Christian Wilhelm

List of Publications by Year
in descending order

126 papers	5,363 citations	76326 40 h-index	91884 69 g-index
136 all docs	136 docs citations	136 times ranked	4694 citing authors

#	Article	IF	Citations
1	The application of micro-FTIR spectroscopy to analyze nutrient stress-related changes in biomass composition of phytoplankton algae. Plant Physiology and Biochemistry, 2005, 43, 717-726.	5.8	245
2	The Regulation of Carbon and Nutrient Assimilation in Diatoms is Significantly Different from Green Algae. Protist, 2006, 157, 91-124.	1.5	239
3	Why do thylakoid membranes from higher plants form grana stacks?. Trends in Biochemical Sciences, 1993, 18, 415-419.	7.5	180
4	Energy dissipation is an essential mechanism to sustain the viability of plants: The physiological limits of improved photosynthesis. Journal of Plant Physiology, 2011, 168, 79-87.	3.5	177
5	The lipid composition of the unicellular green alga Chlamydomonas reinhardtii and the diatom Cyclotella meneghiniana investigated by MALDI-TOF MS and TLC. Chemistry and Physics of Lipids, 2007, 150, 143-155.	3.2	155
6	Evidence for the Existence of One Antenna-Associated, Lipid-Dissolved and Two Protein-Bound Pools of Diadinoxanthin Cycle Pigments in Diatoms. Plant Physiology, 2010, 154, 1905-1920.	4.8	145
7	The importance of a highly active and Î”pH-regulated diatoxanthin epoxidase for the regulation of the PS II antenna function in diadinoxanthin cycle containing algae. Journal of Plant Physiology, 2006, 163, 1008-1021.	3.5	144
8	Molecular dynamics of the diatom thylakoid membrane under different light conditions. Photosynthesis Research, 2012, 111, 245-257.	2.9	142
9	Blue light is essential for high light acclimation and photoprotection in the diatom Phaeodactylum tricornutum. Journal of Experimental Botany, 2013, 64, 483-493.	4.8	141
10	Ancient Recruitment by Chromists of Green Algal Genes Encoding Enzymes for Carotenoid Biosynthesis. Molecular Biology and Evolution, 2008, 25, 2653-2667.	8.9	139
11	Ultrafast fluorescence study on the location and mechanism of non-photochemical quenching in diatoms. Biochimica Et Biophysica Acta - Bioenergetics, 2009, 1787, 1189-1197.	1.0	136
12	AUREOCHROME1a-Mediated Induction of the Diatom-Specific Cyclin <i>dsCYC2</i> Controls the Onset of Cell Division in Diatoms (<i>Phaeodactylum tricornutum</i>). Plant Cell, 2013, 25, 215-228.	6.6	136
13	Xanthophyll synthesis in diatoms: quantification of putative intermediates and comparison of pigment conversion kinetics with rate constants derived from a model. Planta, 2001, 212, 382-391.	3.2	133
14	The use of FTIR spectroscopy to assess quantitative changes in the biochemical composition of microalgae. Journal of Biophotonics, 2010, 3, 557-566.	2.3	117
15	Spectroscopic and Molecular Characterization of the Oligomeric Antenna of the Diatom<i>Phaeodactylum tricornutum</i>. Biochemistry, 2007, 46, 9813-9822.	2.5	114
16	Unusual pH-dependence of diadinoxanthin de-epoxidase activation causes chlororespiratory induced accumulation of diatoxanthin in the diatom Phaeodactylum tricornutum. Journal of Plant Physiology, 2001, 158, 383-390.	3.5	112
17	From photons to biomass and biofuels: evaluation of different strategies for the improvement of algal biotechnology based on comparative energy balances. Applied Microbiology and Biotechnology, 2011, 92, 909-919.	3.6	105
18	Bio-optical modelling of oxygen evolution using in vivo fluorescence: Comparison of measured and calculated photosynthesis/irradiance (P-I) curves in four representative phytoplankton species. Journal of Plant Physiology, 2000, 157, 307-314.	3.5	92

