Roger Buick

List of Publications by Year
in descending order

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Version: 2024-02-01

81	10,851	41344	60623
papers	citations	49 h-index	81 g-index

85	85	85	6220
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Archean Molecular Fossils and the Early Rise of Eukaryotes. Science, 1999, 285, 1033-1036.	12.6	1,153
2	A Whiff of Oxygen Before the Great Oxidation Event?. Science, 2007, 317, 1903-1906.	12.6	822
3	Isotopic evidence for microbial sulphate reduction in the early Archaean era. Nature, 2001, 410, 77-81.	27.8	599
4	Stromatolites 3,400â€“3,500 Myr old from the North Pole area, Western Australia. Nature, 1980, 284, 443-445.	27.8	446
5	Late Archean Biospheric Oxygenation and Atmospheric Evolution. Science, 2007, 317, 1900-1903.	12.6	327
6	The antiquity of oxygenic photosynthesis: evidence from stromatolites in sulphate-deficient Archaean lakes. Science, 1992, 255, 74-77.	12.6	318
7	Abrupt and Gradual Extinction Among Late Permian Land Vertebrates in the Karoo Basin, South Africa. Science, 2005, 307, 709-714.	12.6	281
8	When did oxygenic photosynthesis evolve?. Philosophical Transactions of the Royal Society B: Biological Sciences, 2008, 363, 2731-2743.	4.0	278
9	The evolution of Earth's biogeochemical nitrogen cycle. Earth-Science Reviews, 2016, 160, 220-239.	9.1	269
10	A reconstruction of Archean biological diversity based on molecular fossils from the 2.78 to 2.45 billion-year-old Mount Bruce Supergroup, Hamersley Basin, Western Australia. Geochimica Et Cosmochimica Acta, 2003, 67, 4321-4335.	3.9	262
11	Record of emergent continental crust â^¼3.5 billion years ago in the Pilbara craton of Australia. Nature, 1995, 375, 574-577.	27.8	260
12	Evaporitic sediments of Early Archaean age from the Warrawoona Group, North Pole, Western Australia. Sedimentology, 1990, 37, 247-277.	3.1	255
13	Preservation of Martian Organic and Environmental Records: Final Report of the Mars Biosignature Working Group. Astrobiology, 2011, 11, 157-181.	3.0	255
14	Stromatolite recognition in ancient rocks: an appraisal of irregularly laminated structures in an Early Archaean chert-barite unit from North Pole, Western Australia. Alcheringa, 1981, 5, 161-181.	1.2	243
15	Reappraisal of hydrocarbon biomarkers in Archean rocks. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 5915-5920.	7.1	230
16	Microfossil Recognition in Archean Rocks: An Appraisal of Spheroids and Filaments from a 3500 M.Y. Old Chert-Barite Unit at North Pole, Western Australia. Palaios, 1990, 5, 441.	1.3	229
17	Isotopic Evidence for an Aerobic Nitrogen Cycle in the Latest Archean. Science, 2009, 323, 1045-1048.	12.6	214
18	Redox state of the Archean atmosphere: Evidence from detrital heavy minerals in ca. 3250â€“2750 Ma sandstones from the Pilbara Craton, Australia. Geology, 1999, 27, 115.	4.4	213

