

# Andrew H Knoll

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

122  
papers

10,520  
citations

47  
h-index

102  
g-index

131  
ext. papers

12,240  
ext. citations

9.6  
avg, IF

6.64  
L-index

#	Paper	IF	Citations
122	Biom mineralization: Integrating mechanism and evolutionary history.. <i>Science Advances</i> , <b>2022</b> , 8, eabl9653	14.3	5
121	A coupled model of episodic warming, oxidation and geochemical transitions on early Mars. <i>Nature Geoscience</i> , <b>2021</b> , 14, 127-132	18.3	20
120	Non-lithifying microbial ecosystem dissolves peritidal lime sand. <i>Nature Communications</i> , <b>2021</b> , 12, 3037	17.4	2
119	The Great Oxygenation Event as a consequence of ecological dynamics modulated by planetary change. <i>Nature Communications</i> , <b>2021</b> , 12, 3985	17.4	5
118	The Sedimentary Geochemistry and Paleoenvironments Project. <i>Geobiology</i> , <b>2021</b> , 19, 545-556	4.3	7
117	Cyanobacteria and biogeochemical cycles through Earth history. <i>Trends in Microbiology</i> , <b>2021</b> ,	12.4	16
116	An expanded diversity of oomycetes in Carboniferous forests: Reinterpretation of <i>Oochytrium lepidodendri</i> (Renault 1894) from the Esnost chert, Massif Central, France. <i>PLoS ONE</i> , <b>2021</b> , 16, e0247849	3.7	1
115	A persistently low level of atmospheric oxygen in Earth's middle age. <i>Nature Communications</i> , <b>2021</b> , 12, 351	17.4	21
114	Aluminosilicate haloes preserve complex life approximately 800 million years ago. <i>Interface Focus</i> , <b>2020</b> , 10, 20200011	3.9	14
113	Cycling phosphorus on the Archean Earth: Part I. Continental weathering and riverine transport of phosphorus. <i>Geochimica Et Cosmochimica Acta</i> , <b>2020</b> , 273, 70-84	5.5	15
112	Thermal performance of the European flat oyster, <i>Ostrea edulis</i> (Linnaeus, 1758) explaining ecological findings under climate change. <i>Marine Biology</i> , <b>2020</b> , 167, 1	2.5	11
111	Ediacaran reorganization of the marine phosphorus cycle. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2020</b> , 117, 11961-11967	11.5	21
110	Carbonates before skeletons: A database approach. <i>Earth-Science Reviews</i> , <b>2020</b> , 201, 103065	10.2	20
109	Neoproterozoic origin and multiple transitions to macroscopic growth in green seaweeds. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2020</b> , 117, 2551-2559	11.5	44
108	Cycling phosphorus on the Archean Earth: Part II. Phosphorus limitation on primary production in Archean ecosystems. <i>Geochimica Et Cosmochimica Acta</i> , <b>2020</b> , 280, 360-377	5.5	14
107	Model for the Formation of Single-Thread Rivers in Barren Landscapes and Implications for Pre-Silurian and Martian Fluvial Deposits. <i>Journal of Geophysical Research F: Earth Surface</i> , <b>2019</b> , 124, 2757-2777	3.8	16
106	Deep Carbon through Deep Time <b>2019</b> , 620-652		6

