Roger Buick

List of Publications by Year
in descending order

81 papers	10,851 citations	41339 49 h-index	60616 81 g-index
85 all docs	85 docs citations	85 times ranked	6220 citing authors

#	Article	IF	Citations
1	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
2	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
3	Exploring cycad foliage as an archive of the isotopic composition of atmospheric nitrogen. Geobiology, 2020, 18, 152-166.	2.4	9
4	Redox fluctuations, trace metal enrichment and phosphogenesis in the ~2.0ÂGa Zaonega Formation. Precambrian Research, 2020, 343, 105716.	2.7	12
5	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
6	Atmospheric CO ₂ levels from 2.7 billion years ago inferred from micrometeorite oxidation. Science Advances, 2020, 6, eaay4644.	10.3	22
7	Revisiting the depositional environment of the Neoproterozoic Callanna Group, South Australia. Precambrian Research, 2019, 334, 105474.	2.7	6
8	Nitrogen isotope evidence for anoxic deep marine environments from the Mesoarchean Mosquito Creek Formation, Australia. Precambrian Research, 2019, 320, 281-290.	2.7	13
9	Environmental control on microbial diversification and methane production in the Mesoarchean. Precambrian Research, 2018, 304, 64-72.	2.7	29
10	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
11	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
12	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
13	Pervasive aerobic nitrogen cycling in the surface ocean across the Paleoproterozoic Era. Earth and Planetary Science Letters, 2018, 500, 117-126.	4.4	70
14	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
15	Differential metamorphic effects on nitrogen isotopes in kerogen extracts and bulk rocks. Geochimica Et Cosmochimica Acta, 2017, 217, 80-94.	3.9	61
16	Environmental niches and metabolic diversity in Neoarchean lakes. Geobiology, 2017, 15, 767-783.	2.4	25
17	Spatial and temporal trends in Precambrian nitrogen cycling: A Mesoproterozoic offshore nitrate minimum. Geochimica Et Cosmochimica Acta, 2017, 198, 315-337.	3.9	65
18	Modeling <i>p</i>N₂ through Geological Time: Implications for Planetary Climates and Atmospheric Biosignatures. Astrobiology, 2016, 16, 949-963.	3.0	53

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19	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
20	Ancient air caught by shooting stars. Nature, 2016, 533, 184-186.	27.8	10
21	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
22	The evolution of Earth's biogeochemical nitrogen cycle. Earth-Science Reviews, 2016, 160, 220-239.	9.1	269
23	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
24	Selenium isotopes support free O2 in the latest Archean. Geology, 2015, 43, 259-262.	4.4	74
25	Isotopic evidence for biological nitrogen fixation by molybdenum-nitrogenase from 3.2ÂGyr. Nature, 2015, 520, 666-669.	27.8	213
26	Selenium isotope ratios, redox changes and biological productivity across the end-Permian mass extinction. Chemical Geology, 2015, 410, 28-39.	3.3	30
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	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
29	Records of geomagnetism, climate, and tectonics across a Paleoarchean erosion surface. Earth and Planetary Science Letters, 2015, 419, 1-13.	4.4	9
30	Nitrogen isotope evidence for alkaline lakes on late Archean continents. Earth and Planetary Science Letters, 2015, 411, 1-10.	4.4	104
31	Modeling the signature of sulfur mass-independent fractionation produced in the Archean atmosphere. Geochimica Et Cosmochimica Acta, 2014, 141, 365-380.	3.9	80
32	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
33	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
34	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
35	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
36	Contributions to late Archaean sulphur cycling by life on land. Nature Geoscience, 2012, 5, 722-725.	12.9	118

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37	Preservation of Martian Organic and Environmental Records: Final Report of the Mars Biosignature Working Group. Astrobiology, 2011, 11, 157-181.	3.0	255
38	Ancient acritarchs. Nature, 2010, 463, 885-886.	27.8	40
39	Isotopic Evidence for an Aerobic Nitrogen Cycle in the Latest Archean. Science, 2009, 323, 1045-1048.	12.6	214
40	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
41	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
42	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
43	When did oxygenic photosynthesis evolve?. Philosophical Transactions of the Royal Society B: Biological Sciences, 2008, 363, 2731-2743.	4.0	278
44	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
45	Late Archean Biospheric Oxygenation and Atmospheric Evolution. Science, 2007, 317, 1900-1903.	12.6	327
46	Did the Proterozoic ?Canfield Ocean? cause a laughing gas greenhouse?. Geobiology, 2007, 5, 97-100.	2.4	94
47	A Whiff of Oxygen Before the Great Oxidation Event?. Science, 2007, 317, 1903-1906.	12.6	822
48	Biomarkers from Huronian oil-bearing fluid inclusions: An uncontaminated record of life before the Great Oxidation Event. Geology, 2006, 34, 437.	4.4	97
49	Oxygen and life in the Precambrian. Geobiology, 2006, 4, 225-226.	2.4	4
50	Abrupt and Gradual Extinction Among Late Permian Land Vertebrates in the Karoo Basin, South Africa. Science, 2005, 307, 709-714.	12.6	281
51	The antiquity of microbial sulfate reduction. Earth-Science Reviews, 2004, 64, 243-272.	9.1	208
52	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
53	Release of bound aromatic hydrocarbons from late Archean and Mesoproterozoic kerogens via hydropyrolysis. Geochimica Et Cosmochimica Acta, 2003, 67, 1521-1530.	3.9	95
54	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

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55	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
56	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
57	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
58	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
59	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
60	Isotopic evidence for microbial sulphate reduction in the early Archaean era. Nature, 2001, 410, 77-81.	27.8	599
61	Oily old ores: Evidence for hydrothermal petroleum generation in an Archean volcanogenic massive sulfide deposit. Geology, 2000, 28, 731.	4.4	39
62	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
63	Oily old ores: Evidence for hydrothermal petroleum generation in an Archean volcanogenic massive sulfide deposit. Geology, 2000, 28, 731-734.	4.4	6
64	Acritarchs and microfossils from the Mesoproterozoic Bangemall Group, northwestern Australia. Journal of Paleontology, 1999, 73, 744-764.	0.8	43
65	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
66	Archean Molecular Fossils and the Early Rise of Eukaryotes. Science, 1999, 285, 1033-1036.	12.6	1,153
67	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
68	Oil preserved in fluid inclusions in Archaean sandstones. Nature, 1998, 395, 885-888.	27.8	105
69	Removal of oceanic REE by authigenic precipitation of phosphatic minerals. Earth and Planetary Science Letters, 1998, 164, 135-149.	4.4	100
70	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
71	Stable isotopic compositions of carbonates from the Mesoproterozoic Bangemall group, northwestern Australia. Chemical Geology, 1995, 123, 153-171.	3.3	169
72	The antiquity of oxygenic photosynthesis: evidence from stromatolites in sulphate-deficient Archaean lakes. Science, 1992, 255, 74-77.	12.6	318

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73	Evaporitic sediments of Early Archaean age from the Warrawoona Group, North Pole, Western Australia. Sedimentology, 1990, 37, 247-277.	3.1	255
74	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
75	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
76	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
77	Carbonaceous filaments from North Pole, Western Australia: Are they fossil bacteria in Archaean stromatolites?. Precambrian Research, 1984, 24, 157-172.	2.7	94
78	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
79	An Early Habitat of Life. Scientific American, 1981, 245, 64-73.	1.0	86
80	Stromatolites 3,400â€"3,500 Myr old from the North Pole area, Western Australia. Nature, 1980, 284, 443-445.	27.8	446
81	Life in the Archaean. , 0, , 13-21.		20