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List of Publications by Year
in descending order

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109 papers	18,390 citations	24978 57 h-index	27345 106 g-index
111 all docs	111 docs citations	111 times ranked	15982 citing authors

#	Article	IF	Citations
1	The Microbial Engines That Drive Earth's Biogeochemical Cycles. Science, 2008, 320, 1034-1039.	6.0	2,449
2	The Evolution of Modern Eukaryotic Phytoplankton. Science, 2004, 305, 354-360.	6.0	1,287
3	Measurements of variable chlorophyll fluorescence using fast repetition rate techniques: defining methodology and experimental protocols. Biochimica Et Biophysica Acta - Bioenergetics, 1998, 1367, 88-106.	0.5	759
4	ACCLIMATION TO SPECTRAL IRRADIANCE IN ALGAE. Journal of Phycology, 1991, 27, 8-14.	1.0	655
5	THE ELEMENTAL COMPOSITION OF SOME MARINE PHYTOPLANKTON1. Journal of Phycology, 2003, 39, 1145-1159.	1.0	614
6	Southern Ocean Iron Enrichment Experiment: Carbon Cycling in High- and Low-Si Waters. Science, 2004, 304, 408-414.	6.0	546
7	Light and the Bioenergetics of a Symbiotic Coral. BioScience, 1984, 34, 705-709.	2.2	524
8	Use of active fluorescence to estimate phytoplankton photosynthesis in situ. Limnology and Oceanography, 1993, 38, 1646-1665.	1.6	500
9	Confirmation of iron limitation of phytoplankton photosynthesis in the equatorial Pacific Ocean. Nature, 1996, 383, 508-511.	13.7	421
10	Discovery of Symbiotic Nitrogen-Fixing Cyanobacteria in Corals. Science, 2004, 305, 997-1000.	6.0	413
11	Contribution of Aerobic Photoheterotrophic Bacteria to the Carbon Cycle in the Ocean. Science, 2001, 292, 2492-2495.	6.0	400
12	Growthâ€irradiance relationships in phytoplankton1. Limnology and Oceanography, 1985, 30, 311-321.	1.6	385
13	The role of phytoplankton photosynthesis in global biogeochemical cycles. Photosynthesis Research, 1994, 39, 235-258.	1.6	346
14	Light Harvesting and Utilization by Phytoplankton. Plant and Cell Physiology, 1986, 27, 1335-1349.	1.5	345
15	Iron availability, cellular iron quotas, and nitrogen fixation in Trichodesmium. Limnology and Oceanography, 2001, 46, 1249-1260.	1.6	342
16	Iron limitation of phytoplankton photosynthesis in the equatorial Pacific Ocean. Nature, 1994, 371, 145-149.	13.7	332
17	Energetic coupling between plastids and mitochondria drives CO2 assimilation in diatoms. Nature, 2015, 524, 366-369.	13.7	311
18	Primary productivity of planet earth: biological determinants and physical constraints in terrestrial and aquatic habitats. Global Change Biology, 2001, 7, 849-882.	4.2	281

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19	Iron-Induced Changes in Light Harvesting and Photochemical Energy Conversion Processes in Eukaryotic Marine Algae. Plant Physiology, 1992, 100, 565-575.	2.3	271
20	The demise of the marine cyanobacterium, Trichodesmium spp., via an autocatalyzed cell death pathway. Limnology and Oceanography, 2004, 49, 997-1005.	1.6	254
21	Photosynthesis and photoprotection in symbiotic corals. Limnology and Oceanography, 2001, 46, 75-85.	1.6	253
22	Effect of iron limitation on photosynthesis in a marine diatom. Limnology and Oceanography, 1991, 36, 1772-1782.	1.6	245
23	PHOTOADAPTATION AND THE â€œPACKAGEâ€•EFFECT IN DUNALIELLA TERTIOLECTA (CHLOROPHYCEAE)1. Journal of Phycology, 1989, 25, 70-78.	1.0	235
24	Representing key phytoplankton functional groups in ocean carbon cycle models: Coccolithophorids. Global Biogeochemical Cycles, 2002, 16, 47-1-47-20.	1.9	234
25	Remodeling of intermediate metabolism in the diatom Phaeodactylum tricornutum under nitrogen stress. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 412-417.	3.3	218
26	Rationalizing elemental ratios in unicellular algae. Journal of Phycology, 2000, 36, 3-6.	1.0	201
27	THE ROLE AND EVOLUTION OF SUPEROXIDE DISMUTASES IN ALGAE1. Journal of Phycology, 2005, 41, 453-465.	1.0	179
28	Proteomic analysis of skeletal organic matrix from the stony coral Stylophora pistillata. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 3788-3793.	3.3	177
29	Comparative genomics explains the evolutionary success of reef-forming corals. ELife, 2016, 5, .	2.8	169
30	Biological control of aragonite formation in stony corals. Science, 2017, 356, 933-938.	6.0	163
31	OCEANS: Dis-Crediting Ocean Fertilization. Science, 2001, 294, 309-310.	6.0	162
32	Relationship of steady-state photosynthesis to fluorescence in eucaryotic algae. Biochimica Et Biophysica Acta - Bioenergetics, 1986, 849, 183-192.	0.5	154
33	Diatoms: a fossil fuel of the future. Trends in Biotechnology, 2014, 32, 117-124.	4.9	144
34	EVOLUTION: Tracing Oxygen's Imprint on Earth's Metabolic Evolution. Science, 2006, 311, 1724-1725.	6.0	139
35	Chloroplast redox regulation of nuclear gene transcription during photoacclimation. Photosynthesis Research, 1997, 53, 229-241.	1.6	133
36	Light-shade adaptation and vertical mixing of marine phytoplankton: A comparative field study. Journal of Marine Research, 1983, 41, 215-237.	0.3	129