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19	Isotopic evidence for biological nitrogen fixation by molybdenum-nitrogenase from 3.2ÂGyr. Nature, 2015, 520, 666-669.	27.8	213
20	Composition and syngeneity of molecular fossils from the 2.78 to 2.45 billion-year-old Mount Bruce Supergroup, Pilbara Craton, Western Australia. Geochimica Et Cosmochimica Acta, 2003, 67, 4289-4319.	3.9	211
21	The antiquity of microbial sulfate reduction. Earth-Science Reviews, 2004, 64, 243-272.	9.1	208
22	Evaluating the role of microbial sulfate reduction in the early Archean using quadruple isotope systematics. Earth and Planetary Science Letters, 2009, 279, 383-391.	4.4	173
23	Stable isotopic compositions of carbonates from the Mesoproterozoic Bangemall group, northwestern Australia. Chemical Geology, 1995, 123, 153-171.	3.3	169
24	Air density 2.7 billion years ago limited to less than twice modern levels by fossil raindrop imprints. Nature, 2012, 484, 359-362.	27.8	167
25	Evidence for reactive reduced phosphorus species in the early Archean ocean. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 10089-10094.	7.1	156
26	Earth's air pressure 2.7 billion years ago constrained to less than half of modern levels. Nature Geoscience, 2016, 9, 448-451.	12.9	132
27	A statistical analysis of the carbon isotope record from the Archean to Phanerozoic and implications for the rise of oxygen. Numerische Mathematik, 2015, 315, 275-316.	1.4	130
28	Contributions to late Archaean sulphur cycling by life on land. Nature Geoscience, 2012, 5, 722-725.	12.9	118
29	Geochronology of a Late Archaean flood basalt province in the Pilbara Craton, Australia: constraints on basin evolution, volcanic and sedimentary accumulation, and continental drift rates. Precambrian Research, 2004, 133, 143-173.	2.7	113
30	Growth and recycling of early Archaean continental crust: geochemical evidence from the Coonterunah and Warrawoona Groups, Pilbara Craton, Australia. Tectonophysics, 2000, 322, 69-88.	2.2	109
31	Oil preserved in fluid inclusions in Archaean sandstones. Nature, 1998, 395, 885-888.	27.8	105
32	Nitrogen isotope evidence for alkaline lakes on late Archean continents. Earth and Planetary Science Letters, 2015, 411, 1-10.	4.4	104
33	Removal of oceanic REE by authigenic precipitation of phosphatic minerals. Earth and Planetary Science Letters, 1998, 164, 135-149.	4.4	100
34	Biomarkers from Huronian oil-bearing fluid inclusions: An uncontaminated record of life before the Great Oxidation Event. Geology, 2006, 34, 437.	4.4	97
35	Preservation of hydrocarbons and biomarkers in oil trapped inside fluid inclusions for >2 billion years. Geochimica Et Cosmochimica Acta, 2008, 72, 844-870.	3.9	96
36	Release of bound aromatic hydrocarbons from late Archean and Mesoproterozoic kerogens via hydropyrolysis. Geochimica Et Cosmochimica Acta, 2003, 67, 1521-1530.	3.9	95

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37	Carbonaceous filaments from North Pole, Western Australia: Are they fossil bacteria in Archaean stromatolites?. Precambrian Research, 1984, 24, 157-172.	2.7	94
38	Did the Proterozoic ?Canfield Ocean? cause a laughing gas greenhouse?. Geobiology, 2007, 5, 97-100.	2.4	94
39	An extended organic carbon-isotope record across the Triassicâ€“Jurassic boundary in the Queen Charlotte Islands, British Columbia, Canada. Palaeogeography, Palaeoclimatology, Palaeoecology, 2007, 244, 290-296.	2.3	90
40	An Early Habitat of Life. Scientific American, 1981, 245, 64-73.	1.0	86
41	Modeling the signature of sulfur mass-independent fractionation produced in the Archean atmosphere. Geochimica Et Cosmochimica Acta, 2014, 141, 365-380.	3.9	80
42	The changing view of eukaryogenesis â€“ fossils, cells, lineages and how they all come together. Journal of Cell Science, 2016, 129, 3695-3703.	2.0	77
43	Selenium isotopes support free O2 in the latest Archean. Geology, 2015, 43, 259-262.	4.4	74
44	Pervasive aerobic nitrogen cycling in the surface ocean across the Paleoproterozoic Era. Earth and Planetary Science Letters, 2018, 500, 117-126.	4.4	70
45	Selenium isotopes record extensive marine suboxia during the Great Oxidation Event. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 875-880.	7.1	67
46	Spatial and temporal trends in Precambrian nitrogen cycling: A Mesoproterozoic offshore nitrate minimum. Geochimica Et Cosmochimica Acta, 2017, 198, 315-337.	3.9	65
47	Differential metamorphic effects on nitrogen isotopes in kerogen extracts and bulk rocks. Geochimica Et Cosmochimica Acta, 2017, 217, 80-94.	3.9	61
48	Geochronology and stratigraphic relationships of the Sulphur Springs Group and Strelley Granite: a temporally distinct igneous province in the Archaean Pilbara Craton, Australia. Precambrian Research, 2002, 114, 87-120.	2.7	59
49	The evolution of the global selenium cycle: Secular trends in Se isotopes and abundances. Geochimica Et Cosmochimica Acta, 2015, 162, 109-125.	3.9	59
50	Modeling pN₂ through Geological Time: Implications for Planetary Climates and Atmospheric Biosignatures. Astrobiology, 2016, 16, 949-963.	3.0	53
51	Redox state of the Archean atmosphere: Evidence from detrital heavy minerals in ca. 3250â€“2750 Ma sandstones from the Pilbara Craton, Australia: Comment and Reply. Geology, 1999, 27, 1151.	4.4	47
52	Transient surface ocean oxygenation recorded in the â^¼2.66-Ga Jeerinah Formation, Australia. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 7711-7716.	7.1	46
53	Acritarchs and microfossils from the Mesoproterozoic Bangemall Group, northwestern Australia. Journal of Paleontology, 1999, 73, 744-764.	0.8	43
54	Carbonaceous filaments from North Pole, Western Australia: Are they fossil bacteria in archaean stromatolites? A reply. Precambrian Research, 1988, 39, 311-317.	2.7	42

