Ian A Crawford

List of Publications by Year
in descending order

137 papers	3,674 citations	117625 34 h-index	161849 54 g-index
143 all docs	143 docs citations	143 times ranked	3090 citing authors

#	Article	IF	Citations
1	Detection of Circumstellar Material in a Normal Type Ia Supernova. Science, 2007, 317, 924-926.	12.6	313
2	A brief review of chemical and mineralogical resources on the Moon and likely initial in situ resource utilization (ISRU) applications. Planetary and Space Science, 2012, 74, 42-48.	1.7	200
3	Lunar resources. Progress in Physical Geography, 2015, 39, 137-167.	3.2	183
4	Back to the Moon: The scientific rationale for resuming lunar surface exploration. Planetary and Space Science, 2012, 74, 3-14.	1.7	119
5	Geology, geochemistry, and geophysics of the Moon: Status of current understanding. Planetary and Space Science, 2012, 74, 15-41.	1.7	104
6	The production of oxygen and metal from lunar regolith. Planetary and Space Science, 2012, 74, 49-56.	1.7	103
7	Characterisation of potential landing sites for the European Space Agency's Lunar Lander project. Planetary and Space Science, 2012, 74, 224-246.	1.7	75
8	Lunar basalt chronology, mantle differentiation and implications for determining the age of the Moon. Earth and Planetary Science Letters, 2016, 451, 149-158.	4.4	60
9	The Moon: An Archive of Small Body Migration in the Solar System. Earth, Moon and Planets, 2016, 118, 133-158.	0.6	60
10	Lunar meteorite regolith breccias: An in situ study of impact melt composition using LA-ICP-MS with implications for the composition of the lunar crust. Meteoritics and Planetary Science, 2010, 45, 917-946.	1.6	59
11	The petrology and geochemistry of Miller Range 05035: A new lunar gabbroic meteorite. Geochimica Et Cosmochimica Acta, 2008, 72, 3822-3844.	3.9	58
12	Petrogenesis and chronology of lunar meteorite Northwest Africa 4472: A KREEPy regolith breccia from the Moon. Geochimica Et Cosmochimica Acta, 2011, 75, 2420-2452.	3.9	58
13	The PanCam Instrument for the ExoMars Rover. Astrobiology, 2017, 17, 511-541.	3.0	55
14	The C1XS X-ray Spectrometer on Chandrayaan-1. Planetary and Space Science, 2009, 57, 717-724.	1.7	54
15	Lunar exploration: opening a window into the history and evolution of the inner Solar System. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2014, 372, 20130315.	3.4	53
16	Volcano-Ice Interaction as a Microbial Habitat on Earth and Mars. Astrobiology, 2011, 11, 695-710.	3.0	52
17	Hydrothermal modification of the Sikhote-Alin iron meteorite under low pH geothermal environments. A plausibly prebiotic route to activated phosphorus on the early Earth. Geochimica Et Cosmochimica Acta, 2013, 109, 90-112.	3.9	52
18	Penetrators for in situ subsurface investigations of Europa. Advances in Space Research, 2011, 48, 725-742.	2.6	51

