Andrew H Knoll

List of Publications by Year
in descending order

127 papers	14,436 citations	29928 54 h-index	34704 99 g-index
138 all docs	138 docs citations	138 times ranked	12102 citing authors

#	Article	IF	Citations
1	Early Pennsylvanian LagerstÃtte reveals a diverse ecosystem on a subhumid, alluvial fan. Nature Communications, 2024, 15, .	13.2	0
2	Chronology of Ediacaran sedimentary and biogeochemical shifts along eastern Gondwanan margins. Communications Earth & Environment, 2024, 5, .	6.7	0
3	Cyanobacteria and biogeochemical cycles through Earth history. Trends in Microbiology, 2022, 30, 143-157.	7.7	131
4	Appearance and disappearance rates of Phanerozoic marine animal paleocommunities. Geology, 2022, 50, 341-345.	4.3	2
5	Biomineralization: Integrating mechanism and evolutionary history. Science Advances, 2022, 8, eabl9653.	10.9	118
6	Early impacts of climate change on a coastal marine microbial mat ecosystem. Science Advances, 2022, 8, .	10.9	9
7	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.	2.5	1
8	A coupled model of episodic warming, oxidation and geochemical transitions on early Mars. Nature Geoscience, 2021, 14, 127-132.	11.9	74
9	Non-lithifying microbial ecosystem dissolves peritidal lime sand. Nature Communications, 2021, 12, 3037.	13.2	10
10	The Great Oxygenation Event as a consequence of ecological dynamics modulated by planetary change. Nature Communications, 2021, 12, 3985.	13.2	29
11	The Sedimentary Geochemistry and Paleoenvironments Project. Geobiology, 2021, 19, 545-556.	2.6	30
12	A persistently low level of atmospheric oxygen in Earthâ€™s middle age. Nature Communications, 2021, 12, 351.	13.2	59
13	Carbonates before skeletons: A database approach. Earth-Science Reviews, 2020, 201, 103065.	9.4	53
14	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.	7.6	92
15	Aluminosilicate haloes preserve complex life approximately 800 million years ago. Interface Focus, 2020, 10, 20200011.	3.2	27
16	Cycling phosphorus on the Archean Earth: Part I. Continental weathering and riverine transport of phosphorus. Geochimica Et Cosmochimica Acta, 2020, 273, 70-84.	3.9	41
17	Thermal performance of the European flat oyster, Ostrea edulis (Linnaeus, 1758)â€"explaining ecological findings under climate change. Marine Biology, 2020, 167, 1.	1.5	52
18	Cycling phosphorus on the Archean Earth: Part II. Phosphorus limitation on primary production in Archean ecosystems. Geochimica Et Cosmochimica Acta, 2020, 280, 360-377.	3.9	47

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19	Ediacaran reorganization of the marine phosphorus cycle. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 11961-11967.	7.6	67
20	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.	2.8	39
21	Deep Carbon through Deep Time. , 2019, , 620-652.		11
22	Testate Amoebae in the 407-Million-Year-Old Rhynie Chert. Current Biology, 2019, 29, 461-467.e2.	4.0	20
23	Biomineralization by particle attachment in early animals. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 17659-17665.	7.6	79
24	The Rhynie chert. Current Biology, 2019, 29, R1218-R1223.	4.0	21
25	Plastid phylogenomics with broad taxon sampling further elucidates the distinct evolutionary origins and timing of secondary green plastids. Scientific Reports, 2018, 8, 1523.	3.4	75
26	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.	1.7	46
27	A tale of two eras: Phytoplankton composition influenced by oceanic paleochemistry. Geobiology, 2018, 16, 498-506.	2.6	11
28	Evolution caused by extreme events. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20160146.	4.2	181
29	The timetable of evolution. Science Advances, 2017, 3, e1603076.	10.9	203
30	Iron minerals within specific microfossil morphospecies of the 1.88â€‰Ga Gunflint Formation. Nature Communications, 2017, 8, 14890.	13.2	61
31	Micropaleontology of the lower Mesoproterozoic Roper Group, Australia, and implications for early eukaryotic evolution. Journal of Paleontology, 2017, 91, 199-229.	1.0	117
32	Nacre tablet thickness records formation temperature in modern and fossil shells. Earth and Planetary Science Letters, 2017, 460, 281-292.	4.4	54
33	Food for early animal evolution. Nature, 2017, 548, 528-530.	36.2	38
34	Early photosynthetic eukaryotes inhabited low-salinity habitats. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E7737-E7745.	7.6	255
35	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.	7.6	9
36	Presentation of the 2015 Schuchert Award of the Paleontological Society to Jonathan Payne. Journal of Paleontology, 2017, 91, 1341-1341.	1.0	0

