

Matthew C Posewitz

List of Publications by Year in descending order

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88
papers

10,475
citations

66343

42
h-index

56724

83
g-index

88
all docs

88
docs citations

88
times ranked

9610
citing authors

#	ARTICLE	IF	CITATIONS
1	Genetic Engineering of Algae for Enhanced Biofuel Production. <i>Eukaryotic Cell</i> , 2010, 9, 486-501.	3.4	969
2	Immobilized Gallium(III) Affinity Chromatography of Phosphopeptides. <i>Analytical Chemistry</i> , 1999, 71, 2883-2892.	6.5	958
3	The Marine Microbial Eukaryote Transcriptome Sequencing Project (MMETSP): Illuminating the Functional Diversity of Eukaryotic Life in the Oceans through Transcriptome Sequencing. <i>PLoS Biology</i> , 2014, 12, e1001889.	5.6	885
4	Aquatic phototrophs: efficient alternatives to land-based crops for biofuels. <i>Current Opinion in Biotechnology</i> , 2008, 19, 235-240.	6.6	620
5	Draft genome sequence and genetic transformation of the oleaginous alga <i>Nannochloropsis gaditana</i> . <i>Nature Communications</i> , 2012, 3, 686.	12.8	438
6	Engineering algae for biohydrogen and biofuel production. <i>Current Opinion in Biotechnology</i> , 2009, 20, 264-271.	6.6	391
7	<i>Cyanophora paradoxa</i> Genome Elucidates Origin of Photosynthesis in Algae and Plants. <i>Science</i> , 2012, 335, 843-847.	12.6	371
8	Discovery of Two Novel Radical S-Adenosylmethionine Proteins Required for the Assembly of an Active [Fe] Hydrogenase. <i>Journal of Biological Chemistry</i> , 2004, 279, 25711-25720.	3.4	368
9	Hydrogenases and Hydrogen Photoproduction in Oxygenic Photosynthetic Organisms. <i>Annual Review of Plant Biology</i> , 2007, 58, 71-91.	18.7	330
10	Ultrastructure and Composition of the <i>Nannochloropsis gaditana</i> Cell Wall. <i>Eukaryotic Cell</i> , 2014, 13, 1450-1464.	3.4	322
11	Increased Lipid Accumulation in the <i>Chlamydomonas reinhardtii</i> <i>sta7-10</i> Starchless Isoamylase Mutant and Increased Carbohydrate Synthesis in Complemented Strains. <i>Eukaryotic Cell</i> , 2010, 9, 1251-1261.	3.4	317
12	Maturation of Hydrogenases. <i>Advances in Microbial Physiology</i> , 2006, 51, 1-225.	2.4	307
13	Functional Studies of [FeFe] Hydrogenase Maturation in an <i>Escherichia coli</i> Biosynthetic System. <i>Journal of Bacteriology</i> , 2006, 188, 2163-2172.	2.2	300
14	Anaerobic Acclimation in <i>Chlamydomonas reinhardtii</i> . <i>Journal of Biological Chemistry</i> , 2007, 282, 25475-25486.	3.4	270
15	Genetic engineering of fatty acid chain length in <i>Phaeodactylum tricornutum</i> . <i>Metabolic Engineering</i> , 2011, 13, 89-95.	7.0	233
16	Engineering Limonene and Bisabolene Production in Wild Type and a Glycogen-Deficient Mutant of <i>Synechococcus</i> sp. PCC 7002. <i>Frontiers in Bioengineering and Biotechnology</i> , 2014, 2, 21.	4.1	230
17	Insights into [FeFe]-Hydrogenase Structure, Mechanism, and Maturation. <i>Structure</i> , 2011, 19, 1038-1052.	3.3	220
18	Hydrogen Photoproduction Is Attenuated by Disruption of an Isoamylase Gene in <i>Chlamydomonas reinhardtii</i> . <i>Plant Cell</i> , 2004, 16, 2151-2163.	6.6	155

