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	The Evolution of Modern Eukaryotic Phytoplankton. Science, 2004, 305, 354-360.	6.0	1,287
2	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
3	STROMATOLITES IN PRECAMBRIAN CARBONATES: Evolutionary Mileposts or Environmental Dipsticks?. Annual Review of Earth and Planetary Sciences, 1999, 27, 313-358.	4.6	726
4	Paleophysiology and end-Permian mass extinction. Earth and Planetary Science Letters, 2007, 256, 295-313.	1.8	575
5	Biomarker evidence for green and purple sulphur bacteria in a stratified Palaeoproterozoic sea. Nature, 2005, 437, 866-870.	13.7	512
6	Statistical analysis of iron geochemical data suggests limited late Proterozoic oxygenation. Nature, 2015, 523, 451-454.	13.7	484
7	The Multiple Origins of Complex Multicellularity. Annual Review of Earth and Planetary Sciences, 2011, 39, 217-239.	4.6	424
8	Morphological and ecological complexity in early eukaryotic ecosystems. Nature, 2001, 412, 66-69.	13.7	402
9	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
10	Paleobiological Perspectives on Early Eukaryotic Evolution. Cold Spring Harbor Perspectives in Biology, 2014, 6, a016121-a016121.	2.3	298
11	The Ediacaran Period: a new addition to the geologic time scale. Lethaia, 2006, 39, 13-30.	0.6	296
12	Calcified metazoans in thrombolite-stromatolite reefs of the terminal Proterozoic Nama Group, Namibia. Paleobiology, 2000, 26, 334-359.	1.3	295
13	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
14	Secular Change in Chert Distribution: A Reflection of Evolving Biological Participation in the Silica Cycle. Palaios, 1989, 4, 519.	0.6	252
15	GEOLOGY: A New Period for the Geologic Time Scale. Science, 2004, 305, 621-622.	6.0	246
16	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
17	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
18	The Meaning of Stromatolites. Annual Review of Earth and Planetary Sciences, 2013, 41, 21-44.	4.6	221

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19	TEM evidence for eukaryotic diversity in mid-Proterozoic oceans. Geobiology, 2004, 2, 121-132.	1.1	219
20	Strontium isotopic variations of Neoproterozoic seawater: Implications for crustal evolution. Geochimica Et Cosmochimica Acta, 1991, 55, 2883-2894.	1.6	204
21	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
22	Evolutionary Trajectories and Biogeochemical Impacts of Marine Eukaryotic Phytoplankton. Annual Review of Ecology, Evolution, and Systematics, 2004, 35, 523-556.	3.8	192
23	The timetable of evolution. Science Advances, 2017, 3, e1603076.	4.7	186
24	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
25	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
26	Evolution caused by extreme events. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20160146.	1.8	170
27	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
28	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
29	The geological consequences of evolution. Geobiology, 2003, 1, 3-14.	1.1	154
30	The Geological Succession of Primary Producers in the Oceans. , 2007, , 133-163.		150
31	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
32	Evolution of developmental potential and the multiple independent origins of leaves in Paleozoic vascular plants. Paleobiology, 2002, 28, 70-100.	1.3	142
33	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
34	Divergence time estimates and the evolution of major lineages in the florideophyte red algae. Scientific Reports, 2016, 6, 21361.	1.6	139
35	Decimetre-scale multicellular eukaryotes from the 1.56-billion-year-old Gaoyuzhuang Formation in North China. Nature Communications, 2016, 7, 11500.	5.8	130
36	Micropaleontology of the lower Mesoproterozoic Roper Group, Australia, and implications for early eukaryotic evolution. Journal of Paleontology, 2017, 91, 199-229.	0.5	115

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37	Cyanobacteria and biogeochemical cycles through Earth history. Trends in Microbiology, 2022, 30, 143-157.	3.5	108
38	The Ecological Physiology of Earth's Second Oxygen Revolution. Annual Review of Ecology, Evolution, and Systematics, 2015, 46, 215-235.	3.8	106
39	Life: the first two billion years. Philosophical Transactions of the Royal Society B: Biological Sciences, 2016, 371, 20150493.	1.8	102
40	Character diversification and patterns of evolution in early vascular plants. Paleobiology, 1984, 10, 34-47.	1.3	95
41	Clay mineralogy, organic carbon burial, and redox evolution in Proterozoic oceans. Geochimica Et Cosmochimica Acta, 2010, 74, 1579-1592.	1.6	94
42	Neoproterozoic microfossils from the northeastern margin of the East European Platform. Journal of Paleontology, 2009, 83, 161-196.	0.5	92
43	Biomineralization: Integrating mechanism and evolutionary history. Science Advances, 2022, 8, eabl9653.	4.7	86
44	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
45	Micropaleontology across the Precambrianâ€"Cambrian boundary in Spitsbergen. Journal of Paleontology, 1987, 61, 898-926.	0.5	79
46	Si isotope variability in Proterozoic cherts. Geochimica Et Cosmochimica Acta, 2012, 91, 187-201.	1.6	75
47	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
48	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
49	A coupled model of episodic warming, oxidation and geochemical transitions on early Mars. Nature Geoscience, 2021, 14, 127-132.	5.4	64
50	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
51	Needs and opportunities in mineral evolution research. American Mineralogist, 2011, 96, 953-963.	0.9	61
52	A physiologically explicit morphospace for tracheid-based water transport in modern and extinct seed plants. Paleobiology, 2010, 36, 335-355.	1.3	58
53	Veneers, rinds, and fracture fills: Relatively late alteration of sedimentary rocks at Meridiani Planum, Mars. Journal of Geophysical Research, 2008, 113, .	3.3	57
54	Paleobiological Perspectives on Early Microbial Evolution. Cold Spring Harbor Perspectives in Biology, 2015, 7, a018093.	2.3	57