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19	A petrological, mineralogical, and chemical analysis of the lunar mare basalt meteorite LaPaz Icefield 02205, 02224, and 02226. Meteoritics and Planetary Science, 2006, 41, 1003-1025.	1.6	50
20	Preservation potential of implanted solar wind volatiles in lunar paleoregolith deposits buried by lava flows. Icarus, 2010, 207, 595-604.	2.5	47
21	X-ray fluorescence observations of the moon by SMART-1/D-CIXS and the first detection of Ti KÎ± from the lunar surface. Planetary and Space Science, 2009, 57, 744-750.	1.7	46
22	Lunar X-ray fluorescence observations by the Chandrayaan-1 X-ray Spectrometer (C1XS): Results from the nearside southern highlands. Icarus, 2011, 214, 53-66.	2.5	46
23	Regions of interest (ROI) for future exploration missions to the lunar South Pole. Planetary and Space Science, 2020, 180, 104750.	1.7	44
24	On the Survivability and Detectability of Terrestrial Meteorites on the Moon. Astrobiology, 2008, 8, 242-252.	3.0	43
25	Minimagnetospheres above the Lunar Surface and the Formation of Lunar Swirls. Physical Review Letters, 2012, 109, 081101.	7.8	43
26	The D-CIXS X-ray spectrometer on the SMART-1 mission to the Moonâ€"First results. Planetary and Space Science, 2007, 55, 494-502.	1.7	41
27	The chemistry of transient microstructure in the diffuse interstellar medium. Monthly Notices of the Royal Astronomical Society, 2005, 357, 961-966.	4.4	40
28	Glaciovolcanic hydrothermal environments in Iceland and implications for their detection on Mars. Journal of Volcanology and Geothermal Research, 2013, 256, 61-77.	2.1	40
29	Lunar Palaeoregolith Deposits as Recorders of the Galactic Environment of the Solar System and Implications for Astrobiology. Earth, Moon and Planets, 2010, 107, 75-85.	0.6	39
30	Individual lava flow thicknesses in Oceanus Procellarum and Mare Serenitatis determined from Clementine multispectral data. Icarus, 2010, 209, 323-336.	2.5	39
31	The scientific case for renewed human activities on the Moon. Space Policy, 2004, 20, 91-97.	1.5	38
32	Constraining the source regions of lunar meteorites using orbital geochemical data. Meteoritics and Planetary Science, 2015, 50, 214-228.	1.6	38
33	The long-term scientific benefits of a space economy. Space Policy, 2016, 37, 58-61.	1.5	38
34	The BepiColombo Mercury Imaging X-Ray Spectrometer: Science Goals, Instrument Performance and Operations. Space Science Reviews, 2020, 216, 1.	8.1	36
35	Detection of a variable interstellar absorption component towards Â Orionis A. Monthly Notices of the Royal Astronomical Society, 2000, 312, L43-L48.	4.4	35
36	Laboratory impacts into dry and wet sandstone with and without an overlying water layer: Implications for scaling laws and projectile survivability. Meteoritics and Planetary Science, 2007, 42, 1905-1914.	1.6	33

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37	An ultra-high-resolution study of the interstellar medium towards Orion. Monthly Notices of the Royal Astronomical Society, 2001, 328, 555-582.	4.4	32
38	A study of interstellar Na I D absorption lines towards the Lupus molecular clouds. Monthly Notices of the Royal Astronomical Society, 2000, 317, 996-1004.	4.4	31
39	Mercury's surface and composition to be studied by BepiColombo. Planetary and Space Science, 2010, 58, 21-39.	1.7	31
40	Numerical modeling of lavaâ€regolith heat transfer on the Moon and implications for the preservation of implanted volatiles. Journal of Geophysical Research E: Planets, 2013, 118, 382-397.	3.6	31
41	A comparative study of endolithic microborings in basaltic lavas from a transitional subglacialâ€“marine environment. International Journal of Astrobiology, 2009, 8, 37-49.	1.6	30
42	The scientific rationale for the C1XS X-ray spectrometer on India's Chandrayaan-1 mission to the moon. Planetary and Space Science, 2009, 57, 725-734.	1.7	30
43	The preservation of fossil biomarkers during meteorite impact events: Experimental evidence from biomarkerâ€rich projectiles and target rocks. Meteoritics and Planetary Science, 2010, 45, 1340-1358.	1.6	28
44	Selecting the geology filter wavelengths for the ExoMars Panoramic Camera instrument. Planetary and Space Science, 2012, 71, 80-100.	1.7	28
45	The Chandrayaan-1 X-ray Spectrometer: First results. Planetary and Space Science, 2012, 60, 217-228.	1.7	28
46	High-resolution observations of interstellar Na i and Ca ii towards the southern opening of the â€˜Local Interstellar Chimneyâ€™: probing the discâ€”halo connection. Monthly Notices of the Royal Astronomical Society, 2002, 337, 720-730.	4.4	27
47	Lunar science with affordable small spacecraft technologies: MoonLITE and Moonraker. Planetary and Space Science, 2008, 56, 368-377.	1.7	27
48	Dispelling the myth of robotic efficiency. Astronomy and Geophysics, 2012, 53, 2.22-2.26.	0.2	27
49	Ultraâ€“Highâ€Resolution Observations of Interstellar Naiand CaiiK toward the High Galactic Latitude Star HD 28497. Astrophysical Journal, 1997, 478, 648-657.	4.5	26
50	A VAPID analysis of interstellar lithium in the Î¶ Oph sightline. Monthly Notices of the Royal Astronomical Society, 2002, 335, 267-274.	4.4	24
51	Interplanetary Federalism: Maximising the Chances of Extraterrestrial Peace, Diversity and Liberty. Space and Society, 2015, , 199-218.	1.8	24
52	The thermal alteration by pyrolysis of the organic component of small projectiles of mudrock during capture at hypervelocity. Journal of Analytical and Applied Pyrolysis, 2008, 82, 312-314.	5.5	23
53	Characterization of multiple lithologies within the lunar feldspathic regolith breccia meteorite Northeast Africa 001. Meteoritics and Planetary Science, 2011, 46, 1288-1312.	1.6	23
54	Was There an Early Habitability Window for Earth's Moon?. Astrobiology, 2018, 18, 985-988.	3.0	22