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19	Novel metabolism in <i>Chlamydomonas</i> through the lens of genomics. <i>Current Opinion in Plant Biology</i> , 2007, 10, 190-198.	7.1	149
20	HydF as a scaffold protein in [FeFe] hydrogenase H ₂ cluster biosynthesis. <i>FEBS Letters</i> , 2008, 582, 2183-2187.	2.8	122
21	X-ray Structure of the [FeFe]-Hydrogenase Maturase HydE from <i>Thermotoga maritima</i> . <i>Journal of Biological Chemistry</i> , 2008, 283, 18861-18872.	3.4	119
22	In vitro activation of [FeFe] hydrogenase: new insights into hydrogenase maturation. <i>Journal of Biological Inorganic Chemistry</i> , 2007, 12, 443-447.	2.6	109
23	Fermentation metabolism and its evolution in algae. <i>Frontiers in Plant Science</i> , 2013, 4, 150.	3.6	101
24	Genetic disruption of both <i>Chlamydomonas reinhardtii</i> [FeFe]-hydrogenases: Insight into the role of HYDA2 in H ₂ production. <i>Biochemical and Biophysical Research Communications</i> , 2012, 417, 704-709.	2.1	97
25	Flexibility in Anaerobic Metabolism as Revealed in a Mutant of <i>Chlamydomonas reinhardtii</i> Lacking Hydrogenase Activity. <i>Journal of Biological Chemistry</i> , 2009, 284, 7201-7213.	3.4	96
26	Multiple facets of anoxic metabolism and hydrogen production in the unicellular green alga <i>Chlamydomonas reinhardtii</i> . <i>New Phytologist</i> , 2011, 190, 279-288.	7.3	94
27	The production of the sesquiterpene β -caryophyllene in a transgenic strain of the cyanobacterium <i>Synechocystis</i> . <i>Journal of Plant Physiology</i> , 2011, 168, 848-852.	3.5	89
28	Properties of the Sp1 Zinc Finger 3 Peptide: Coordination Chemistry, Redox Reactions, and Metal Binding Competition with Metallothionein. <i>Chemical Research in Toxicology</i> , 1995, 8, 1020-1028.	3.3	87
29	Genomic insights from the oleaginous model alga <i>Nannochloropsis gaditana</i> . <i>Bioengineered</i> , 2013, 4, 37-43.	3.2	84
30	Improving photosynthesis and metabolic networks for the competitive production of phototroph-derived biofuels. <i>Current Opinion in Biotechnology</i> , 2012, 23, 290-297.	6.6	78
31	Toward a photosynthetic microbial platform for terpenoid engineering. <i>Photosynthesis Research</i> , 2015, 123, 265-284.	2.9	78
32	Phenotypic diversity of hydrogen production in chlorophycean algae reflects distinct anaerobic metabolisms. <i>Journal of Biotechnology</i> , 2009, 142, 21-30.	3.8	70
33	Contrasting Patterns of Community Assembly in the Stratified Water Column of Great Salt Lake, Utah. <i>Microbial Ecology</i> , 2013, 66, 268-280.	2.8	64
34	A Mutant in the <i>ADH1</i> Gene of <i>Chlamydomonas reinhardtii</i> Elicits Metabolic Restructuring during Anaerobiosis. <i>Plant Physiology</i> , 2012, 158, 1293-1305.	4.8	60
35	Altered Fermentative Metabolism in <i>Chlamydomonas reinhardtii</i> Mutants Lacking Pyruvate Formate Lyase and Both Pyruvate Formate Lyase and Alcohol Dehydrogenase. <i>Plant Cell</i> , 2012, 24, 692-707.	6.6	58
36	Critical role of <i>Chlamydomonas reinhardtii</i> ferredoxin-5 in maintaining membrane structure and dark metabolism. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 14978-14983.	7.1	58

