Andrew H Knoll

List of Publications by Year
in descending order

103 papers	13,829 citations	34016 52 h-index	34900 98 g-index
131 all docs	131 docs citations	131 times ranked	10230 citing authors

#	Article	IF	Citations
1	Cyanobacteria and biogeochemical cycles through Earth history. Trends in Microbiology, 2022, 30, 143-157.	3.5	108
2	Appearance and disappearance rates of Phanerozoic marine animal paleocommunities. Geology, 2022, 50, 341-345.	2.0	2
3	Biomineralization: Integrating mechanism and evolutionary history. Science Advances, 2022, 8, eabl9653.	4.7	86
4	Early impacts of climate change on a coastal marine microbial mat ecosystem. Science Advances, 2022, 8, .	4.7	7
5	An expanded diversity of oomycetes in Carboniferous forests: Reinterpretation of Oochytrium lepidodendri (Renault 1894) from the Esnost chert, Massif Central, France. PLoS ONE, 2021, 16, e0247849.	1.1	1
6	A coupled model of episodic warming, oxidation and geochemical transitions on early Mars. Nature Geoscience, 2021, 14, 127-132.	5.4	64
7	Non-lithifying microbial ecosystem dissolves peritidal lime sand. Nature Communications, 2021, 12, 3037.	5.8	7
8	The Great Oxygenation Event as a consequence of ecological dynamics modulated by planetary change. Nature Communications, 2021, 12, 3985.	5.8	24
9	The Sedimentary Geochemistry and Paleoenvironments Project. Geobiology, 2021, 19, 545-556.	1.1	26
10	A persistently low level of atmospheric oxygen in Earthâ€™s middle age. Nature Communications, 2021, 12, 351.	5.8	48
11	Carbonates before skeletons: A database approach. Earth-Science Reviews, 2020, 201, 103065.	4.0	49
12	Neoproterozoic origin and multiple transitions to macroscopic growth in green seaweeds. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 2551-2559.	3.3	85
13	Aluminosilicate haloes preserve complex life approximately 800 million years ago. Interface Focus, 2020, 10, 20200011.	1.5	24
14	Cycling phosphorus on the Archean Earth: Part I. Continental weathering and riverine transport of phosphorus. Geochimica Et Cosmochimica Acta, 2020, 273, 70-84.	1.6	36
15	Thermal performance of the European flat oyster, Ostrea edulis (Linnaeus, 1758)â€"explaining ecological findings under climate change. Marine Biology, 2020, 167, 1.	0.7	47
16	Cycling phosphorus on the Archean Earth: Part II. Phosphorus limitation on primary production in Archean ecosystems. Geochimica Et Cosmochimica Acta, 2020, 280, 360-377.	1.6	39
17	Ediacaran reorganization of the marine phosphorus cycle. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 11961-11967.	3.3	55
18	Model for the Formation of Singleâ€Thread Rivers in Barren Landscapes and Implications for Preâ€Silurian and Martian Fluvial Deposits. Journal of Geophysical Research F: Earth Surface, 2019, 124, 2757-2777.	1.0	35