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55	Spatially resolved optical spectroscopy of the Herbig Ae/Vega-like binary star HD 35187. Monthly Notices of the Royal Astronomical Society, 1998, 298, 275-284.	4.4	20
56	Variable interstellar absorption lines: a brief review. Astrophysics and Space Science, 2003, 285, 661-675.	1.4	20
57	The Lethality of Interplanetary Warfare: A Fundamental Constraint on Extraterrestrial Liberty. Space and Society, 2015, , 187-198.	1.8	20
58	High-resolution observations of interstellar NA I and CA II absorption lines toward the Scorpius OB1 association. Astrophysical Journal, 1989, 336, 212.	4.5	20
59	Ground calibration of the Chandrayaan-1 X-ray Solar Monitor (XSM). Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 607, 544-553.	1.6	19
60	Additional ultra-high-resolution observations of Ca+ ions in the local interstellar medium. Monthly Notices of the Royal Astronomical Society, 1998, 300, 1181-1188.	4.4	18
61	Detection of CaI and CH absorption at the velocity of the variable interstellar component towards Â Velorum. Monthly Notices of the Royal Astronomical Society, 2002, 334, L33-L37.	4.4	18
62	LunarEXâ€”a proposal to cosmic vision. Experimental Astronomy, 2009, 23, 711-740.	3.7	18
63	The Moon as a Recorder of Organic Evolution in the Early Solar System: A Lunar Regolith Analog Study. Astrobiology, 2015, 15, 154-168.	3.0	18
64	An ultra-high-resolution study of the interstellar medium in the direction of Â Ophiuchi. Monthly Notices of the Royal Astronomical Society, 2001, 327, 841-848.	4.4	17
65	Planetary X-ray fluorescence analogue laboratory experiments and an elemental abundance algorithm for C1XS. Planetary and Space Science, 2011, 59, 1393-1407.	1.7	17
66	Project Icarus: A review of local interstellar medium properties of relevance for space missions to the nearest stars. Acta Astronautica, 2011, 68, 691-699.	3.2	17
67	The Moon Zoo citizen science project: Preliminary results for the Apollo 17 landing site. Icarus, 2016, 271, 30-48.	2.5	17
68	kappa Velorum: another variable interstellar sightline?. Monthly Notices of the Royal Astronomical Society, 2000, 319, L1-L6.	4.4	16
69	Where are They?. Scientific American, 2000, 283, 38-43.	1.0	15
70	Astrobiological Considerations for the Selection of the Geological Filters on the ExoMars PanCam Instrument. Astrobiology, 2010, 10, 933-951.	3.0	15
71	Lunar Netâ€”a proposal in response to an ESA M3 call in 2010 for a medium sized mission. Experimental Astronomy, 2012, 33, 587-644.	3.7	15
72	Basaltic diversity at the Apollo 12 landing site: Inferences from petrologic examinations of the soil sample 12003. Meteoritics and Planetary Science, 2014, 49, 842-871.	1.6	15

