Richard J Geider

List of Publications by Year
in descending order

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117 papers	18,390 citations	23567 58 h-index	23533 111 g-index
121 all docs	121 docs citations	121 times ranked	12755 citing authors

#	Article	IF	Citations
1	Processes and patterns of oceanic nutrient limitation. Nature Geoscience, 2013, 6, 701-710.	12.9	1,627
2	Redfield revisited: variability of C:N:P in marine microalgae and its biochemical basis. European Journal of Phycology, 2002, 37, 1-17.	2.0	1,179
3	Impacts of Atmospheric Anthropogenic Nitrogen on the Open Ocean. Science, 2008, 320, 893-897.	12.6	964
4	Iron and phosphorus co-limit nitrogen fixation in the eastern tropical North Atlantic. Nature, 2004, 429, 292-294.	27.8	842
5	Microphytobenthos: The Ecological Role of the "Secret Garden" of Unvegetated, Shallow-Water Marine Habitats. I. Distribution, Abundance and Primary Production. Estuaries and Coasts, 1996, 19, 186.	1.7	796
6	A dynamic regulatory model of phytoplanktonic acclimation to light, nutrients, and temperature. Limnology and Oceanography, 1998, 43, 679-694.	3.1	778
7	PHOTOACCLIMATION OF PHOTOSYNTHESIS IRRADIANCE RESPONSE CURVES AND PHOTOSYNTHETIC PIGMENTS IN MICROALGAE AND CYANOBACTERIA1. Journal of Phycology, 2002, 38, 17-38.	2.3	695
8	Temperature and algal growth. New Phytologist, 1988, 110, 441-461.	7.3	624
9	LIGHT AND TEMPERATURE DEPENDENCE OF THE CARBON TO CHLOROPHYLL a RATIO IN MICROALGAE AND CYANOBACTERIA: IMPLICATIONS FOR PHYSIOLOGY AND GROWTH OF PHYTOPLANKTON. New Phytologist, 1987, 106, 1-34.	7.3	621
10	Dynamic model of phytoplankton growth and acclimation:responses of the balanced growth rate and the chlorophyll a:carbon ratio to light, nutrient-limitation and temperature. Marine Ecology - Progress Series, 1997, 148, 187-200.	1.9	613
11	Large-scale distribution of Atlantic nitrogen fixation controlled by iron availability. Nature Geoscience, 2009, 2, 867-871.	12.9	396
12	The role of iron in phytoplankton photosynthesis, and the potential for iron-limitation of primary productivity in the sea. Photosynthesis Research, 1994, 39, 275-301.	2.9	382
13	RESPONSE OF THE PHOTOSYNTHETIC APPARATUS OF PHAEODACTYLUM TRICORNUTUM (BACILLARIOPHYCEAE) TO NITRATE, PHOSPHATE, OR IRON STARVATION1. Journal of Phycology, 1993, 29, 755-766.	2.3	374
14	Ecosystem dynamics based on plankton functional types for global ocean biogeochemistry models. Global Change Biology, 2005, 11, 051013014052005-???.	9.5	353
15	Interpretation of fast repetition rate (FRR) fluorescence: signatures of phytoplankton community structure versus physiological state. Marine Ecology - Progress Series, 2009, 376, 1-19.	1.9	330
16	Microphytobenthos: The Ecological Role of the "Secret Garden" of Unvegetated, Shallow-Water Marine Habitats. II. Role in Sediment Stability and Shallow-Water Food Webs. Estuaries and Coasts, 1996, 19, 202.	1.7	288
17	Primary productivity of planet earth: biological determinants and physical constraints in terrestrial and aquatic habitats. Global Change Biology, 2001, 7, 849-882.	9.5	281
18	A dynamic model of photoadaptation in phytoplankton. Limnology and Oceanography, 1996, 41, 1-15.	3.1	273