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55	Ancient acritarchs. Nature, 2010, 463, 885-886.	27.8	40
56	Oily old ores: Evidence for hydrothermal petroleum generation in an Archean volcanogenic massive sulfide deposit. Geology, 2000, 28, 731.	4.4	39
57	Oil-bearing CO2â€“CH4â€“H2O fluid inclusions: oil survival since the Palaeoproterozoic after high temperature entrapment. Chemical Geology, 2003, 194, 51-79.	3.3	39
58	Selenium isotope analysis of organic-rich shales: advances in sample preparation and isobaric interference correction. Journal of Analytical Atomic Spectrometry, 2013, 28, 1734.	3.0	34
59	Origin and significance of aromatic hydrocarbons in giant iron ore deposits of the late Archean Hamersley Basin, Western Australia. Organic Geochemistry, 2003, 34, 1161-1175.	1.8	33
60	Mercury abundance and isotopic composition indicate subaerial volcanism prior to the end-Archean â€œwhiffâ€•of oxygen. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	32
61	Selenium isotope ratios, redox changes and biological productivity across the end-Permian mass extinction. Chemical Geology, 2015, 410, 28-39.	3.3	30
62	Environmental control on microbial diversification and methane production in the Mesoarchean. Precambrian Research, 2018, 304, 64-72.	2.7	29
63	Environmental niches and metabolic diversity in Neoarchean lakes. Geobiology, 2017, 15, 767-783.	2.4	25
64	Atmospheric CO ₂ levels from 2.7 billion years ago inferred from micrometeorite oxidation. Science Advances, 2020, 6, eaay4644.	10.3	22
65	Life in the Archaean. , 0, , 13-21.		20
66	Oil-bearing fluid inclusions from the Palaeoproterozoic: A review of biogeochemical results from time-capsules >2.0 Ga old. Science in China Series D: Earth Sciences, 2009, 52, 1-11.	0.9	15
67	Nitrogen isotope evidence for anoxic deep marine environments from the Mesoarchean Mosquito Creek Formation, Australia. Precambrian Research, 2019, 320, 281-290.	2.7	13
68	Basinal hydrographic and redox controls on selenium enrichment and isotopic composition in Paleozoic black shales. Geochimica Et Cosmochimica Acta, 2020, 287, 229-250.	3.9	12
69	Redox fluctuations, trace metal enrichment and phosphogenesis in the ~2.0ÂGa Zaonega Formation. Precambrian Research, 2020, 343, 105716.	2.7	12
70	Eolianite Grain Size Distributions as a Proxy for Large Changes in Planetary Atmospheric Density. Journal of Geophysical Research E: Planets, 2018, 123, 2506-2526.	3.6	11
71	Comments and Replies on â€œEarly Archean silicate spherules of probable impact origin, South Africa and Western Australiaâ€• Geology, 1987, 15, 180.	4.4	11
72	Ancient air caught by shooting stars. Nature, 2016, 533, 184-186.	27.8	10

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73	Records of geomagnetism, climate, and tectonics across a Paleoarchean erosion surface. Earth and Planetary Science Letters, 2015, 419, 1-13.	4.4	9
74	Exploring cycad foliage as an archive of the isotopic composition of atmospheric nitrogen. Geobiology, 2020, 18, 152-166.	2.4	9
75	Quantitative discrimination between geological materials with variable density contrast by high resolution X-ray computed tomography: An example using amygdule size-distribution in ancient lava flows. Computers and Geosciences, 2013, 54, 231-238.	4.2	6
76	Bias in carbon concentration and Î´13C measurements of organic matter due to cleaning treatments with organic solvents. Chemical Geology, 2018, 493, 405-412.	3.3	6
77	Revisiting the depositional environment of the Neoproterozoic Callanna Group, South Australia. Precambrian Research, 2019, 334, 105474.	2.7	6
78	Oily old ores: Evidence for hydrothermal petroleum generation in an Archean volcanogenic massive sulfide deposit. Geology, 2000, 28, 731-734.	4.4	6
79	Oxygen and life in the Precambrian. Geobiology, 2006, 4, 225-226.	2.4	4
80	Reply to the comment by Bolhar et al. on â€˜Growth and recycling of early Archaean continental crust: geochemical evidence from the Coonterunah and Warrawoona Groups, Pilbara Craton, Australiaâ€™ by Green et al. [Tectonophysics 322 (2000) 69â€“88]. Tectonophysics, 2002, 344, 293-296.	2.2	0
81	Vesicle paleobarometry in the Pongola Supergroup: A cautionary note and guidelines for future studies. South African Journal of Geology, 2020, 123, 95-104.	1.2	0