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19	Deep Carbon through Deep Time. , 2019, , 620-652.		10
20	Testate Amoebae in the 407-Million-Year-Old Rhynie Chert. Current Biology, 2019, 29, 461-467.e2.	1.8	18
21	Biomineralization by particle attachment in early animals. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 17659-17665.	3.3	74
22	The Rhynie chert. Current Biology, 2019, 29, R1218-R1223.	1.8	19
23	Plastid phylogenomics with broad taxon sampling further elucidates the distinct evolutionary origins and timing of secondary green plastids. Scientific Reports, 2018, 8, 1523.	1.6	66
24	Active Ooid Growth Driven By Sediment Transport in a High-Energy Shoal, Little Ambergris Cay, Turks and Caicos Islands. Journal of Sedimentary Research, 2018, 88, 1132-1151.	0.8	43
25	A tale of two eras: Phytoplankton composition influenced by oceanic paleochemistry. Geobiology, 2018, 16, 498-506.	1.1	10
26	Evolution caused by extreme events. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20160146.	1.8	170
27	The timetable of evolution. Science Advances, 2017, 3, e1603076.	4.7	186
28	Iron minerals within specific microfossil morphospecies of the 1.88â€‰Ga Gunflint Formation. Nature Communications, 2017, 8, 14890.	5.8	56
29	Micropaleontology of the lower Mesoproterozoic Roper Group, Australia, and implications for early eukaryotic evolution. Journal of Paleontology, 2017, 91, 199-229.	0.5	115
30	Nacre tablet thickness records formation temperature in modern and fossil shells. Earth and Planetary Science Letters, 2017, 460, 281-292.	1.8	51
31	Food for early animal evolution. Nature, 2017, 548, 528-530.	13.7	35
32	Early photosynthetic eukaryotes inhabited low-salinity habitats. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E7737-E7745.	3.3	244
33	Reply to Nakov et al.: Model choice requires biological insight when studying the ancestral habitat of photosynthetic eukaryotes. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E10608-E10609.	3.3	9
34	Presentation of the 2015 Schuchert Award of the Paleontological Society to Jonathan Payne. Journal of Paleontology, 2017, 91, 1341-1341.	0.5	0
35	Divergence time estimates and the evolution of major lineages in the florideophyte red algae. Scientific Reports, 2016, 6, 21361.	1.6	139
36	High concentrations of manganese and sulfur in deposits on Murray Ridge, Endeavour Crater, Mars. American Mineralogist, 2016, 101, 1389-1405.	0.9	55

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37	A bottom-up perspective on ecosystem change in Mesozoic oceans. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20161755.	1.2	54
38	Life: the first two billion years. Philosophical Transactions of the Royal Society B: Biological Sciences, 2016, 371, 20150493.	1.8	102
39	Decimetre-scale multicellular eukaryotes from the 1.56-billion-year-old Gaoyuzhuang Formation in North China. Nature Communications, 2016, 7, 11500.	5.8	130
40	Stratigraphic evolution of the Neoproterozoic Callison Lake Formation: Linking the break-up of Rodinia to the Islay carbon isotope excursion. Numerische Mathematik, 2015, 315, 881-944.	0.7	43
41	A Tribute to Martin D. Brasier: Palaeobiologist and Astrobiologist (April 12, 1947â€"December 16, 2014). Astrobiology, 2015, 15, 940-948.	1.5	2
42	Paleobiological Perspectives on Early Microbial Evolution. Cold Spring Harbor Perspectives in Biology, 2015, 7, a018093.	2.3	57
43	Statistical analysis of iron geochemical data suggests limited late Proterozoic oxygenation. Nature, 2015, 523, 451-454.	13.7	484
44	A morphospace of planktonic marine diatoms. I. Two views of disparity through time. Paleobiology, 2015, 41, 45-67.	1.3	20
45	The Ecological Physiology of Earth's Second Oxygen Revolution. Annual Review of Ecology, Evolution, and Systematics, 2015, 46, 215-235.	3.8	106
46	A morphospace of planktonic marine diatoms. II. Sampling standardization and spatial disparity partitioning. Paleobiology, 2015, 41, 68-88.	1.3	6
47	Paleobiological Perspectives on Early Eukaryotic Evolution. Cold Spring Harbor Perspectives in Biology, 2014, 6, a016121-a016121.	2.3	298
48	Oxygen and animals in Earth history. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3907-3908.	3.3	63
49	Sands at Gusev Crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 941-967.	1.5	19
50	Microstructures in metasedimentary rocks from the Neoproterozoic Bonahaven Formation, Scotland: Microconcretions, impact spherules, or microfossils?. Precambrian Research, 2013, 233, 59-72.	1.2	14
51	The Meaning of Stromatolites. Annual Review of Earth and Planetary Sciences, 2013, 41, 21-44.	4.6	221
52	Grazers and Phytoplankton Growth in the Oceans: an Experimental and Evolutionary Perspective. PLoS ONE, 2013, 8, e77349.	1.1	39
53	Lynn Margulis, 1938â€"2011. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 1022-1022.	3.3	8
54	Si isotope variability in Proterozoic cherts. Geochimica Et Cosmochimica Acta, 2012, 91, 187-201.	1.6	75

