: A performance study using ExoMars representative crushed samples. Journal of Raman Spectroscopy, 2022, 53, 396-410.	2.5	2
6	Low-Temperature High-Pressure Chemistry of Ammonia and Methanol Aqueous Solutions in the Presence of Different Carbon Sources: Application to Icy Bodies. ACS Earth and Space Chemistry, 2022, 6, 1482-1494.	2.7	0
7	Molecular and isotopic biogeochemistry on recently-formed soils on King George Island (Maritime) Tj ETQq1 1 0.784314 rgBT /Overlo 142662.	8.0	5
8	Geomicrobiological Heterogeneity of Lithic Habitats in the Extreme Environment of Antarctic Nunataks: A Potential Early Mars Analog. Frontiers in Microbiology, 2021, 12, 670982.	3.5	5
9	Characterization of NH4-montmorillonite under conditions relevant to Ceres. Applied Clay Science, 2021, 209, 106137.	5.2	4
10	Time-Integrative Multibiomarker Detection in Triassicâ€“Jurassic Rocks from the Atacama Desert: Relevance to the Search for Basic Life Beyond Earth. Astrobiology, 2021, 21, 1421-1437.	3.0	9
11	Geomorphology of the southwest Sinus Sabaeus region: evidence for an ancient hydrological cycle on Mars. Journal of Maps, 2021, 17, 512-518.	2.0	1
12	Thermal Properties of the H₂Oâ€“CO₂â€“Na₂CO₃/CH₃OH/NH₃ Systems at Low Temperatures and Pressures up to 50 MPa. ACS Earth and Space Chemistry, 2021, 5, 2626-2637.	2.7	4
13	Theoretical Characterization of the High Pressure Nonclathrate CO₂ Hydrate. ACS Earth and Space Chemistry, 2020, 4, 2121-2128.	2.7	1
14	Can Halophilic and Psychrophilic Microorganisms Modify the Freezing/Melting Curve of Cold Salty Solutions? Implications for Mars Habitability. Astrobiology, 2020, 20, 1067-1075.	3.0	2
15	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
16	Constraining the preservation of organic compounds in Mars analog nontronites after exposure to acid and alkaline fluids. Scientific Reports, 2020, 10, 15097.	3.3	15
17	Fingerprinting molecular and isotopic biosignatures on different hydrothermal scenarios of Iceland, an acidic and sulfur-rich Mars analog. Scientific Reports, 2020, 10, 21196.	3.3	15
18	SuperCam Calibration Targets: Design and Development. Space Science Reviews, 2020, 216, 138.	8.1	44

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19	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
20	Detection of Potential Lipid Biomarkers in Oxidative Environments by Raman Spectroscopy and Implications for the ExoMars 2020-Raman Laser Spectrometer Instrument Performance. Astrobiology, 2020, 20, 405-414.	3.0	5
21	Raman Laser Spectrometer (RLS) calibration target design to allow onboard combined science between the RLS and MicrOmega instruments on the ExoMars rover. Journal of Raman Spectroscopy, 2020, 51, 1718-1730.	2.5	19
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.	3.0	27
23	Experimental Petrology to Understand Europa's Crust. Journal of Geophysical Research E: Planets, 2019, 124, 2660-2678.	3.6	5
24	The COSPAR Panel on Planetary Protection Role, Structure and Activities. Space Research Today, 2019, 205, 14-26.	0.1	9
25	Characterizing Interstellar Medium, Planetary Surface and Deep Environments by Spectroscopic Techniques Using Unique Simulation Chambers at Centro de Astrobiologia (CAB). Life, 2019, 9, 72.	2.4	1
26	Viable cyanobacteria in the deep continental subsurface. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 10702-10707.	7.1	124
27	Coogoon Valles, western Arabia Terra: Hydrological evolution of a complex Martian channel system. Icarus, 2017, 293, 27-44.	2.5	25
28	Critical Assessment of Analytical Techniques in the Search for Biomarkers on Mars: A Mummified Microbial Mat from Antarctica as a Best-Case Scenario. Astrobiology, 2017, 17, 984-996.	3.0	17
29	High Pressure Serpentinization Catalysed by Awaruite in Planetary Bodies. Journal of Physics: Conference Series, 2017, 950, 042041.	0.4	1
30	Salting-out phenomenon induced by the clathrate hydrates formation at high-pressure. Journal of Physics: Conference Series, 2017, 950, 042042.	0.4	8
31	Effects of the CO2 Guest Molecule on the sI Clathrate Hydrate Structure. Materials, 2016, 9, 777.	2.9	33
32	Interiors of Icy Moons from an Astrobiology Perspective: Deep Oceans and Icy Crusts. , 2015, , 459-487.		1
33	Guestâ€“host interactions in gas clathrate hydrates under pressure. High Pressure Research, 2015, 35, 49-56.	1.2	9
34	Reply to the Comment on â€œIdentification of the subsurface sulfide bodies responsible for acidity in RÃo Tinto source water, Spainâ€•(Earth Planet. Sci. Lett. 391 (2014) 36â€“41). Earth and Planetary Science Letters, 2014, 403, 459-462.	4.4	3
35	Raman spectroscopy as a tool to study the solubility of CO2 in magnesium sulphate brines: application to the fluids of Europa's cryomagmatic reservoirs. European Journal of Mineralogy, 2014, 25, 735-743.	1.3	13
36	Identification of the subsurface sulfide bodies responsible for acidity in RÃo Tinto source water, Spain. Earth and Planetary Science Letters, 2014, 391, 36-41.	4.4	30