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19	Estimation of chlorophyll content and daily primary production of the major algal groups by means of multiwavelength-excitation PAM chlorophyll fluorometry: performance and methodological limits. Photosynthesis Research, 2005, 83, 343-361.	2.9	92
20	Role of Hexagonal Structure-Forming Lipids in Diadinoxanthin and Violaxanthin Solubilization and De-Epoxidationâ€. Biochemistry, 2005, 44, 4028-4036.	2.5	91
21	The regulation of xanthophyll cycle activity and of non-photochemical fluorescence quenching by two alternative electron flows in the diatoms Phaeodactylum tricornutum and Cyclotella meneghiniana. Biochimica Et Biophysica Acta - Bioenergetics, 2009, 1787, 929-938.	1.0	84
22	Non-photochemical quenching and xanthophyll cycle activities in six green algal species suggest mechanistic differences in the process of excess energy dissipation. Journal of Plant Physiology, 2015, 172, 92-103.	3.5	82
23	A complete energy balance from photons to new biomass reveals a light- and nutrient-dependent variability in the metabolic costs of carbon assimilation. Journal of Experimental Botany, 2007, 58, 2101-2112.	4.8	77
24	Aureochrome 1a Is Involved in the Photoacclimation of the Diatom Phaeodactylum tricornutum. PLoS ONE, 2013, 8, e74451.	2.5	77
25	The main thylakoid membrane lipid monogalactosyldiacylglycerol (MGDG) promotes the de-epoxidation of violaxanthin associated with the light-harvesting complex of photosystem II (LHCII). Biochimica Et Biophysica Acta - Bioenergetics, 2010, 1797, 414-424.	1.0	74
26	The Acclimation of Phaeodactylum tricornutum to Blue and Red Light Does Not Influence the Photosynthetic Light Reaction but Strongly Disturbs the Carbon Allocation Pattern. PLoS ONE, 2014, 9, e99727.	2.5	67
27	Investigation of the quenching efficiency of diatoxanthin in cells of Phaeodactylum tricornutum (Bacillariophyceae) with different pool sizes of xanthophyll cycle pigments. Phycologia, 2007, 46, 113-117.	1.4	64
28	Influence of ascorbate and pH on the activity of the diatom xanthophyll cycle-enzyme diadinoxanthin de-epoxidase. Physiologia Plantarum, 2006, 126, 205-211.	5.2	63
29	Regulation of LHCII aggregation by different thylakoid membrane lipids. Biochimica Et Biophysica Acta - Bioenergetics, 2011, 1807, 326-335.	1.0	63
30	FTIR spectra of algal species can be used as physiological fingerprints to assess their actual growth potential. Physiologia Plantarum, 2012, 146, 427-438.	5.2	60
31	An update on aureochromes: Phylogeny â€" mechanism â€" function. Journal of Plant Physiology, 2017, 217, 20-26.	3.5	57
32	Light acclimation in diatoms: From phenomenology to mechanisms. Marine Genomics, 2014, 16, 5-15.	1.1	56
33	Flow cytometric discrimination of various phycobilin-containing phytoplankton groups in a hypertrophic reservoir. Cytometry, 2002, 48, 45-57.	1.8	53
34	Uphill energy transfer from long-wavelength absorbing chlorophylls to PS II in Ostreobium sp. is functional in carbon assimilation. Photosynthesis Research, 2006, 87, 323-329.	2.9	51
35	Structurally flexible macro-organization of the pigmentâ€"protein complexes of the diatom Phaeodactylum tricornutum. Photosynthesis Research, 2008, 95, 237-245.	2.9	49
36	Epidermal Pavement Cells of Arabidopsis Have Chloroplasts. Plant Physiology, 2016, 171, 723-6.	4.8	49

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37	Lipid dependence of diadinoxanthin solubilization and de-epoxidation in artificial membrane systems resembling the lipid composition of the natural thylakoid membrane. Biochimica Et Biophysica Acta - Biomembranes, 2007, 1768, 67-75.	2.6	48
38	Fourier transform infrared spectroscopy as a new tool to determine rosmarinic acid in situ. Journal of Plant Physiology, 2004, 161, 151-156.	3.5	46