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55	Scale microfossils from the mid-Neoproterozoic Fifteenmile Group, Yukon Territory. Journal of Paleontology, 2012, 86, 775-800.	0.5	45
56	The Multiple Origins of Complex Multicellularity. Annual Review of Earth and Planetary Sciences, 2011, 39, 217-239.	4.6	424
57	Needs and opportunities in mineral evolution research. American Mineralogist, 2011, 96, 953-963.	0.9	61
58	Estimating the timing of early eukaryotic diversification with multigene molecular clocks. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 13624-13629.	3.3	747
59	Reply to Butterfield: The Devonian radiation of large predatory fish coincided with elevated atmospheric oxygen levels. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, E29-E29.	3.3	0
60	The Riddle of the Sands. Astrobiology, 2011, 11, 90-91.	1.5	1
61	Skeletons and Ocean Chemistry: The Long View. , 2011, , .		16
62	Devonian rise in atmospheric oxygen correlated to the radiations of terrestrial plants and large predatory fish. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 17911-17915.	3.3	340
63	Non-Skeletal Biomineralization by Eukaryotes: Matters of Moment and Gravity. Geomicrobiology Journal, 2010, 27, 572-584.	1.0	51
64	Clay mineralogy, organic carbon burial, and redox evolution in Proterozoic oceans. Geochimica Et Cosmochimica Acta, 2010, 74, 1579-1592.	1.6	94
65	A physiologically explicit morphospace for tracheid-based water transport in modern and extinct seed plants. Paleobiology, 2010, 36, 335-355.	1.3	58
66	Large spinose microfossils in Ediacaran rocks as resting stages of early animals. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 6519-6524.	3.3	139
67	Controls on development and diversity of Early Archean stromatolites. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 9548-9555.	3.3	235
68	The coevolution of life and environments. Rendiconti Lincei, 2009, 20, 301-306.	1.0	10
69	Neoproterozoic microfossils from the northeastern margin of the East European Platform. Journal of Paleontology, 2009, 83, 161-196.	0.5	92
70	Veneers, rinds, and fracture fills: Relatively late alteration of sedimentary rocks at Meridiani Planum, Mars. Journal of Geophysical Research, 2008, 113, .	3.3	57
71	Surface processes recorded by rocks and soils on Meridiani Planum, Mars: Microscopic Imager observations during Opportunity's first three extended missions. Journal of Geophysical Research, 2008, 113, .	3.3	39
72	Modeling fluid flow in <i>Medullosa</i>, an anatomically unusual Carboniferous seed plant. Paleobiology, 2008, 34, 472-493.	1.3	50