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37	Conspicuous assemblages of hydrated minerals from the H2Oâ€“MgSO4â€“CO2 system on Jupiterâ€™s Europa satellite. Geochimica Et Cosmochimica Acta, 2014, 125, 466-475.	3.9	14
38	pH and Salinity Evolution of Europa's Brines: Raman Spectroscopy Study of Fractional Precipitation at 1 and 300 Bar. Astrobiology, 2013, 13, 693-702.	3.0	29
39	JUpiter ICy moons Explorer (JUICE): An ESA mission to orbit Ganymede and to characterise the Jupiter system. Planetary and Space Science, 2013, 78, 1-21.	1.7	455
40	Quantitative Raman spectroscopy as a tool to study the kinetics and formation mechanism of carbonates. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2013, 116, 26-30.	3.9	21
41	Review of Exchange Processes on Ganymede in View of Its Planetary Protection Categorization. Astrobiology, 2013, 13, 991-1004.	3.0	16
42	Characterization of Salting-Out Processes during CO₂-Clathrate Formation Using Raman Spectroscopy: Planetological Application. Spectroscopy Letters, 2012, 45, 407-412.	1.0	5
43	Carbonate precipitation under bulk acidic conditions as a potential biosignature for searching life on Mars. Earth and Planetary Science Letters, 2012, 351-352, 13-26.	4.4	23
44	Prokaryotic communities and operating metabolisms in the surface and the permafrost of Deception Island (Antarctica). Environmental Microbiology, 2012, 14, 2495-2510.	3.8	44
45	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
46	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
47	The environment of early Mars and the missing carbonates. Meteoritics and Planetary Science, 2011, 46, 1447-1469.	1.6	15
48	Analog environments for a Europa lander mission. Advances in Space Research, 2011, 48, 689-696.	2.6	21
49	Penetrators for in situ subsurface investigations of Europa. Advances in Space Research, 2011, 48, 725-742.	2.6	51
50	Strategies for detection of putative life on Europa. Advances in Space Research, 2011, 48, 678-688.	2.6	17
51	RÃo Tinto sedimentary mineral assemblages: A terrestrial perspective that suggests some formation pathways of phyllosilicates on Mars. Icarus, 2011, 211, 114-138.	2.5	26
52	Protection of chemolithoautotrophic bacteria exposed to simulated Mars environmental conditions. Icarus, 2010, 209, 482-487.	2.5	47
53	Rheological and Thermal Properties of Icy Materials. Space Science Reviews, 2010, 153, 273-298.	8.1	87
54	Fluvial Bedform Generation by Biofilm Activity in the Berrocal Segment of RÃo Tinto: Acidic Biofilms and Sedimentation. Cellular Origin and Life in Extreme Habitats, 2010, , 483-498.	0.3	2

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55	Rheological and Thermal Properties of Icy Materials. Space Sciences Series of ISSI, 2010, , 271-295.	0.0	0
56	TandEM: Titan and Enceladus mission. Experimental Astronomy, 2009, 23, 893-946.	3.7	77
57	LAPLACE: A mission to Europa and the Jupiter System for ESAâ€™s Cosmic Vision Programme. Experimental Astronomy, 2009, 23, 849-892.	3.7	38
58	Stability of liquid saline water on present day Mars. Geophysical Research Letters, 2009, 36, .	4.0	93
59	Preservation Windows for Paleobiological Traces in the Mars Geological Record. Cellular Origin and Life in Extreme Habitats, 2009, , 491-512.	0.3	0
60	Fractal properties of isolines at varying altitude revealing different dominant geological processes on Earth. Journal of Geophysical Research, 2008, 113, .	3.3	13
61	Subsurface Geomicrobiology of the Iberian Pyritic Belt. Soil Biology, 2008, , 205-223.	0.8	8
62	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
63	SOLID2: An Antibody Array-Based Life-Detector Instrument in a Mars Drilling Simulation Experiment (MARTE). Astrobiology, 2008, 8, 987-999.	3.0	63
64	Underground Habitats in the RÃo Tinto Basin: A Model for Subsurface Life Habitats on Mars. Astrobiology, 2008, 8, 1023-1047.	3.0	85
65	Some Ecological Mechanisms to Generate Habitability in Planetary Subsurface Areas by Chemolithotrophic Communities: The RÃo Tinto Subsurface Ecosystem as a Model System. Astrobiology, 2008, 8, 157-173.	3.0	29
66	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
67	Martian hydrogeology sustained by thermally insulating gas and salt hydrates. Geology, 2007, 35, 975.	4.4	52
68	Interglacial clathrate destabilization on Mars: Possible contributing source of its atmospheric methane. Geology, 2006, 34, 149.	4.4	56
69	Spiders: Water-Driven Erosive Structures in the Southern Hemisphere of Mars. Astrobiology, 2006, 6, 651-667.	3.0	11
70	A chamber for studying planetary environments and its applications to astrobiology. Measurement Science and Technology, 2006, 17, 2274-2280.	2.6	29
71	Thermal state and complex geology of a heterogeneous salty crust of Jupiter's satellite, Europa. Icarus, 2005, 173, 212-221.	2.5	39
72	Evaluation of the possible presence of clathrate hydrates in Europa's icy shell or seafloor. Icarus, 2005, 177, 491-505.	2.5	63

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73	Spectral comparison of heavily hydrated salts with disrupted terrains on Europa. Icarus, 2005, 177, 472-490.	2.5	152
74	TÃ±ez Lake as a Terrestrial Analog of Europa. Astrobiology, 2003, 3, 863-877.	3.0	20
75	Europa's Crust and Ocean: Origin, Composition, and the Prospects for Life. Icarus, 2000, 148, 226-265.	2.5	392