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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.	4.8	271
20	Flavodoxin as an in situ marker for iron stress in phytoplankton. Nature, 1996, 382, 802-805.	27.8	269
21	Effect of iron limitation on photosynthesis in a marine diatom. Limnology and Oceanography, 1991, 36, 1772-1782.	3.1	245
22	The effect of water motion on short-term rates of photosynthesis by marine phytoplankton. Trends in Plant Science, 2000, 5, 12-17.	8.8	239
23	Respiration and microalgal growth: a review of the quantitative relationship between dark respiration and growth. New Phytologist, 1989, 112, 327-341.	7.3	217
24	Relative influence of nitrogen and phosphorous availability on phytoplankton physiology and productivity in the oligotrophic subâ€tropical North Atlantic Ocean. Limnology and Oceanography, 2008, 53, 291-305.	3.1	206
25	Phytoplankton photoacclimation and photoadaptation in response to environmental gradients in a shelf sea. Limnology and Oceanography, 2006, 51, 936-949.	3.1	187
26	Evaluation of biophysical and optical determinations of light absorption by photosystem II in phytoplankton. Limnology and Oceanography: Methods, 2004, 2, 316-332.	2.0	172
27	Framework for understanding marine ecosystem health. Marine Ecology - Progress Series, 2013, 494, 1-27.	1.9	171
28	Photoacclimation in the marine diatom Skeletonema costatum. Limnology and Oceanography, 2000, 45, 1807-1817.	3.1	161
29	Responses of the photosynthetic apparatus ofDunaliella tertiolecta(Chlorophyceae) to nitrogen and phosphorus limitation. European Journal of Phycology, 1998, 33, 315-332.	2.0	157
30	Fast repetition rate and pulse amplitude modulation chlorophyllafluorescence measurements for assessment of photosynthetic electron transport in marine phytoplankton. European Journal of Phycology, 2003, 38, 371-384.	2.0	155
31	INDUCTION OF SPECIFIC PROTEINS IN EUKARYOTIC ALGAE GROWN UNDER IRON-, PHOSPHORUS-, OR NITROGEN-DEFICIENT CONDITIONS1. Journal of Phycology, 1993, 29, 767-777.	2.3	149
32	Seasonal and latitudinal dependencies of phytoplankton carbon-to-chlorophyll a ratios:results of a modelling study. Marine Ecology - Progress Series, 1997, 152, 51-66.	1.9	149
33	Direct estimation of functional PSII reaction center concentration and PSII electron flux on a volume basis: a new approach to the analysis of Fast Repetition Rate fluorometry (FRRf) data. Limnology and Oceanography: Methods, 2012, 10, 142-154.	2.0	143
34	Iron limits primary productivity during spring bloom development in the central North Atlantic. Global Change Biology, 2006, 12, 626-634.	9.5	134
35	Physiological Limitations on Phytoplankton Productivity in the Ocean. Oceanography, 1992, 5, 84-91.	1.0	111
36	PSII photoinhibition and photorepair in Symbiodinium (Pyrrhophyta) differs between thermally tolerant and sensitive phylotypes. Marine Ecology - Progress Series, 2010, 406, 57-70.	1.9	111

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37	Comparing electron transport with gas exchange: parameterising exchange rates between alternative photosynthetic currencies for eukaryotic phytoplankton. Aquatic Microbial Ecology, 2009, 56, 147-162.	1.8	110
38	Nitrogen limitation of North Atlantic phytoplankton: analysis of physiological condition in nutrient enrichment experiments. Aquatic Microbial Ecology, 1996, 11, 53-64.	1.8	107
39	Physiological and Biochemical Response of the Photosynthetic Apparatus of Two Marine Diatoms to Fe Stress. Plant Physiology, 1997, 114, 615-622.	4.8	100
40	Assessment of photosynthesis in a spring cyanobacterial bloom by use of a fast repetition rate fluorometer. Limnology and Oceanography, 2001, 46, 802-810.	3.1	100
41	ELEVATED ATMOSPHERIC CARBON DIOXIDE INCREASES ORGANIC CARBON FIXATION BY EMILIANIA HUXLEYI (HAPTOPHYTA), UNDER NUTRIENT-LIMITED HIGH-LIGHT CONDITIONS1. Journal of Phycology, 2005, 41, 1196-1203.	2.3	99
42	Co-limitation by iron and light of Chaetoceros brevis, C. dichaeta and C. calcitrans (Bacillariophyceae). Marine Ecology - Progress Series, 2001, 217, 287-297.	1.9	98
43	A mechanistic model of photoinhibition. New Phytologist, 2000, 145, 347-359.	7.3	97
44	Predicting the Electron Requirement for Carbon Fixation in Seas and Oceans. PLoS ONE, 2013, 8, e58137.	2.5	91
45	Fluorescence assessment of the maximum quantum efficiency of photosynthesis in the western North Atlantic. Deep-Sea Research Part I: Oceanographic Research Papers, 1993, 40, 1205-1224.	1.4	89
46	Nutrient limitation of picophytoplankton photosynthesis and growth in the tropical North Atlantic. Limnology and Oceanography, 2008, 53, 1722-1733.	3.1	88
47	GROWTH, PHOTOSYNTHESIS AND MAINTENANCE METABOLIC COST IN THE DIATOM PHAEODACTYLUM TRICORNUTUM AT VERY LOW LIGHT LEVELS ¹. Journal of Phycology, 1986, 22, 39-48.	2.3	87
48	Role of zooplankton dynamics for Southern Ocean phytoplankton biomass and global biogeochemical cycles. Biogeosciences, 2016, 13, 4111-4133.	3.3	84
49	Adaptation, Acclimation and Regulation in Algal Photosynthesis. Advances in Photosynthesis and Respiration, 2003, , 385-412.	1.0	83
50	A methodology to determine primary production and phytoplankton photosynthetic parameters from Fast Repetition Rate Fluorometry. Journal of Plankton Research, 2004, 26, 1337-1350.	1.8	82
51	Different strategies of photoacclimation by two strains of Emiliania huxleyi (Haptophyta)¹. Journal of Phycology, 2007, 43, 1209-1222.	2.3	78
52	The tradeâ€off between the lightâ€harvesting and photoprotective functions of fucoxanthinâ€chlorophyll proteins dominates light acclimation in Emiliania huxleyi (clone <scp>CCMP</scp> 1516). New Phytologist, 2013, 200, 74-85.	7.3	78
53	Responses of elemental and biochemical composition of Chaetoceros muelleri to growth under varying light and nitrate : phosphate supply ratios and their influence on critical N: P. Limnology and Oceanography, 2004, 49, 2105-2114.	3.1	76
54	Growth and photoregulation dynamics of the picoeukaryote Pelagomonas calceolata in fluctuating light. Limnology and Oceanography, 2009, 54, 823-836.	3.1	76