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55	Iron minerals within specific microfossil morphospecies of the 1.88â€‰Ga Gunflint Formation. Nature Communications, 2017, 8, 14890.	5.8	56
56	High concentrations of manganese and sulfur in deposits on Murray Ridge, Endeavour Crater, Mars. American Mineralogist, 2016, 101, 1389-1405.	0.9	55
57	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
58	A bottom-up perspective on ecosystem change in Mesozoic oceans. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20161755.	1.2	54
59	Non-Skeletal Biomineralization by Eukaryotes: Matters of Moment and Gravity. Geomicrobiology Journal, 2010, 27, 572-584.	1.0	51
60	Nacre tablet thickness records formation temperature in modern and fossil shells. Earth and Planetary Science Letters, 2017, 460, 281-292.	1.8	51
61	Modeling fluid flow in <i>Medullosa</i>, an anatomically unusual Carboniferous seed plant. Paleobiology, 2008, 34, 472-493.	1.3	50
62	Carbonates before skeletons: A database approach. Earth-Science Reviews, 2020, 201, 103065.	4.0	49
63	A persistently low level of atmospheric oxygen in Earthâ€™s middle age. Nature Communications, 2021, 12, 351.	5.8	48
64	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
65	Scale microfossils from the mid-Neoproterozoic Fifteenmile Group, Yukon Territory. Journal of Paleontology, 2012, 86, 775-800.	0.5	45
66	Archean photoautotrophy: Some alternatives and limits. Origins of Life and Evolution of Biospheres, 1979, 9, 313-327.	0.6	44
67	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
68	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
69	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
70	Grazers and Phytoplankton Growth in the Oceans: an Experimental and Evolutionary Perspective. PLoS ONE, 2013, 8, e77349.	1.1	39
71	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
72	11. Biomineralization and Evolutionary History. , 2003, , 329-356.		37

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73	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
74	Food for early animal evolution. Nature, 2017, 548, 528-530.	13.7	35
75	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
76	Patterns of evolution in the Archean and Proterozoic Eons. Paleobiology, 1985, 11, 53-64.	1.3	26
77	New window on Proterozoic life. Nature, 1989, 337, 602-603.	13.7	26
78	The Sedimentary Geochemistry and Paleoenvironments Project. Geobiology, 2021, 19, 545-556.	1.1	26
79	Aluminosilicate haloes preserve complex life approximately 800 million years ago. Interface Focus, 2020, 10, 20200011.	1.5	24
80	The Great Oxygenation Event as a consequence of ecological dynamics modulated by planetary change. Nature Communications, 2021, 12, 3985.	5.8	24
81	A morphospace of planktonic marine diatoms. I. Two views of disparity through time. Paleobiology, 2015, 41, 45-67.	1.3	20
82	Sands at Gusev Crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 941-967.	1.5	19
83	The Rhynie chert. Current Biology, 2019, 29, R1218-R1223.	1.8	19
84	Testate Amoebae in the 407-Million-Year-Old Rhynie Chert. Current Biology, 2019, 29, 461-467.e2.	1.8	18
85	Skeletons and Ocean Chemistry: The Long View. , 2011, , .		16
86	Microstructures in metasedimentary rocks from the Neoproterozoic Bonahaven Formation, Scotland: Microconcretions, impact spherules, or microfossils?. Precambrian Research, 2013, 233, 59-72.	1.2	14
87	Precambrian-Cambrian Boundary: the spike is driven and the monolith crumbles. Paleobiology, 1983, 9, 199-206.	1.3	12
88	Response to Comment on "The Evolution of Modern Eukaryotic Phytoplankton". Science, 2004, 306, 2191c-2191c.	6.0	11
89	The coevolution of life and environments. Rendiconti Lincei, 2009, 20, 301-306.	1.0	10
90	A tale of two eras: Phytoplankton composition influenced by oceanic paleochemistry. Geobiology, 2018, 16, 498-506.	1.1	10

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91	Deep Carbon through Deep Time. , 2019, , 620-652.		10
92	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
93	Lynn Margulis, 1938â€"2011. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 1022-1022.	3.3	8
94	Non-lithifying microbial ecosystem dissolves peritidal lime sand. Nature Communications, 2021, 12, 3037.	5.8	7
95	Early impacts of climate change on a coastal marine microbial mat ecosystem. Science Advances, 2022, 8, .	4.7	7
96	A morphospace of planktonic marine diatoms. II. Sampling standardization and spatial disparity partitioning. Paleobiology, 2015, 41, 68-88.	1.3	6
97	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
98	A Tribute to Martin D. Brasier: Palaeobiologist and Astrobiologist (April 12, 1947â€"December 16, 2014). Astrobiology, 2015, 15, 940-948.	1.5	2
99	Appearance and disappearance rates of Phanerozoic marine animal paleocommunities. Geology, 2022, 50, 341-345.	2.0	2
100	The Riddle of the Sands. Astrobiology, 2011, 11, 90-91.	1.5	1
101	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
102	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
103	Presentation of the 2015 Schuchert Award of the Paleontological Society to Jonathan Payne. Journal of Paleontology, 2017, 91, 1341-1341.	0.5	0