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37	Bioâ€optical properties of the marine diazotrophic cyanobacteria Trichodesmium spp. I. Absorption and photosynthetic action spectra. Limnology and Oceanography, 1999, 44, 608-617.	1.6	128
38	Cloning and Characterization of Four Novel Coral Acid-Rich Proteins that Precipitate Carbonates InÂVitro. Current Biology, 2013, 23, 1126-1131.	1.8	118
39	Metal availability and the expanding network of microbial metabolisms in the Archaean eon. Nature Geoscience, 2017, 10, 629-636.	5.4	116
40	Physiological limitation of phytoplankton photosynthesis in the eastern equatorial Pacific determined from variability in the quantum yield of fluorescence. Limnology and Oceanography, 1994, 39, 1061-1074.	1.6	115
41	Photoreceptors in the cnidarian hosts allow symbiotic corals to sense blue moonlight. Limnology and Oceanography, 2002, 47, 309-315.	1.6	104
42	Photosynthetic community responses to upwelling in mesoscale eddies in the subtropical North Atlantic and Pacific Oceans. Deep-Sea Research Part II: Topical Studies in Oceanography, 2008, 55, 1310-1320.	0.6	98
43	Extracellular matrix production and calcium carbonate precipitation by coral cells in vitro. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 54-58.	3.3	98
44	The function of plastids in the deepâ€sea benthic foraminifer, Nonionella stella. Limnology and Oceanography, 2002, 47, 1569-1580.	1.6	92
45	Greenâ€fluorescent proteins in Caribbean corals. Limnology and Oceanography, 2003, 48, 402-411.	1.6	91
46	Bioâ€optical properties of the marine diazotrophic cyanobacteria Trichodesmium spp. II. A reflectance model for remote sensing. Limnology and Oceanography, 1999, 44, 618-627.	1.6	89
47	The Ocean's Invisible Forest. Scientific American, 2002, 287, 54-61.	1.0	87
48	Immunolocalization of skeletal matrix proteins in tissue and mineral of the coral Stylophora pistillata. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 12728-12733.	3.3	87
49	Lhcx proteins provide photoprotection via thermal dissipation of absorbed light in the diatom Phaeodactylum tricornutum. Nature Communications, 2019, 10, 4167.	5.8	84
50	The Role of Microbial Electron Transfer in the Coevolution of the Biosphere and Geosphere. Annual Review of Microbiology, 2016, 70, 45-62.	2.9	82
51	Continental erosion and the Cenozoic rise of marine diatoms. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4239-4244.	3.3	76
52	Measurement of photosynthetic parameters in benthic organisms in situ using a SCUBAâ€based fast repetition rate fluorometer. Limnology and Oceanography, 2000, 45, 242-245.	1.6	73
53	THE MESOZOIC RADIATION OF EUKARYOTIC ALGAE: THE PORTABLE PLASTID HYPOTHESIS¹. Journal of Phycology, 2003, 39, 259-267.	1.0	73
54	Flux balance analysis of primary metabolism in the diatom Phaeodactylum tricornutum. Plant Journal, 2016, 85, 161-176.	2.8	70