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55	New cell-based model of photosynthesis and photo-acclimation: accumulation and mobilisation of energy reserves in phytoplankton. Marine Ecology - Progress Series, 2009, 383, 53-71.	1.9	74
56	ACCUMULATION OF FERREDOXIN AND FLAVODOXIN IN A MARINE DIATOM IN RESPONSE TO FE. Journal of Phycology, 1999, 35, 510-519.	2.3	69
57	PHOTOINHIBITION OF PSII IN EMILIANIA HUXLEYI (HAPTOPHYTA) UNDER HIGH LIGHT STRESS: THE ROLES OF PHOTOACCLIMATION, PHOTOPROTECTION, AND PHOTOREPAIR¹. Journal of Phycology, 2008, 44, 670-683.	2.3	68
58	Regulation of photosynthetic pigments in micro-algae by multiple environmental factors: a dynamic balance hypothesis. New Phytologist, 1997, 137, 629-638.	7.3	61
59	LIGHTâ€‰INDUCED MOTILE RESPONSES OF THE ESTUARINE BENTHIC DIATOMS NAVICULA PERMINUTA AND CYLINDROTHECA CLOSTERIUM (BACILLARIOPHYCEAE)¹. Journal of Phycology, 2009, 45, 592-599.	2.3	60
60	Respiration: Taxation Without Representation?. , 1992, , 333-360.		60
61	Dimethyl sulfoniopropionate and dimethyl sulfide production in response to photoinhibition in Emiliania huxleyi. Limnology and Oceanography, 2010, 55, 1579-1589.	3.1	59
62	Bridging the gap between omics and earth system science to better understand how environmental change impacts marine microbes. Global Change Biology, 2016, 22, 61-75.	9.5	58
63	Thermal acclimation in the marine diatomChaetoceros calcitrans(Bacillariophyceae). European Journal of Phycology, 2001, 36, 233-241.	2.0	55
64	IMPACT OF IRON LIMITATION ON THE PHOTOSYNTHETIC APPARATUS OF THE DIATOMCHAETOCEROS MUELLERI(BACILLARIOPHYCEAE). Journal of Phycology, 2001, 37, 987-1000.	2.3	53
65	Microplankton productivity in the oligotrophic ocean. Nature, 1984, 311, 252-254.	27.8	51
66	A Key Marine Diazotroph in a Changing Ocean: The Interacting Effects of Temperature, CO2 and Light on the Growth of Trichodesmium erythraeum IMS101. PLoS ONE, 2017, 12, e0168796.	2.5	50
67	Thermodynamics of the Pelagic Ecosystem: Elementary Closure Conditions for Biological Production in the Open Ocean. , 1984, , 49-84.		50
68	Complex lessons of iron uptake. Nature, 1999, 400, 815-816.	27.8	48
69	Title is missing!. Photosynthesis Research, 1997, 51, 93-106.	2.9	47
70	Kinetics of intracellular carbon allocation in a marine diatom. Journal of Experimental Marine Biology and Ecology, 1985, 93, 191-210.	1.5	46
71	ACCLIMATION OF EMILIANIA HUXLEYI (PRYMNESIOPHYCEAE) TO PHOTON FLUX DENSITY1. Journal of Phycology, 2005, 41, 851-862.	2.3	45
72	A comparison of two N-irradiance interaction models of phytoplankton growth. Limnology and Oceanography, 2001, 46, 1794-1802.	3.1	44