39	Fluorescence induction kinetics as a tool to detect a chlororespiratory activity in the prasinophycean alga, Mantoniella squamata. Biochimica Et Biophysica Acta - Bioenergetics, 1990, 1016, 197-202.	1.0	41
40	Impact of chlororespiration on non-photochemical quenching of chlorophyll fluorescence and on the regulation of the diadinoxanthin cycle in the diatom Thalassiosira pseudonana. Journal of Experimental Botany, 2011, 62, 509-519.	4.8	41
41	An energy balance from absorbed photons to new biomass for <i>Chlamydomonas reinhardtii</i> and <i>Chlamydomonas acidophila</i> under neutral and extremely acidic growth conditions. Plant, Cell and Environment, 2009, 32, 250-258.	5.7	40
42	Cell Wall Structure of Coccoid Green Algae as an Important Trade-Off Between Biotic Interference Mechanisms and Multidimensional Cell Growth. Frontiers in Microbiology, 2018, 9, 719.	3.5	39
43	PtAUREO1a and PtAUREO1b knockout mutants of the diatom Phaeodactylum tricornutum are blocked in photoacclimation to blue light. Journal of Plant Physiology, 2017, 217, 44-48.	3.5	39
44	The lipid dependence of diadinoxanthin de-epoxidation presents new evidence for a macrodomain organization of the diatom thylakoid membrane. Journal of Plant Physiology, 2009, 166, 1839-1854.	3.5	38
45	Contrasting effects of the cyanobacterium <i><scp>M</scp>icrocystis aeruginosa</i> on the growth and physiology of two green algae, <i><scp>O</scp>ocystis marsonii</i> and <i><scp>S</scp>cenedesmus obliquus</i>, revealed by flow cytometry. Freshwater Biology, 2013, 58, 1573-1587.	2.4	38
46	Attitudes toward Animals among German Children and Adolescents. Anthrozoos, 2013, 26, 325-339.	1.4	37
47	Photosystem II cycle activity and alternative electron transport in the diatom Phaeodactylum tricornutum under dynamic light conditions and nitrogen limitation. Photosynthesis Research, 2016, 128, 151-161.	2.9	36
48	Towards an understanding of the molecular regulation of carbon allocation in diatoms: the interaction of energy and carbon allocation. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20160410.	4.0	36
49	Functional heterogeneity of the fucoxanthins and fucoxanthin-chlorophyll proteins in diatom cells revealed by their electrochromic response and fluorescence and linear dichroism spectra. Chemical Physics, 2010, 373, 110-114.	1.9	35
50	Integration in microalgal bioprocess development: Design of efficient, sustainable, and economic processes. Engineering in Life Sciences, 2014, 14, 560-573.	3.6	35
51	Methane production from glycolate excreting algae as a new concept in the production of biofuels. Bioresource Technology, 2012, 121, 454-457.	9.6	34
52	Evidence for a rebinding of antheraxanthin to the light-harvesting complex during the epoxidation reaction of the violaxanthin cycle. Journal of Plant Physiology, 2006, 163, 585-590.	3.5	33
53	Adolescent Learning in the Zoo: Embedding a Non-Formal Learning Environment to Teach Formal Aspects of Vertebrate Biology. Journal of Science Education and Technology, 2012, 21, 384-391.	3.9	33
54	Lipids in Algae, Lichens and Mosses. Advances in Photosynthesis and Respiration, 2009, , 117-137.	1.0	31

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55	THE IMPACT OF NONPHOTOCHEMICAL QUENCHING OF FLUORESCENCE ON THE PHOTON BALANCE IN DIATOMS UNDER DYNAMIC LIGHT CONDITIONS¹. Journal of Phycology, 2012, 48, 336-346.	2.3	31
56	Influence of thylakoid membrane lipids on the structure and function of the plant photosystem II core complex. Planta, 2014, 240, 781-796.	3.2	31
57	A Fateful Meeting of Two Phytoplankton Speciesâ€”Chemical vs. Cell-Cell-Interactions in Co-Cultures of the Green Algae Oocystis marsonii and the Cyanobacterium Microcystis aeruginosa. Microbial Ecology, 2017, 74, 22-32.	2.8	30