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37	Divergence time estimates and the evolution of major lineages in the florideophyte red algae. Scientific Reports, 2016, 6, 21361.	3.4	143
38	High concentrations of manganese and sulfur in deposits on Murray Ridge, Endeavour Crater, Mars. American Mineralogist, 2016, 101, 1389-1405.	2.4	56
39	A bottom-up perspective on ecosystem change in Mesozoic oceans. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20161755.	2.8	60
40	Life: the first two billion years. Philosophical Transactions of the Royal Society B: Biological Sciences, 2016, 371, 20150493.	4.2	108
41	Decimetre-scale multicellular eukaryotes from the 1.56-billion-year-old Gaoyuzhuang Formation in North China. Nature Communications, 2016, 7, 11500.	13.2	140
42	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.	1.5	44
43	A Tribute to Martin D. Brasier: Palaeobiologist and Astrobiologist (April 12, 1947â€“December 16, 2014). Astrobiology, 2015, 15, 940-948.	3.1	2
44	Paleobiological Perspectives on Early Microbial Evolution. Cold Spring Harbor Perspectives in Biology, 2015, 7, a018093.	5.4	58
45	Statistical analysis of iron geochemical data suggests limited late Proterozoic oxygenation. Nature, 2015, 523, 451-454.	36.2	518
46	A morphospace of planktonic marine diatoms. I. Two views of disparity through time. Paleobiology, 2015, 41, 45-67.	2.7	20
47	The Ecological Physiology of Earth's Second Oxygen Revolution. Annual Review of Ecology, Evolution, and Systematics, 2015, 46, 215-235.	8.6	114
48	A morphospace of planktonic marine diatoms. II. Sampling standardization and spatial disparity partitioning. Paleobiology, 2015, 41, 68-88.	2.7	6
49	Paleobiological Perspectives on Early Eukaryotic Evolution. Cold Spring Harbor Perspectives in Biology, 2014, 6, a016121-a016121.	5.4	311
50	Oxygen and animals in Earth history. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3907-3908.	7.6	66
51	Sands at Gusev Crater, Mars. Journal of Geophysical Research E: Planets, 2014, 119, 941-967.	3.6	19
52	Microstructures in metasedimentary rocks from the Neoproterozoic Bonahaven Formation, Scotland: Microconcretions, impact spherules, or microfossils?. Precambrian Research, 2013, 233, 59-72.	2.9	14
53	The Meaning of Stromatolites. Annual Review of Earth and Planetary Sciences, 2013, 41, 21-44.	11.0	232
54	Grazers and Phytoplankton Growth in the Oceans: an Experimental and Evolutionary Perspective. PLoS ONE, 2013, 8, e77349.	2.5	40