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73	Plasticity in the proteome of Emiliania huxleyi <scp>CCMP</scp> 1516 to extremes of light is highly targeted. New Phytologist, 2013, 200, 61-73.	7.3	44
74	Acclimation of <scp>E</scp>miliania huxleyi (1516) to nutrient limitation involves precise modification of the proteome to scavenge alternative sources of <scp>N</scp> and <scp>P</scp>. Environmental Microbiology, 2015, 17, 4050-4062.	3.8	44
75	Estimating Aquatic Productivity from Active Fluorescence Measurements. , 2010, , 103-127.		44
76	PHYSIOLOGICAL RESPONSES TO PHOSPHORUS LIMITATION IN BATCH AND STEADY-STATE CULTURES OF DUNALIELLA TERTIOLECTA (CHLOROPHYTA): A UNIQUE STRESS PROTEIN AS AN INDICATOR OF PHOSPHATE DEFICIENCY1. Journal of Phycology, 1996, 32, 825-838.	2.3	42
77	Effects of nitrateâ€Š:â€Šphosphate supply ratio and irradiance on the Câ€Š:â€ŠNâ€Š:â€ŠP stoichiometry ofChaetoceros muelleri. European Journal of Phycology, 2004, 39, 173-180.	2.0	41
78	Gross photosynthesis and lake community metabolism during the spring phytoplankton bloom. Limnology and Oceanography, 2006, 51, 2064-2076.	3.1	41
79	An optimality model of photoadaptation in contrasting aquatic light regimes. Limnology and Oceanography, 2013, 58, 1802-1818.	3.1	41
80	The role of costâ€“benefit analysis in models of phytoplankton growth and acclimation. Plant Ecology and Diversity, 2009, 2, 165-178.	2.4	39
81	Photosynthesis or planktonic respiration?. Nature, 1997, 388, 132-132.	27.8	37
82	Marine ecosystem models for earth systems applications: The MarQUEST experience. Journal of Marine Systems, 2010, 81, 19-33.	2.1	37
83	Modeling carbon to nitrogen and carbon to chlorophyll a ratios in the ocean at low latitudes: Evaluation of the role of physiological plasticity. Limnology and Oceanography, 2003, 48, 1796-1807.	3.1	35
84	Synoptic study of variations in the fluorescence based maximum quantum efficiency of photosynthesis across the North Atlantic Ocean. Limnology and Oceanography, 1996, 41, 755-765.	3.1	34
85	PHOTOSYNTHESIS AND REGULATION OF RUBISCO ACTIVITY IN NET PHYTOPLANKTON FROM DELAWARE BAY1. Journal of Phycology, 1996, 32, 718-731.	2.3	34
86	A model of photosynthesis and photo-protection based on reaction center damage and repair. Limnology and Oceanography, 2008, 53, 1835-1852.	3.1	34
87	Regulation of Rubisco activity and its potential effect on photosynthesis during mixing in a turbid estuary. Marine Ecology - Progress Series, 1996, 144, 247-264.	1.9	34
88	Quantifying Integrated Proteomic Responses to Iron Stress in the Globally Important Marine Diazotroph Trichodesmium. PLoS ONE, 2015, 10, e0142626.	2.5	32
89	THE MINIMUM PHOTON REQUIREMENT FOR PHOTOSYNTHESIS. New Phytologist, 1987, 106, 631-644.	7.3	26
90	A model of phytoplankton acclimation to ironâ€“light colimitation. Limnology and Oceanography, 2010, 55, 714-724.	3.1	25