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55	The fate of photons absorbed by phytoplankton in the global ocean. Science, 2016, 351, 264-267.	6.0	68
56	GENOMICS AND EVOLUTION: Shotgun Sequencing in the Sea: A Blast from the Past?. Science, 2004, 304, 58-60.	6.0	66
57	Measuring photosynthetic parameters in individual algal cells by Fast Repetition Rate fluorometry. Photosynthesis Research, 1999, 62, 141-153.	1.6	65
58	DIEL PERIODICITY OF NITRATE REDUCTASE ACTIVITY AND PROTEIN LEVELS IN THE MARINE DIATOM THALASSIOSIRA WEISSFLOGII (BACILLARIOPHYCEAE). Journal of Phycology, 1998, 34, 952-961.	1.0	60
59	How corals made rocks through the ages. Global Change Biology, 2020, 26, 31-53.	4.2	60
60	Plastid Regulation of Lhcb1 Transcription in the Chlorophyte Alga Dunaliella tertiolecta. Plant Physiology, 2004, 136, 3737-3750.	2.3	58
61	Title is missing!. Photosynthesis Research, 1997, 51, 209-222.	1.6	56
62	Evolutionary history of redox metal-binding domains across the tree of life. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 7042-7047.	3.3	56
63	Temporal and spatial expression patterns of biomineralization proteins during early development in the stony coral Pocillopora damicornis. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20160322.	1.2	53
64	Aragonite Precipitation by â€œProto-Polypsâ€•in Coral Cell Cultures. PLoS ONE, 2012, 7, e35049.	1.1	51
65	PHOTOACCLIMATION IN THE PHOTOTROPHIC MARINE CILIATE MESODINIUM RUBRUM (CILIOPHORA)1. Journal of Phycology, 2011, 47, 324-332.	1.0	48
66	Remote sensing of heterogeneity in photosynthetic efficiency, electron transport and dissipation of excess light in Populus deltoides stands under ambient and elevated CO2 concentrations, and in a tropical forest canopy, using a new laser-induced fluorescence transient device. Global Change Biology, 2005, 11, 1195-1206.	4.2	47
67	Overexpression of a diacylglycerol acyltransferase gene in Phaeodactylum tricornutum directs carbon towards lipid biosynthesis. Journal of Phycology, 2017, 53, 405-414.	1.0	46
68	Regulation of nitrate reductase inChlamydomonas reinhardtiiby the redox state of the plastoquinone pool. European Journal of Phycology, 2005, 40, 345-352.	0.9	45
69	An <scp>RNA</scp> interference knockâ€down of nitrate reductase enhances lipid biosynthesis in the diatom Phaeodactylum tricornutum. Plant Journal, 2015, 84, 963-973.	2.8	42
70	Minimal Heterochiral de Novo Designed 4Feâ€“4S Binding Peptide Capable of Robust Electron Transfer. Journal of the American Chemical Society, 2018, 140, 11210-11213.	6.6	42
71	De novo design of symmetric ferredoxins that shuttle electrons in vivo. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 14557-14562.	3.3	41
72	Light availability rather than Fe controls the magnitude of massive phytoplankton bloom in the Amundsen Sea polynyas, Antarctica. Limnology and Oceanography, 2017, 62, 2260-2276.	1.6	40

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73	What limits photosynthetic energy conversion efficiency in nature? Lessons from the oceans. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20160376.	1.8	36
74	Deciphering Primordial Cyanobacterial Genome Functions from Protein Network Analysis. Current Biology, 2015, 25, 628-634.	1.8	35
75	Development and Application of Variable Chlorophyll Fluorescence Techniques in Marine Ecosystems. , 2004, , 757-778.		34
76	Using chlorophyll fluorescence kinetics to determine photosynthesis in aquatic ecosystems. Limnology and Oceanography, 2021, 66, 1-13.	1.6	33
77	Small protein folds at the root of an ancient metabolic network. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 7193-7199.	3.3	32
78	Modular origins of biological electron transfer chains. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 1280-1285.	3.3	29
79	Structural and functional analyses of photosystem II in the marine diatom Phaeodactylum tricornutum. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 17316-17322.	3.3	29
80	Molecular and geochemical perspectives on the influence of CO₂ on calcification in coral cell cultures. Limnology and Oceanography, 2018, 63, 107-121.	1.6	28
81	Quantum requirements for growth and fatty acid biosynthesis in the marine diatom Phaeodactylum tricornutum (Bacillariophyceae) in nitrogen replete and limited conditions. Journal of Phycology, 2013, 49, 381-388.	1.0	27
82	Nanoscale Visualization of Biomineral Formation in Coral Proto-Polyps. Current Biology, 2017, 27, 3191-3196.e3.	1.8	26
83	Solid-State Phase Transformation and Self-Assembly of Amorphous Nanoparticles into Higher-Order Mineral Structures. Journal of the American Chemical Society, 2020, 142, 12811-12825.	6.6	26
84	Effect of cell cycle arrest on intermediate metabolism in the marine diatom Phaeodactylum tricornutum. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E8007-E8016.	3.3	24
85	Geological and Chemical Factors that Impacted the Biological Utilization of Cobalt in the Archean Eon. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 743-759.	1.3	24
86	Quantifying structural relationships of metal-binding sites suggests origins of biological electron transfer. Science Advances, 2022, 8, eabj3984.	4.7	24
87	The spatial network of skeletal proteins in a stony coral. Journal of the Royal Society Interface, 2021, 18, 20200859.	1.5	19
88	Photosynthetic energy conversion efficiency in the West Antarctic Peninsula. Limnology and Oceanography, 2020, 65, 2912-2925.	1.6	17
89	Elemental sulfur reduction in the deepâ€sea vent thermophile, Thermovibrio ammonificans. Environmental Microbiology, 2018, 20, 2301-2316.	1.8	16
90	The evolution and future of carbonate precipitation in marine invertebrates: Witnessing extinction or documenting resilience in the Anthropocene?. Elementa, 2014, 2, .	1.1	16