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55	Lynn Margulis, 1938â€“2011. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 1022-1022.	7.6	9
56	Si isotope variability in Proterozoic cherts. Geochimica Et Cosmochimica Acta, 2012, 91, 187-201.	3.9	78
57	Mineralogical Coâ€Evolution of the Geosphere and Biosphere. , 2012, , 333-350.		6
58	The Global Carbon Cycle: Biological Processes. , 2012, , 5-19.		3
59	What is Geobiology?. , 2012, , 1-4.		4
60	The Global Carbon Cycle: Geological Processes. , 2012, , 20-35.		25
61	The Global Nitrogen Cycle. , 2012, , 36-48.		23
62	The Global Sulfur Cycle. , 2012, , 49-64.		22
63	The Global Iron Cycle. , 2012, , 65-92.		62
64	The Global Oxygen Cycle. , 2012, , 93-104.		11
65	Bacterial Biomineralization. , 2012, , 105-130.		55
66	Geobiology of the Proterozoic Eon. , 2012, , 371-402.		12
67	The Fossil Record of Microbial Life. , 2012, , 297-314.		13
68	Geobiology of the Phanerozoic. , 2012, , 403-424.		0
69	Mineralâ€“Organicâ€“Microbe Interfacial Chemistry. , 2012, , 131-149.		2
70	A Geobiological View of Weathering and Erosion. , 2012, , 205-227.		18
71	Geochemical Origins of Life. , 2012, , 315-332.		4
72	Stable Isotope Geobiology. , 2012, , 250-268.		7

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73	Biomarkers: Informative Molecules for Studies in Geobiology. , 2012, , 269-296.		23
74	Geobiology of the Archean Eon. , 2012, , 351-370.		6
75	Plants and Animals as Geobiological Agents. , 2012, , 188-204.		5
76	Geobiology of the Anthropocene. , 2012, , 425-436.		5
77	Eukaryotic Skeletal Formation. , 2012, , 150-187.		3
78	Molecular Biology's Contributions to Geobiology. , 2012, , 228-249.		4
79	Scale microfossils from the mid-Neoproterozoic Fifteenmile Group, Yukon Territory. Journal of Paleontology, 2012, 86, 775-800.	1.0	46
80	The Multiple Origins of Complex Multicellularity. Annual Review of Earth and Planetary Sciences, 2011, 39, 217-239.	11.0	449
81	Needs and opportunities in mineral evolution research. American Mineralogist, 2011, 96, 953-963.	2.4	64
82	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.	7.6	778
83	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.	7.6	0
84	Skeletons and Ocean Chemistry: The Long View. , 2011, , .		16
85	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.	7.6	353
86	Non-Skeletal Biomineralization by Eukaryotes: Matters of Moment and Gravity. Geomicrobiology Journal, 2010, 27, 572-584.	1.9	52
87	Clay mineralogy, organic carbon burial, and redox evolution in Proterozoic oceans. Geochimica Et Cosmochimica Acta, 2010, 74, 1579-1592.	3.9	98
88	A physiologically explicit morphospace for tracheid-based water transport in modern and extinct seed plants. Paleobiology, 2010, 36, 335-355.	2.7	58
89	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.	7.6	146
90	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.	7.6	241

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91	The coevolution of life and environments. Rendiconti Lincei, 2009, 20, 301-306.	2.2	10
92	Neoproterozoic microfossils from the northeastern margin of the East European Platform. Journal of Paleontology, 2009, 83, 161-196.	1.0	94
93	Veneers, rinds, and fracture fills: Relatively late alteration of sedimentary rocks at Meridiani Planum, Mars. Journal of Geophysical Research, 2008, 113, .	3.3	57
94	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	40
95	Modeling fluid flow in <i>Medullosa</i>, an anatomically unusual Carboniferous seed plant. Paleobiology, 2008, 34, 472-493.	2.7	52
96	Paleophysiology and end-Permian mass extinction. Earth and Planetary Science Letters, 2007, 256, 295-313.	4.4	588
97	The Geological Succession of Primary Producers in the Oceans. , 2007, , 133-163.		154
98	The Ediacaran Period: a new addition to the geologic time scale. Lethaia, 2006, 39, 13-30.	1.4	302
99	Biomarker evidence for green and purple sulphur bacteria in a stratified Palaeoproterozoic sea. Nature, 2005, 437, 866-870.	36.2	522
100	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.	1.9	162
101	TEM evidence for eukaryotic diversity in mid-Proterozoic oceans. Geobiology, 2004, 2, 121-132.	2.6	222
102	Evolutionary Trajectories and Biogeochemical Impacts of Marine Eukaryotic Phytoplankton. Annual Review of Ecology, Evolution, and Systematics, 2004, 35, 523-556.	8.6	201
103	The Evolution of Modern Eukaryotic Phytoplankton. Science, 2004, 305, 354-360.	20.9	1,320
104	GEOLOGY: A New Period for the Geologic Time Scale. Science, 2004, 305, 621-622.	20.9	252
105	The geological consequences of evolution. Geobiology, 2003, 1, 3-14.	2.6	157
106	VASE-SHAPED MICROFOSSILS FROM THE NEOPROTEROZOIC CHUAR GROUP, GRAND CANYON: A CLASSIFICATION GUIDED BY MODERN TESTATE AMOEBAE. Journal of Paleontology, 2003, 77, 409-429.	1.0	160
107	Vase-shaped microfossils from the Neoproterozoic Chuar Group, Grand Canyon: A classification guided by modern testate amoebae. Journal of Paleontology, 2003, 77, 409-429.	1.0	152
108	11. Biomineralization and Evolutionary History. , 2003, , 329-356.		37