58	Synchroma grande spec. nov. (Synchromophyceae class. nov., Heterokontophyta): An Amoeboid Marine Alga with Unique Plastid Complexes. Protist, 2007, 158, 277-293.	1.5	28
59	Photophysiology and primary production of phytoplankton in freshwater. Physiologia Plantarum, 2004, 120, 347-357.	5.2	27
60	Glycolate from microalgae: an efficient carbon source for biotechnological applications. Plant Biotechnology Journal, 2019, 17, 1538-1546.	8.3	27
61	The impact of cell-specific absorption properties on the correlation of electron transport rates measured by chlorophyll fluorescence and photosynthetic oxygen production in planktonic algae. Plant Physiology and Biochemistry, 2011, 49, 801-808.	5.8	26
62	Temperature affects the partitioning of absorbed light energy in freshwater phytoplankton. Freshwater Biology, 2016, 61, 1365-1378.	2.4	26
63	COMBINATION OF FLOW CYTOMETRY AND SINGLE CELL ABSORPTION SPECTROSCOPY TO STUDY THE PHYTOPLANKTON STRUCTURE AND TO CALCULATE THE CHL A SPECIFIC ABSORPTION COEFFICIENTS AT THE TAXON LEVEL1. Journal of Phycology, 2005, 41, 1099-1109.	2.3	25
64	Phytoplankton growth rate modelling: can spectroscopic cell chemotyping be superior to physiological predictors?. Proceedings of the Royal Society B: Biological Sciences, 2017, 284, 20161956.	2.6	24
65	Subcommunity FTIR-spectroscopy to determine physiological cell states. Current Opinion in Biotechnology, 2013, 24, 88-94.	6.6	23
66	Lotharella polymorpha sp. nov. (Chlorarachniophyta) from the coast of Portugal. Phycologia, 2003, 42, 582-593.	1.4	22
67	Influence of pH, Mg2+, and lipid composition on the aggregation state of the diatom FCP in comparison to the LHCII of vascular plants. Photosynthesis Research, 2014, 119, 305-317.	2.9	21
68	Simultaneous Measurement of the Silicon Content and Physiological Parameters by FTIR Spectroscopy in Diatoms with Siliceous Cell Walls. Plant and Cell Physiology, 2012, 53, 2153-2162.	3.1	20
69	Spring Ephemerals Adapt to Extremely High Light Conditions via an Unusual Stabilization of Photosystem II. Frontiers in Plant Science, 2015, 6, 1189.	3.6	20
70	Surveillance of C-Allocation in Microalgal Cells. Metabolites, 2014, 4, 453-464.	2.9	19
71	Direct isolation of a functional violaxanthin cycle domain from thylakoid membranes of higher plants. Planta, 2017, 245, 793-806.	3.2	19
72	Analysis of greenhouse gas emissions from microalgae-based biofuels. Biomass Conversion and Biorefinery, 2012, 2, 179-194.	4.6	18

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73	Electron balancing under different sink conditions reveals positive effects on photon efficiency and metabolic activity of Synechocystis sp. PCC 6803. Biotechnology for Biofuels, 2019, 12, 43.	6.2	18
74	Quantitative macromolecular patterns in phytoplankton communities resolved at the taxonomical level by single-cell Synchrotron FTIR-spectroscopy. BMC Plant Biology, 2019, 19, 142.	3.6	17
75	Cytometry of Freshwater Phytoplankton. Methods in Cell Biology, 2004, 75, 375-407.	1.1	16
76	Recovery of soil unicellular eukaryotes: An efficiency and activity analysis on the single cell level. Journal of Microbiological Methods, 2013, 95, 463-469.	1.6	16
77	The fluid-mosaic membrane theory in the context of photosynthetic membranes: Is the thylakoid membrane more like a mixed crystal or like a fluid?. Journal of Plant Physiology, 2020, 252, 153246.	3.5	16
78	Conversion steps in bioenergy production â€“ analysis of the energy flow from photon to biofuel. Biofuels, 2014, 5, 385-404.	2.4	15
79	Title: Freshwater phytoplankton responses to global warming. Journal of Plant Physiology, 2016, 203, 127-134.	3.5	15