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73	Paleophysiology and end-Permian mass extinction. Earth and Planetary Science Letters, 2007, 256, 295-313.	1.8	575
74	The Geological Succession of Primary Producers in the Oceans. , 2007, , 133-163.		150
75	The Ediacaran Period: a new addition to the geologic time scale. Lethaia, 2006, 39, 13-30.	0.6	296
76	Biomarker evidence for green and purple sulphur bacteria in a stratified Palaeoproterozoic sea. Nature, 2005, 437, 866-870.	13.7	512
77	Phosphatized multicellular algae in the Neoproterozoic Doushantuo Formation, China, and the early evolution of florideophyte red algae. American Journal of Botany, 2004, 91, 214-227.	0.8	158
78	Response to Comment on "The Evolution of Modern Eukaryotic Phytoplankton". Science, 2004, 306, 2191c-2191c.	6.0	11
79	TEM evidence for eukaryotic diversity in mid-Proterozoic oceans. Geobiology, 2004, 2, 121-132.	1.1	219
80	Evolutionary Trajectories and Biogeochemical Impacts of Marine Eukaryotic Phytoplankton. Annual Review of Ecology, Evolution, and Systematics, 2004, 35, 523-556.	3.8	192
81	The Evolution of Modern Eukaryotic Phytoplankton. Science, 2004, 305, 354-360.	6.0	1,287
82	GEOLOGY: A New Period for the Geologic Time Scale. Science, 2004, 305, 621-622.	6.0	246
83	The geological consequences of evolution. Geobiology, 2003, 1, 3-14.	1.1	154
84	VASE-SHAPED MICROFOSSILS FROM THE NEOPROTEROZOIC CHUAR GROUP, GRAND CANYON: A CLASSIFICATION GUIDED BY MODERN TESTATE AMOEBAE. Journal of Paleontology, 2003, 77, 409-429.	0.5	157
85	Vase-shaped microfossils from the Neoproterozoic Chuar Group, Grand Canyon: A classification guided by modern testate amoebae. Journal of Paleontology, 2003, 77, 409-429.	0.5	147
86	11. Biomineralization and Evolutionary History. , 2003, , 329-356.		37
87	Anatomical and ecological constraints on Phanerozoic animal diversity in the marine realm. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 6854-6859.	3.3	201
88	Macroscopic carbonaceous compressions in a terminal Proterozoic shale: A systematic reassessment of the Miaohe biota, south China. Journal of Paleontology, 2002, 76, 347-376.	0.5	178
89	Evolution of developmental potential and the multiple independent origins of leaves in Paleozoic vascular plants. Paleobiology, 2002, 28, 70-100.	1.3	142
90	MACROSCOPIC CARBONACEOUS COMPRESSIONS IN A TERMINAL PROTEROZOIC SHALE: A SYSTEMATIC REASSESSMENT OF THE MIAOHE BIOTA, SOUTH CHINA. Journal of Paleontology, 2002, 76, 347-376.	0.5	183

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91	Morphological and ecological complexity in early eukaryotic ecosystems. Nature, 2001, 412, 66-69.	13.7	402
92	Testate amoebae in the Neoproterozoic Era: evidence from vase-shaped microfossils in the Chuar Group, Grand Canyon. Paleobiology, 2000, 26, 360-385.	1.3	279
93	Calcified metazoans in thrombolite-stromatolite reefs of the terminal Proterozoic Nama Group, Namibia. Paleobiology, 2000, 26, 334-359.	1.3	295
94	STROMATOLITES IN PRECAMBRIAN CARBONATES: Evolutionary Mileposts or Environmental Dipsticks?. Annual Review of Earth and Planetary Sciences, 1999, 27, 313-358.	4.6	726
95	Strontium isotopic variations of Neoproterozoic seawater: Implications for crustal evolution. Geochimica Et Cosmochimica Acta, 1991, 55, 2883-2894.	1.6	204
96	Secular Change in Chert Distribution: A Reflection of Evolving Biological Participation in the Silica Cycle. Palaios, 1989, 4, 519.	0.6	252
97	New window on Proterozoic life. Nature, 1989, 337, 602-603.	13.7	26
98	Micropaleontology across the Precambrianâ€"Cambrian boundary in Spitsbergen. Journal of Paleontology, 1987, 61, 898-926.	0.5	79
99	Patterns of evolution in the Archean and Proterozoic Eons. Paleobiology, 1985, 11, 53-64.	1.3	26
100	Earth's Earliest Biosphere: Its Origin and Evolution, J. William Schopf, editor. Princeton University Press; Princeton, New Jersey. 1983. xxv + 543 pp. $93.00 (cloth); $42.50 (paper).. Paleobiology, 1984, 10, 286-292.	1.3	4
101	Character diversification and patterns of evolution in early vascular plants. Paleobiology, 1984, 10, 34-47.	1.3	95
102	Precambrian-Cambrian Boundary: the spike is driven and the monolith crumbles. Paleobiology, 1983, 9, 199-206.	1.3	12
103	Archean photoautotrophy: Some alternatives and limits. Origins of Life and Evolution of Biospheres, 1979, 9, 313-327.	0.6	44