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109	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.	7.6	204
110	Macroscopic carbonaceous compressions in a terminal Proterozoic shale: A systematic reassessment of the Miaohe biota, south China. Journal of Paleontology, 2002, 76, 347-376.	1.0	184
111	Evolution of developmental potential and the multiple independent origins of leaves in Paleozoic vascular plants. Paleobiology, 2002, 28, 70-100.	2.7	147
112	MACROSCOPIC CARBONACEOUS COMPRESSIONS IN A TERMINAL PROTEROZOIC SHALE: A SYSTEMATIC REASSESSMENT OF THE MIAOHE BIOTA, SOUTH CHINA. Journal of Paleontology, 2002, 76, 347-376.	1.0	198
113	Morphological and ecological complexity in early eukaryotic ecosystems. Nature, 2001, 412, 66-69.	36.2	408
114	Testate amoebae in the Neoproterozoic Era: evidence from vase-shaped microfossils in the Chuar Group, Grand Canyon. Paleobiology, 2000, 26, 360-385.	2.7	280
115	Calcified metazoans in thrombolite-stromatolite reefs of the terminal Proterozoic Nama Group, Namibia. Paleobiology, 2000, 26, 334-359.	2.7	296
116	STROMATOLITES IN PRECAMBRIAN CARBONATES: Evolutionary Mileposts or Environmental Dipsticks?. Annual Review of Earth and Planetary Sciences, 1999, 27, 313-358.	11.0	742
117	Strontium isotopic variations of Neoproterozoic seawater: Implications for crustal evolution. Geochimica Et Cosmochimica Acta, 1991, 55, 2883-2894.	3.9	208
118	Secular Change in Chert Distribution: A Reflection of Evolving Biological Participation in the Silica Cycle. Palaios, 1989, 4, 519.	1.4	262
119	New window on Proterozoic life. Nature, 1989, 337, 602-603.	36.2	26
120	Micropaleontology across the Precambrianâ€"Cambrian boundary in Spitsbergen. Journal of Paleontology, 1987, 61, 898-926.	1.0	79
121	Patterns of evolution in the Archean and Proterozoic Eons. Paleobiology, 1985, 11, 53-64.	2.7	26
122	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.	2.7	4
123	Character diversification and patterns of evolution in early vascular plants. Paleobiology, 1984, 10, 34-47.	2.7	97
124	The Botanical Museum of Harvard University in Its 125th Year 1858-1983. Botanical Museum Leaflets, Harvard University, 1984, 30, 1-62.	0.0	0
125	Precambrian-Cambrian Boundary: the spike is driven and the monolith crumbles. Paleobiology, 1983, 9, 199-206.	2.7	12
126	Archean photoautotrophy: Some alternatives and limits. Origins of Life and Evolution of Biospheres, 1979, 9, 313-327.	0.6	44

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127	Sustained increases in atmospheric oxygen and marine productivity in the Neoproterozoic and Palaeozoic eras. Nature Geoscience, 0, , .	11.9	0