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37	Development of a high-productivity, halophilic, thermotolerant microalga <i>Picochlorum renovum</i> . <i>Communications Biology</i> , 2019, 2, 388.	4.4	58
38	Presence of a Copper(I)-Thiolate Regulatory Domain in the Copper-Activated Transcription Factor Amt1. <i>Biochemistry</i> , 1996, 35, 14583-14589.	2.5	53
39	Mapping of the DNA Binding Domain of the Copper-responsive Transcription Factor Mac1 from <i>Saccharomyces cerevisiae</i> . <i>Journal of Biological Chemistry</i> , 1998, 273, 23805-23811.	3.4	50
40	Evolutionary significance of an algal gene encoding an [FeFe]-hydrogenase with F-domain homology and hydrogenase activity in <i>Chlorella variabilis</i> NC64A. <i>Planta</i> , 2011, 234, 829-843.	3.2	50
41	Metabolic and photosynthetic consequences of blocking starch biosynthesis in the green alga <i>Chlamydomonas reinhardtii</i> sta6 mutant. <i>Plant Journal</i> , 2015, 81, 947-960.	5.7	49
42	Algae after dark: mechanisms to cope with anoxic/hypoxic conditions. <i>Plant Journal</i> , 2015, 82, 481-503.	5.7	46
43	Alternative Acetate Production Pathways in <i>Chlamydomonas reinhardtii</i> during Dark Anoxia and the Dominant Role of Chloroplasts in Fermentative Acetate Production. <i>Plant Cell</i> , 2014, 26, 4499-4518.	6.6	44
44	Alternative outlets for sustaining photosynthetic electron transport during dark-to-light transitions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 11518-11527.	7.1	42
45	Establishment of a bioenergy-focused microalgal culture collection. <i>Algal Research</i> , 2012, 1, 102-113.	4.6	40
46	Solution structure of a zinc domain conserved in yeast copper-regulated transcription factors. <i>Nature Structural Biology</i> , 1998, 5, 551-555.	9.7	39
47	Application of gene-shuffling for the rapid generation of novel [FeFe]-hydrogenase libraries. <i>Biotechnology Letters</i> , 2007, 29, 421-430.	2.2	38
48	Unlocking the Constraints of Cyanobacterial Productivity: Acclimations Enabling Ultrafast Growth. <i>MBio</i> , 2016, 7, .	4.1	38
49	High-light selection produces a fast-growing <i>Picochlorum celeri</i> . <i>Algal Research</i> , 2018, 36, 17-28.	4.6	36
50	Design of a new biosensor for algal H ₂ production based on the H ₂ -sensing system of <i>Rhodobacter capsulatus</i> . <i>International Journal of Hydrogen Energy</i> , 2011, 36, 11229-11237.	7.1	34
51	Crystal Structure of HydF Scaffold Protein Provides Insights into [FeFe]-Hydrogenase Maturation. <i>Journal of Biological Chemistry</i> , 2011, 286, 43944-43950.	3.4	32
52	<i>Picochlorum celeri</i> as a model system for robust outdoor algal growth in seawater. <i>Scientific Reports</i> , 2021, 11, 11649.	3.3	30
53	Dynamics of Photosynthesis in a Glycogen-Deficient <i>glgC</i> Mutant of <i>Synechococcus</i> sp. Strain PCC 7002. <i>Applied and Environmental Microbiology</i> , 2015, 81, 6210-6222.	3.1	29
54	Growth of <i>Chlamydomonas reinhardtii</i> in acetate-free medium when co-cultured with alginate-encapsulated, acetate-producing strains of <i>Synechococcus</i> sp. PCC 7002. <i>Biotechnology for Biofuels</i> , 2014, 7, 154.	6.2	28