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91	Postindustrial enhancement of aragonite undersaturation in the upper tropical and subtropical Atlantic Ocean: The role of fossil fuel CO2. Limnology and Oceanography, 2004, 49, 315-321.	1.6	15
92	The biological and geological contingencies for the rise of oxygen on Earth. Photosynthesis Research, 2011, 107, 7-10.	1.6	15
93	Biophysical analysis of the structural evolution of substrate specificity in RuBisCO. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 30451-30457.	3.3	14
94	Using Chlorophyll Fluorescence to Determine the Fate of Photons Absorbed by Phytoplankton in the World's Oceans. Annual Review of Marine Science, 2022, 14, 213-238.	5.1	14
95	Evolution of prokaryotic respiratory molybdoenzymes and the frequency of their genomic co-occurrence. FEMS Microbiology Ecology, 2016, 92, fiw187.	1.3	13
96	Direct measurements of the light dependence of gross photosynthesis and oxygen consumption in the ocean. Limnology and Oceanography, 2017, 62, 1066-1079.	1.6	12
97	Response to Comment on "The Evolution of Modern Eukaryotic Phytoplankton". Science, 2004, 306, 2191c-2191c.	6.0	11
98	From Light to Life. Origins of Life and Evolution of Biospheres, 2015, 45, 347-350.	0.8	8
99	[15] Assessing the potential for chloroplast redox regulation of nuclear gene expression. Methods in Enzymology, 1998, 297, 220-234.	0.4	6
100	Anoxic photochemical weathering of pyrite on Archean continents. Science Advances, 2022, 8, .	4.7	6
101	Photosynthetic energy storage efficiency in Chlamydomonas reinhardtii, based on microsecond photoacoustics. Photosynthesis Research, 2011, 108, 215-224.	1.6	5
102	Saturation of thylakoidâ€associated fatty acids facilitates bioenergetic coupling in a marine diatom allowing for thermal acclimation. Global Change Biology, 2021, 27, 3133-3144.	4.2	5
103	The redox state of the plastoquinone (PQ) pool is connected to thylakoid lipid saturation in a marine diatom. Photosynthesis Research, 2022, 153, 71-82.	1.6	5
104	Divergent evolutionary histories of DNA markers in a Hawaiian population of the coral Montipora capitata. PeerJ, 2017, 5, e3319.	0.9	3
105	The Photophysiological Response of Nitrogen-Limited Phytoplankton to Episodic Nitrogen Supply Associated With Tropical Instability Waves in the Equatorial Atlantic. Frontiers in Marine Science, 2022, 8, .	1.2	3
106	Light-harvesting complex gene regulation by a MYB-family transcription factor in the marine diatom, Phaeodactylum tricornutum. Photosynthesis Research, 2022, 153, 59-70.	1.6	3
107	Integrating on-grid immunogold labeling and cryo-electron tomography to reveal photosystem II structure and spatial distribution in thylakoid membranes. Journal of Structural Biology, 2021, 213, 107746.	1.3	2
108	A hypothesis of genome structure in marine phytoplankton. Journal of Eukaryotic Microbiology, 2005, 52, 7S-27S.	0.8	0

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109	Reverse engineering nature. Environmental Microbiology, 2018, 20, 1960-1961.	1.8	0