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91	Photosynthesis in Global-Scale Models. Advances in Photosynthesis and Respiration, 2009, , 465-497.	1.0	25
92	ELEMENTAL AND BIOCHEMICAL COMPOSITION OF RHINOMONAS RETICULATA (CRYPTOPHYTA) IN RELATION TO LIGHT AND NITRATE-TO-PHOSPHATE SUPPLY RATIOS1. Journal of Phycology, 2005, 41, 567-576.	2.3	24
93	Phytoplankton mortality in a changing thermal seascape. Global Change Biology, 2021, 27, 5253-5261.	9.5	23
94	Evidence for the presence of phycoerythrin inDinophysis norvegica, a pink dinoflagellate. British Phycological Journal, 1989, 24, 195-198.	1.2	21
95	Responses ofEmiliania huxleyi(Prymnesiophyceae) to step changes in photon flux density. European Journal of Phycology, 2009, 44, 31-48.	2.0	21
96	CHARACTERIZATION AND EXPRESSION ANALYSIS OF THE Lhcf GENE FAMILY IN EMILIANIA HUXLEYI (HAPTOPHYTA) REVEALS DIFFERENTIAL RESPONSES TO LIGHT AND CO21. Journal of Phycology, 2010, 46, 123-134.	2.3	21
97	Abundances of autotrophic and heterotrophic nanoplankton and the size distribution of microbial biomass in the southwestern North Sea in October 1986. Journal of Experimental Marine Biology and Ecology, 1988, 123, 127-145.	1.5	19
98	Predictions of response to temperature are contingent on model choice and data quality. Ecology and Evolution, 2017, 7, 10467-10481.	1.9	19
99	An Integrated Response of Trichodesmium erythraeum IMS101 Growth and Photo-Physiology to Iron, CO2, and Light Intensity. Frontiers in Microbiology, 2018, 9, 624.	3.5	19
100	Improving the Accuracy of Single Turnover Active Fluorometry (STAF) for the Estimation of Phytoplankton Primary Productivity (PhytoPP). Frontiers in Marine Science, 2019, 6, .	2.5	18
101	Inorganic carbon and pH dependency of photosynthetic rates in Trichodesmium. Journal of Experimental Botany, 2018, 69, 3651-3660.	4.8	17
102	The physiological cost of diazotrophy for Trichodesmium erythraeum IMS101. PLoS ONE, 2018, 13, e0195638.	2.5	17
103	The relationship between steady state phytoplankton growth and photosynthesis. Limnology and Oceanography, 1990, 35, 971-972.	3.1	13
104	PHYTOPLANKTON PLASMA MEMBRANE REDOX ACTIVITY: EFFECT OF IRON LIMITATION AND INTERACTION WITH PHOTOSYNTHESIS1. Journal of Phycology, 2003, 39, 1132-1144.	2.3	12
105	CO2 modulation of the rates of photosynthesis and light-dependent O2 consumption inTrichodesmium. Journal of Experimental Botany, 2019, 70, 589-597.	4.8	12
106	A model of phytoplankton acclimation to iron-light colimitation. Limnology and Oceanography, 2010, 55, 714-724.	3.1	11
107	High predictability of direct competition between marine diatoms under different temperatures and nutrient states. Ecology and Evolution, 2020, 10, 7276-7290.	1.9	10
108	Limitation of dimethylsulfoniopropionate synthesis at high irradiance in natural phytoplankton communities of the Tropical Atlantic. Limnology and Oceanography, 2018, 63, 227-242.	3.1	8

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109	Projected expansion of Trichodesmiumâ€™s geographical distribution and increase in growth potential in response to climate change. Global Change Biology, 2020, 26, 6445-6456.	9.5	6
110	Use of radiolabeled tracers in dilution grazing experiments to estimate bacterial growth and loss rates. Microbial Ecology, 1989, 17, 77-87.	2.8	4
111	An improved method for the observation and enumeration of heterotrophic and photoautotrophic microplankton. Journal of Experimental Marine Biology and Ecology, 1987, 110, 19-25.	1.5	3
112	Ecology of Marine Phytoplankton. , 2014, , 483-531.		3
113	Phytoplankton physiology can affect ocean surface temperatures. Geophysical Research Letters, 2001, 28, 1251-1254.	4.0	2
114	Ecology of Marine Phytoplankton. , 2014, , 1-41.		2
115	The measurement of gross planktonic production. Nature, 1987, 325, 739-739.	27.8	1
116	THE ROLE OF AQUATIC PHOTOSYNTHESIS IN SOLAR ENERGY CONVERSION: A GEOEVOLUTIONARY PERSPECTIVE. Series on Photoconversion of Solar Energy, 2004, , 287-321.	0.2	0
117	Three-Dimensional Visualisation and Quantification of Lipids in Microalgae Using Confocal Laser Scanning Microscopy. Springer Protocols, 2015, , 145-161.	0.3	0