105	Testate Amoebae in the 407-Million-Year-Old Rhynie Chert. <i>Current Biology</i> , <b>2019</b> , 29, 461-467.e2	6.3	12
104	Biomineralization by particle attachment in early animals. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2019</b> , 116, 17659-17665	11.5	45
103	The Rhynie chert. <i>Current Biology</i> , <b>2019</b> , 29, R1218-R1223	6.3	10
102	Plastid phylogenomics with broad taxon sampling further elucidates the distinct evolutionary origins and timing of secondary green plastids. <i>Scientific Reports</i> , <b>2018</b> , 8, 1523	4.9	40
101	Active Ooid Growth Driven By Sediment Transport in a High-Energy Shoal, Little Ambergris Cay, Turks and Caicos Islands. <i>Journal of Sedimentary Research</i> , <b>2018</b> , 88, 1132-1151	2.1	24
100	A tale of two eras: Phytoplankton composition influenced by oceanic paleochemistry. <i>Geobiology</i> , <b>2018</b> , 16, 498-506	4.3	5
99	Evolution caused by extreme events. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , <b>2017</b> , 372,	5.8	102
98	The timetable of evolution. <i>Science Advances</i> , <b>2017</b> , 3, e1603076	14.3	115
97	Iron minerals within specific microfossil morphospecies of the 1.88 Ga Gunflint Formation. <i>Nature Communications</i> , <b>2017</b> , 8, 14890	17.4	42
96	Micropaleontology of the lower Mesoproterozoic Roper Group, Australia, and implications for early eukaryotic evolution. <i>Journal of Paleontology</i> , <b>2017</b> , 91, 199-229	1.1	74
95	Nacre tablet thickness records formation temperature in modern and fossil shells. <i>Earth and Planetary Science Letters</i> , <b>2017</b> , 460, 281-292	5.3	35
94	Presentation of the 2015 Schuchert Award of the Paleontological Society to Jonathan Payne. <i>Journal of Paleontology</i> , <b>2017</b> , 91, 1341-1341	1.1	
93	Early photosynthetic eukaryotes inhabited low-salinity habitats. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2017</b> , 114, E7737-E7745	11.5	158
92	Reply to Nakov et al.: Model choice requires biological insight when studying the ancestral habitat of photosynthetic eukaryotes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2017</b> , 114, E10608-E10609	11.5	6
91	Decimetre-scale multicellular eukaryotes from the 1.56-billion-year-old Gaoyuzhuang Formation in North China. <i>Nature Communications</i> , <b>2016</b> , 7, 11500	17.4	84
90	Divergence time estimates and the evolution of major lineages in the florideophyte red algae. <i>Scientific Reports</i> , <b>2016</b> , 6, 21361	4.9	102
89	High concentrations of manganese and sulfur in deposits on Murray Ridge, Endeavour Crater, Mars. <i>American Mineralogist</i> , <b>2016</b> , 101, 1389-1405	2.9	40
88	A bottom-up perspective on ecosystem change in Mesozoic oceans. <i>Proceedings of the Royal Society B: Biological Sciences</i> , <b>2016</b> , 283,	4.4	41