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73	Biogeochemical probing of microbial communities in a basaltâ€hosted hot spring at KverkfjÃ¶ll volcano, Iceland. Geobiology, 2018, 16, 507-521.	2.4	15
74	Atomic and Molecular Interstellar Absorption Lines toward the High Galactic Latitude Stars HD 141569 and HD 157841 at Ultraâ€"High Resolution. Astrophysical Journal, 1998, 504, 522-532.	4.5	15
75	The optical interstellar spectrum of Â Vel (HD 81188) and a measurement of interstellar cloud turbulence. Monthly Notices of the Royal Astronomical Society, 1999, 302, 197-202.	4.4	14
76	Ultra-high-resolution observations of circumstellar K I and C2 around the post-AGB star HD 56126. Monthly Notices of the Royal Astronomical Society, 2000, 311, 370-376.	4.4	14
77	Astrobiological Benefits of Human Space Exploration. Astrobiology, 2010, 10, 577-587.	3.0	14
78	Moon Zoo: citizen science in lunar exploration. Astronomy and Geophysics, 2011, 52, 2.10-2.12.	0.2	14
79	Widening perspectives: the intellectual and social benefits of astrobiology (regardless of whether) Tj ETQq1 1 0.784314 rgBT /Overlock	1.6	14
80	A database of noble gases in lunar samples in preparation for mass spectrometry on the Moon. Planetary and Space Science, 2020, 182, 104823.	1.7	14
81	Space development: social and political implications. Space Policy, 1995, 11, 219-225.	1.5	13
82	Ultra-high-resolution observations of CH in Southern Molecular Cloud envelopes. Monthly Notices of the Royal Astronomical Society, 2002, 334, 327-337.	4.4	13
83	ESSC-ESF Position Paperâ€"Science-Driven Scenario for Space Exploration: Report from the European Space Sciences Committee (ESSC). Astrobiology, 2009, 9, 23-41.	3.0	13
84	Hypervelocity Impact Experiments in the Laboratory Relating to Lunar Astrobiology. Earth, Moon and Planets, 2010, 107, 55-64.	0.6	13
85	Lunar Exploration. , 2014, , 555-579.		13
86	An unusual clast in lunar meteorite MacAlpine Hills 88105: A unique lunar sample or projectile debris?. Meteoritics and Planetary Science, 2014, 49, 677-695.	1.6	13
87	Using extraterrestrial resources for science. Astronomy and Geophysics, 2016, 57, 4.32-4.36.	0.2	13
88	TOWARDS AN INTEGRATED SCIENTIFIC AND SOCIAL CASE FOR HUMAN SPACE EXPLORATION. Earth, Moon and Planets, 2005, 94, 245-266.	0.6	11
89	Astronomy from the Moon. Astronomy and Geophysics, 2008, 49, 2.17-2.19.	0.2	11
90	The lunar surface as a recorder of astrophysical processes. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20190562.	3.4	11

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91	Ultra-high-resolution observations of interstellar Na i and K i towards the Scorpius OB1 association. Monthly Notices of the Royal Astronomical Society, 2001, 328, 1115-1124.	4.4	10
92	Lunar PanCam: Adapting ExoMars PanCam for the ESA Lunar Lander. Planetary and Space Science, 2012, 74, 247-253.	1.7	10
93	The scientific legacy of Apollo. Astronomy and Geophysics, 2012, 53, 6.24-6.28.	0.2	10
94	Atomic gas in debris discs. Monthly Notices of the Royal Astronomical Society, 2017, 466, 3582-3593.	4.4	10
95	Observations of molecules in diffuse interstellar clouds. Journal of the Chemical Society, Faraday Transactions, 1993, 89, 2261.	1.7	9
96	An analysis of Apollo lunar soil samples 12070,889, 12030,187, and 12070,891: Basaltic diversity at the Apollo 12 landing site and implications for classification of smallâ€sized lunar samples. Meteoritics and Planetary Science, 2016, 51, 1654-1677.	1.6	9
97	Searching for nonlocal lithologies in the Apollo 12 regolith: A geochemical and petrological study of basaltic coarse fines from the Apollo lunar soil sample 12023,155. Meteoritics and Planetary Science, 2014, 49, 1288-1304.	1.6	8
98	The petrology, geochemistry, and age of lunar regolith breccias Miller Range 090036 and 090070: Insights into the crustal history of the Moon. Meteoritics and Planetary Science, 2017, 52, 3-23.	1.6	8
99	Human exploration of the Moon and Mars: implications for Aurora. Astronomy and Geophysics, 2004, 45, 2.28-2.29.	0.2	7
100	Why we should build a Moon village. Astronomy and Geophysics, 2017, 58, 6.18-6.21.	0.2	7
101	Â Orionis: further temporal variability and evidence for small-scale structure in the interstellar medium. Monthly Notices of the Royal Astronomical Society, 2001, 321, 553-558.	4.4	6
102	Possible evidence for on-going volcanism on Mars as suggested by thin, elliptical sheets of low-albedo particulate material around pits and fissures close to Cerberus Fossae. Earth, Moon and Planets, 2007, 101, 1-16.	0.6	6
103	Western Oceanus Procellarum as seen by C1XS on Chandrayaan-1. Icarus, 2014, 229, 254-262.	2.5	6
104	The scientific case for human space exploration. Space Policy, 2001, 17, 155-159.	1.5	5
105	Back to the Moon?. Astronomy and Geophysics, 2003, 44, 2.15-2.17.	0.2	5
106	Organic Matter Responses to Radiation under Lunar Conditions. Astrobiology, 2016, 16, 900-912.	3.0	5
107	Direct Exoplanet Investigation Using Interstellar Space Probes. , 2018, , 3413-3431.		5
108	Big history and the cosmic perspective. Astronomy and Geophysics, 2018, 59, 5.33-5.36.	0.2	5