80	Photo-CIDNP in the Reaction Center of the Diatom <i>Cyclotella meneghiniana</i> Observed by ¹³C MAS NMR. Zeitschrift Fur Physikalische Chemie, 2017, 231, 347-367.	2.8	15
81	Different phycobilin antenna organisations affect the balance between light use and growth rate in the cyanobacterium Microcystis aeruginosa and in the cryptophyte Cryptomonas ovata. Photosynthesis Research, 2012, 111, 173-183.	2.9	14
82	The diadinoxanthin diatoxanthin cycle induces structural rearrangements of the isolated FCP antenna complexes of the pennate diatom Phaeodactylum tricornutum. Plant Physiology and Biochemistry, 2015, 96, 364-376.	5.8	14
83	The Aureochrome Photoreceptor PtAUREO1a Is a Highly Effective Blue Light Switch in Diatoms. IScience, 2020, 23, 101730.	4.1	14
84	15N photo-CIDNP MAS NMR on both photosystems and magnetic field-dependent 13C photo-CIDNP MAS NMR in photosystem II of the diatom Phaeodactylum tricornutum. Photosynthesis Research, 2019, 140, 151-171.	2.9	13
85	Long-Term Biogas Production from Glycolate by Diverse and Highly Dynamic Communities. Microorganisms, 2018, 6, 103.	3.6	12
86	Pigment-pigment interactions and secondary structure of reconstituted algal chlorophyll a/b-binding light-harvesting complexes of Chlorella fusca with different pigment compositions and pigment-protein stoichiometries. Photosynthesis Research, 1996, 49, 71-81.	2.9	11
87	Fluorescence as a Tool to Understand Changes in Photosynthetic Electron Flow Regulation. , 2010, , 75-89.		11
88	Synchroma pusillum sp. nov. and other New Algal Isolates with Chloroplast Complexes Confirm the Synchromophyceae (Ochrophyta) as a Widely Distributed Group of Amoeboid Algae. Protist, 2012, 163, 544-559.	1.5	11
89	Effects of temperature and salinity on respiratory losses and the ratio of photosynthesis to respiration in representative Antarctic phytoplankton species. PLoS ONE, 2019, 14, e0224101.	2.5	10
90	Can Chlorophyll-a in-vivo fluorescence be used for quantification of carbon-based primary production in absolute terms?. Archiv FÃ¼r Hydrobiologie, 2004, 160, 515-526.	1.1	9

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91	Effects of UV irradiation on barley and tomato leaves: thermoluminescence as a method to screen the impact of UV radiation on crop plants. Functional Plant Biology, 2004, 31, 825.	2.1	9
92	Photosynthetic energy conversion in the diatom Phaeodactylum tricornutum. Journal of Thermal Analysis and Calorimetry, 2011, 104, 223-231.	3.6	9
93	Unusual features of the high light acclimation of Chromera velia. Photosynthesis Research, 2014, 122, 159-169.	2.9	9
94	Functional proteomics of light-harvesting complex proteins under varying light-conditions in diatoms. Journal of Plant Physiology, 2017, 217, 38-43.	3.5	9
95	Light adaptation of the phytoplankton diatomPhaeodactylum tricornutum under conditions of natural light climate. International Review of Hydrobiology, 1997, 82, 315-328.	0.6	8
96	Influence of thylakoid membrane lipids on the structure of aggregated lightâ€harvesting complexes of the diatom <i>Thalassiosira pseudonana</i> and the green alga <i>Mantoniella squamata</i>. Physiologia Plantarum, 2017, 160, 339-358.	5.2	8
97	Pre-purification of diatom pigment protein complexes provides insight into the heterogeneity of FCP complexes. BMC Plant Biology, 2020, 20, 456.	3.6	8
98	Guanchochroma wildpretii gen. et spec. nov. (Ochrophyta) Provides New Insights into the Diversification and Evolution of the Algal Class Synchromophyceae. PLoS ONE, 2015, 10, e0131821.	2.5	8
99	Selected coccal green algae are not affected by the humic substance HuminfeedÂ® in term of growth or photosynthetic performance. Hydrobiologia, 2012, 684, 215-224.	2.0	7