87	Life: the first two billion years. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , <b>2016</b> , 371,	5.8	81
86	Paleobiological Perspectives on Early Microbial Evolution. <i>Cold Spring Harbor Perspectives in Biology</i> , <b>2015</b> , 7, a018093	10.2	40
85	Statistical analysis of iron geochemical data suggests limited late Proterozoic oxygenation. <i>Nature</i> , <b>2015</b> , 523, 451-4	50.4	365
84	A morphospace of planktonic marine diatoms. I. Two views of disparity through time. <i>Paleobiology</i> , <b>2015</b> , 41, 45-67	2.6	14
83	The Ecological Physiology of Earth's Second Oxygen Revolution. <i>Annual Review of Ecology, Evolution, and Systematics</i> , <b>2015</b> , 46, 215-235	13.5	76
82	A morphospace of planktonic marine diatoms. II. Sampling standardization and spatial disparity partitioning. <i>Paleobiology</i> , <b>2015</b> , 41, 68-88	2.6	5
81	Stratigraphic evolution of the Neoproterozoic Callison Lake Formation: Linking the break-up of Rodinia to the Islay carbon isotope excursion. <i>Numerische Mathematik</i> , <b>2015</b> , 315, 881-944	5.3	36
80	A Tribute to Martin D. Brasier: Palaeobiologist and Astrobiologist (April 12, 1947-December 16, 2014). <i>Astrobiology</i> , <b>2015</b> , 15, 940-8	3.7	1
79	Oxygen and animals in Earth history. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, 3907-8	11.5	50
78	Sands at Gusev Crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , <b>2014</b> , 119, 941-967	4.1	15
77	Paleobiological perspectives on early eukaryotic evolution. <i>Cold Spring Harbor Perspectives in Biology</i> , <b>2014</b> , 6,	10.2	217
76	Microstructures in metasedimentary rocks from the Neoproterozoic Bonahaven Formation, Scotland: Microconcretions, impact spherules, or microfossils?. <i>Precambrian Research</i> , <b>2013</b> , 233, 59-72	3.9	10
75	The Meaning of Stromatolites. <i>Annual Review of Earth and Planetary Sciences</i> , <b>2013</b> , 41, 21-44	15.3	153
74	Grazers and phytoplankton growth in the oceans: an experimental and evolutionary perspective. <i>PLoS ONE</i> , <b>2013</b> , 8, e77349	3.7	32
73	Si isotope variability in Proterozoic cherts. <i>Geochimica Et Cosmochimica Acta</i> , <b>2012</b> , 91, 187-201	5.5	59
72	Mineralogical Co-Evolution of the Geosphere and Biosphere <b>2012</b> , 333-350		4
71	The Global Carbon Cycle: Biological Processes <b>2012</b> , 5-19		1
70	What is Geobiology? <b>2012</b> , 1-4		2

69	The Global Carbon Cycle: Geological Processes <b>2012</b> , 20-35	14
68	The Global Nitrogen Cycle <b>2012</b> , 36-48	13
67	The Global Sulfur Cycle <b>2012</b> , 49-64	16
66	The Global Iron Cycle <b>2012</b> , 65-92	19
65	The Global Oxygen Cycle <b>2012</b> , 93-104	10
64	Bacterial Biomineralization <b>2012</b> , 105-130	33
63	Geobiology of the Proterozoic Eon <b>2012</b> , 371-402	11
62	The Fossil Record of Microbial Life <b>2012</b> , 297-314	10
61	Geobiology of the Phanerozoic <b>2012</b> , 403-424	
60	Mineral/Organic/Microbe Interfacial Chemistry <b>2012</b> , 131-149	2
59	A Geobiological View of Weathering and Erosion <b>2012</b> , 205-227	15
58	Geochemical Origins of Life <b>2012</b> , 315-332	4
57	Stable Isotope Geobiology <b>2012</b> , 250-268	4
56	Biomarkers: Informative Molecules for Studies in Geobiology <b>2012</b> , 269-296	19
55	Geobiology of the Archean Eon <b>2012</b> , 351-370	5
54	Plants and Animals as Geobiological Agents <b>2012</b> , 188-204	3
53	Geobiology of the Anthropocene <b>2012</b> , 425-436	5
52	Eukaryotic Skeletal Formation <b>2012</b> , 150-187	3