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109	Astronomy from the Moon: the next decades. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20190560.	3.4	5
110	UK Lunar Science Missions: Moonlite & Moonraker. , 2007, , .		4
111	MoonLITE: A UK-led mission to the Moon. Astronomy and Geophysics, 2008, 49, 3.11-3.14.	0.2	4
112	Assessing the survivability of biomarkers within terrestrial material impacting the lunar surface. Icarus, 2021, 354, 114026.	2.5	4
113	Widening Perspectives: The Intellectual and Social Benefits of Astrobiology, Big History, and the Exploration of Space. Journal of Big History, 2019, 3, 205-224.	0.4	4
114	Complex burial histories of Apollo 12 basaltic soil grains derived from cosmogenic noble gases: Implications for local regolith evolution and future inÂsitu investigations. Meteoritics and Planetary Science, 2022, 57, 603-634.	1.6	4
115	Which way to the Moon?. Astronomy and Geophysics, 2006, 47, 4.17-4.19.	0.2	3
116	A Comment on â€œThe Far Future of Exoplanet Direct Characterizationâ€â€”The Case for Interstellar Space Probes. Astrobiology, 2010, 10, 853-856.	3.0	3
117	The Moon and the early Earth. Astronomy and Geophysics, 2013, 54, 1.31-1.34.	0.2	3
118	The scientific case for human space exploration. Astronomy and Geophysics, 2005, 46, 1.17-1.18.	0.2	2
119	Introduction to the Special Issue on Astrobiology on the Moon. Earth, Moon and Planets, 2010, 107, 1-1.	0.6	2
120	The Moon as a Recorder of Nearby Supernovae. , 2017, , 2507-2522.		2
121	Benefits of mission to Mars. Nature, 1990, 346, 504-504.	27.8	1
122	World government the answer?. Nature, 1994, 371, 194-194.	27.8	1
123	<title>Ultrastable high-resolution spectrographs for large telescopes</title>. , 1998, , .		1
124	Space exploration and the RAS. Astronomy and Geophysics, 2007, 48, 6.9-6.10.	0.2	1
125	Does the UK need a Space Agency?. Astronomy and Geophysics, 2009, 50, 1.07-1.07.	0.2	1
126	Introduction to the Special Issue on the Global Exploration Roadmap. Space Policy, 2014, 30, 141-142.	1.5	1

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127	Expanding worldviews: cosmic perspectives. Astronomy and Geophysics, 2019, 60, 6.36-6.40.	0.2	1
128	Antimatter. Nature, 1987, 329, 758-758.	27.8	0
129	Beyond the nation-state. Nature, 1992, 358, 448-448.	27.8	0
130	<title>UHRF: spectral resolution to the limit</title>. , 1994, 2198, 274.		0
131	Design of the high-resolution optical spectrograph (HROS) for the Gemini telescope. , 2000, 4008, 159.		0
132	THE SCIENTIFIC CASE FOR HUMAN SPACE EXPLORATION. Earth, Moon and Planets, 2005, 94, 167-168.	0.6	0
133	Exploring the Moon: a UK perspective. Astronomy and Geophysics, 2008, 49, 1.09-1.12.	0.2	0
134	The Moon as a Recorder of NearbySupernovae. , 2016, , 1-16.		0
135	The Moon as a Recorder of Nearby Supernovae. , 2016, , 1-16.		0
136	Direct Exoplanet Investigation Using Interstellar Space Probes. , 2017, , 1-19.		0
137	Why Space Is Still the Place. Inference, 2019, 4, .	0.0	0