100	Monitoring cellular C:N ratio in phytoplankton by means of <scp>FTIR</scp>â€spectroscopy. Journal of Phycology, 2019, 55, 543-551.	2.3	7
101	Assessing in situ dominance pattern of phytoplankton classes by dominance analysis as a proxy for realized niches. Harmful Algae, 2016, 58, 74-84.	4.8	5
102	Light driven reactions in model algae. Journal of Plant Physiology, 2017, 217, 1-3.	3.5	5
103	Physiodiversity â€“ New tools allow physiologist to embrace biodiversity and reconstruct the evolution of â€˜physiologiesâ€™?. Journal of Plant Physiology, 2015, 172, 1-3.	3.5	4
104	The artificial humic substance HS1500 does not inhibit photosynthesis of the green alga Desmodesmus armatus in vivo but interacts with the photosynthetic apparatus of isolated spinach thylakoids in vitro. Photosynthesis Research, 2018, 137, 403-420.	2.9	4
105	Crossing and selection of Chlamydomonas reinhardtii strains for biotechnological glycolate production. Applied Microbiology and Biotechnology, 2022, 106, 3539-3554.	3.6	4
106	The potential of multispectral imaging flow cytometry for environmental monitoring. Cytometry Part A: the Journal of the International Society for Analytical Cytology, 2022, 101, 782-799.	1.5	4
107	3 Balancing the conversion efficiency from photon to biomass. , 2012, , 39-54.		3
108	The investigation of violaxanthin de-epoxidation in the primitive green alga<i>Mantoniella squamata</i>(Prasinophyceae) indicates mechanistic differences in xanthophyll conversion to higher plants. Phycologia, 2012, 51, 359-370.	1.4	3

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109	An optimized protocol for the preparation of oxygen-evolving thylakoid membranes from Cyclotella meneghiniana provides a tool for the investigation of diatom plastidic electron transport. BMC Plant Biology, 2017, 17, 221.	3.6	3
110	Photocalorespirometry (Photo-CR): A Novel Method for Access to Photosynthetic Energy Conversion Efficiency. Scientific Reports, 2019, 9, 9298.	3.3	3
111	The Biological Perspective. TATuP - Zeitschrift FÃ¼r TechnikfolgenabschÃtzung in Theorie Und Praxis, 2012, 21, 46-53.	0.1	3
112	Heterologous Lactate Synthesis in <i>Synechocystis</i> sp. Strain PCC 6803 Causes a Growth Condition-Dependent Carbon Sink Effect. Applied and Environmental Microbiology, 2022, 88, e0006322.	3.1	3
113	Ru/Câ€Catalyzed Hydrogenation of Aqueous Glycolic Acid from Microalgae â€“ Influence of pH and Biologically Relevant Additives. ChemistryOpen, 2022, 11, .	1.9	3
114	Photosynthesis in diatoms. , 2020, , 217-229.		2
115	Biomass Production: Biological Basics. , 2019, , 17-52.		1
116	The Application of Chlorophyll Fluorescence in the Aquatic Environment. , 2003, , 185-202.		1
117	Green Algae. Advances in Photosynthesis and Respiration, 2014, , 309-333.	1.0	1
118	Biomasseentstehung. , 2016, , 77-123.		1
119	Innovative Options for Energy Provision. , 2019, , 1413-1419.		0
120	Influence of the compatible solute sucrose on thylakoid membrane organization and violaxanthin de-epoxidation. Planta, 2021, 254, 52.	3.2	0
121	Lessons from Energy Balances for the Production Strategies of Biofuels. Advanced Topics in Science and Technology in China, 2013, , 737-740.	0.1	0
122	Aquatische Biomasse. , 2016, , 249-272.		0
123	Photosynthesis in Eukaryotic Algae with Secondary Plastids. Books in Soils, Plants, and the Environment, 2016, , 425-444.	0.1	0
124	Biomass Production, Biological Basics. , 2017, , 1-36.		0
125	Innovative Options for Energy Provision. , 2017, , 1-7.		0
126	Isolation of fucoxanthin chlorophyll protein complexes of the centric diatom <i>Thalassiosira pseudonana</i> associated with the xanthophyll cycle enzyme diadinoxanthin deâ€epoxidase ^{â€}. IUBMB Life, 2022, , .	3.4	0