51	Molecular Biology & Contributions to Geobiology <b>2012</b> , 228-249		1
50	Scale microfossils from the mid-Neoproterozoic Fifteenmile Group, Yukon Territory. <i>Journal of Paleontology</i> , <b>2012</b> , 86, 775-800	1.1	39
49	Lynn Margulis, 1938-2011. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2012</b> , 109, 1022	11.5	6
48	The Multiple Origins of Complex Multicellularity. <i>Annual Review of Earth and Planetary Sciences</i> , <b>2011</b> , 39, 217-239	15.3	296
47	Needs and opportunities in mineral evolution research. <i>American Mineralogist</i> , <b>2011</b> , 96, 953-963	2.9	34
46	Estimating the timing of early eukaryotic diversification with multigene molecular clocks. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, 13624-9	11.5	594
45	Reply to Butterfield: The Devonian radiation of large predatory fish coincided with elevated atmospheric oxygen levels. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, E29-E29	11.5	78
44	The Riddle of the Sands. <i>Astrobiology</i> , <b>2011</b> , 11, 90-91	3.7	1
43	Skeletons and Ocean Chemistry: The Long View <b>2011</b> ,		9
42	Devonian rise in atmospheric oxygen correlated to the radiations of terrestrial plants and large predatory fish. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2010</b> , 107, 17911-5	11.5	278
41	Non-Skeletal Biomineralization by Eukaryotes: Matters of Moment and Gravity. <i>Geomicrobiology Journal</i> , <b>2010</b> , 27, 572-584	2.5	41
40	Clay mineralogy, organic carbon burial, and redox evolution in Proterozoic oceans. <i>Geochimica Et Cosmochimica Acta</i> , <b>2010</b> , 74, 1579-1592	5.5	67
39	A physiologically explicit morphospace for tracheid-based water transport in modern and extinct seed plants. <i>Paleobiology</i> , <b>2010</b> , 36, 335-355	2.6	50
38	Large spinose microfossils in Ediacaran rocks as resting stages of early animals. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2009</b> , 106, 6519-24	11.5	118
37	Controls on development and diversity of Early Archean stromatolites. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2009</b> , 106, 9548-55	11.5	191
36	The coevolution of life and environments. <i>Rendiconti Lincei</i> , <b>2009</b> , 20, 301-306	1.7	9
35	Neoproterozoic microfossils from the northeastern margin of the East European Platform. <i>Journal of Paleontology</i> , <b>2009</b> , 83, 161-196	1.1	80
34	Veneers, rinds, and fracture fills: Relatively late alteration of sedimentary rocks at Meridiani Planum, Mars. <i>Journal of Geophysical Research</i> , <b>2008</b> , 113,		48

33	Surface processes recorded by rocks and soils on Meridiani Planum, Mars: Microscopic Imager observations during Opportunity's first three extended missions. <i>Journal of Geophysical Research</i> , <b>2008</b> , 113,		23
32	Modeling fluid flow in <i>Medullosa</i> , an anatomically unusual Carboniferous seed plant. <i>Paleobiology</i> , <b>2008</b> , 34, 472-493	2.6	43
31	The Geological Succession of Primary Producers in the Oceans <b>2007</b> , 133-163		111
30	Paleophysiology and end-Permian mass extinction. <i>Earth and Planetary Science Letters</i> , <b>2007</b> , 256, 295-313	3.3	496
29	The Ediacaran Period: a new addition to the geologic time scale. <i>Lethaia</i> , <b>2006</b> , 39, 13-30	1.3	235
28	Biomarker evidence for green and purple sulphur bacteria in a stratified Palaeoproterozoic sea. <i>Nature</i> , <b>2005</b> , 437, 866-70	50.4	412
27	Phosphatized multicellular algae in the Neoproterozoic Doushantuo Formation, China, and the early evolution of florideophyte red algae. <i>American Journal of Botany</i> , <b>2004</b> , 91, 214-27	2.7	131
26	Response to Comment on "The Evolution of Modern Eukaryotic Phytoplankton". <i>Science</i> , <b>2004</b> , 306, 2191a-2191c	3.3	1910
25	TEM evidence for eukaryotic diversity in mid-Proterozoic oceans. <i>Geobiology</i> , <b>2004</b> , 2, 121-132	4.3	177
24	Evolutionary Trajectories and Biogeochemical Impacts of Marine Eukaryotic Phytoplankton. <i>Annual Review of Ecology, Evolution, and Systematics</i> , <b>2004</b> , 35, 523-556	13.5	151
23	The evolution of modern eukaryotic phytoplankton. <i>Science</i> , <b>2004</b> , 305, 354-60	33.3	1054
22	Geology. A new period for the geologic time scale. <i>Science</i> , <b>2004</b> , 305, 621-2	33.3	209
21	Vase-shaped microfossils from the Neoproterozoic Chuar Group, Grand Canyon: A classification guided by modern testate amoebae. <i>Journal of Paleontology</i> , <b>2003</b> , 77, 409-429	1.1	132
20	11. Biomineralization and Evolutionary History <b>2003</b> , 329-356		28
19	The geological consequences of evolution. <i>Geobiology</i> , <b>2003</b> , 1, 3-14	4.3	127
18	Vase-shaped microfossils from the Neoproterozoic Chuar Group, Grand Canyon: A classification guided by modern testate amoebae. <i>Journal of Paleontology</i> , <b>2003</b> , 77, 409-429	1.1	124
17	Anatomical and ecological constraints on Phanerozoic animal diversity in the marine realm. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2002</b> , 99, 6854-9	11.5	164
16	Macroscopic carbonaceous compressions in a terminal Proterozoic shale: A systematic reassessment of the Miaohu biota, south China. <i>Journal of Paleontology</i> , <b>2002</b> , 76, 347-376	1.1	163

15	Evolution of developmental potential and the multiple independent origins of leaves in Paleozoic vascular plants. <i>Paleobiology</i> , <b>2002</b> , 28, 70-100	2.6	127
14	Macroscopic carbonaceous compressions in a terminal Proterozoic shale: A systematic reassessment of the Miaohu biota, south China. <i>Journal of Paleontology</i> , <b>2002</b> , 76, 347-376	1.1	132
13	Morphological and ecological complexity in early eukaryotic ecosystems. <i>Nature</i> , <b>2001</b> , 412, 66-9	50.4	311
12	Testate amoebae in the Neoproterozoic Era: evidence from vase-shaped microfossils in the Chuar Group, Grand Canyon. <i>Paleobiology</i> , <b>2000</b> , 26, 360-385	2.6	234
11	Calcified metazoans in thrombolite-stromatolite reefs of the terminal Proterozoic Nama Group, Namibia. <i>Paleobiology</i> , <b>2000</b> , 26, 334-359	2.6	240
10	Stromatolites in Precambrian carbonates: evolutionary mileposts or environmental dipsticks?. <i>Annual Review of Earth and Planetary Sciences</i> , <b>1999</b> , 27, 313-58	15.3	565
9	Strontium isotopic variations of Neoproterozoic seawater: implications for crustal evolution. <i>Geochimica Et Cosmochimica Acta</i> , <b>1991</b> , 55, 2883-94	5.5	182
8	Secular Change in Chert Distribution: A Reflection of Evolving Biological Participation in the Silica Cycle. <i>Palaios</i> , <b>1989</b> , 4, 519	1.6	200
7	Micropaleontology across the Precambrian-Cambrian boundary in Spitsbergen. <i>Journal of Paleontology</i> , <b>1987</b> , 61, 898-926	1.1	63
6	Patterns of evolution in the Archean and Proterozoic Eons. <i>Paleobiology</i> , <b>1985</b> , 11, 53-64	2.6	21
5	Earth's Earliest Biosphere: Its Origin and Evolution, J. William Schopf, editor. Princeton University Press; Princeton, New Jersey. 1983. xxv + 543 pp. 42.50 (paper).. <i>Paleobiology</i> , <b>1984</b> , 10, 286-292	2.6	4
4	Character diversification and patterns of evolution in early vascular plants. <i>Paleobiology</i> , <b>1984</b> , 10, 34-47	2.6	86
3	Precambrian-Cambrian Boundary: the spike is driven and the monolith crumbles. <i>Paleobiology</i> , <b>1983</b> , 9, 199-206	2.6	12
2	Archean photoautotrophy: some alternatives and limits. <i>Origins of Life and Evolution of Biospheres</i> , <b>1979</b> , 9, 313-27		42
1	Neoproterozoic origin and multiple transitions to macroscopic growth in green seaweeds		1