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55	Expression of a clostridial [FeFe]-hydrogenase in <i>Chlamydomonas reinhardtii</i> prolongs photo-production of hydrogen from water splitting. <i>Algal Research</i> , 2017, 22, 116-121.	4.6	28
56	Adaptive Laboratory Evolution for algal strain improvement: methodologies and applications. <i>Algal Research</i> , 2021, 53, 102122.	4.6	27
57	Nitrogen recycling from fuel-extracted algal biomass: Residuals as the sole nitrogen source for culturing <i>Scenedesmus acutus</i> . <i>Bioresource Technology</i> , 2015, 184, 153-160.	9.6	26
58	Lauric Acid Production in a Glycogen-Less Strain of <i>Synechococcus</i> sp. PCC 7002. <i>Frontiers in Bioengineering and Biotechnology</i> , 2015, 3, 48.	4.1	25
59	Genome editing using Cas9-RNA ribonucleoprotein complexes in the high-productivity marine alga <i>Picochlorum celeri</i> . <i>Algal Research</i> , 2020, 49, 101944.	4.6	24
60	Evolutionary and Biotechnological Implications of Robust Hydrogenase Activity in Halophilic Strains of <i>Tetraselmis</i> . <i>PLoS ONE</i> , 2014, 9, e85812.	2.5	21
61	Characterization of the <i>Nannochloropsis gaditana</i> storage carbohydrate: A 1,3-beta glucan with limited 1,6-branching. <i>Algal Research</i> , 2018, 36, 152-158.	4.6	21
62	Improving biofuel production in phototrophic microorganisms with systems biology. <i>Biofuels</i> , 2011, 2, 125-144.	2.4	20
63	Biocommodities from photosynthetic microorganisms. <i>Environmental Progress and Sustainable Energy</i> , 2013, 32, 989-1001.	2.3	20
64	Down-Selection and Outdoor Evaluation of Novel, Halotolerant Algal Strains for Winter Cultivation. <i>Frontiers in Plant Science</i> , 2018, 9, 1513.	3.6	19
65	Profiling <i>Chlamydomonas</i> Metabolism under Dark, Anoxic H ₂ -Producing Conditions Using a Combined Proteomic, Transcriptomic, and Metabolomic Approach. <i>Journal of Proteome Research</i> , 2014, 13, 5431-5451.	3.7	18
66	Hydrogenases, Hydrogen Production, and Anoxia. , 2009, , 217-255.		17
67	[FeFe]-Hydrogenase Abundance and Diversity along a Vertical Redox Gradient in Great Salt Lake, USA. <i>International Journal of Molecular Sciences</i> , 2014, 15, 21947-21966.	4.1	17
68	Photosynthetic Water-Splitting for Hydrogen Production. , 0, , 273-291.		15
69	Biochemical and Structural Properties of a Thermostable Mercuric Ion Reductase from <i>Metallosphaera sedula</i> . <i>Frontiers in Bioengineering and Biotechnology</i> , 2015, 3, 97.	4.1	14
70	Sensors that mediate copper-specific activation and repression of gene expression. <i>Journal of Biological Inorganic Chemistry</i> , 1997, 2, 2-10.	2.6	13
71	Pigment modulation in response to irradiance intensity in the fast-growing alga <i>Picochlorum celeri</i> . <i>Algal Research</i> , 2021, 58, 102370.	4.6	12
72	Novel FixL homologues in <i>Chlamydomonas reinhardtii</i> bind heme and O ₂ . <i>FEBS Letters</i> , 2012, 586, 4282-4288.	2.8	11

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73	Modulation of Medium-Chain Fatty Acid Synthesis in <i>Synechococcus</i> sp. PCC 7002 by Replacing FabH with a <i>Chaetoceros</i> Ketoacyl-ACP Synthase. <i>Frontiers in Plant Science</i> , 2016, 7, 690.	3.6	11
74	Phased Diploid Genome Sequence for the Fast-Growing Microalga <i>Picochlorum celeri</i> . <i>Microbiology Resource Announcements</i> , 2020, 9, .	0.6	10
75	Biochemical and Structural Characterization of Enolase from <i>Chloroflexus aurantiacus</i> : Evidence for a Thermophilic Origin. <i>Frontiers in Bioengineering and Biotechnology</i> , 2015, 3, 74.	4.1	9
76	Algal oil productivity gets a fat bonus. <i>Nature Biotechnology</i> , 2017, 35, 636-638.	17.5	9
77	Effectiveness of cationically modified cellulose polymers for dewatering algae. <i>Separation Science and Technology</i> , 2016, 51, 892-898.	2.5	8
78	Hydrogenases, Nitrogenases, Anoxia, and H ₂ Production in Water-Oxidizing Phototrophs. , 2013, , 37-75.		7
79	The complete mitogenome and plastome of the haptophyte <i>Pavlova lutheri</i> NIVA-4/92. <i>Mitochondrial DNA Part B: Resources</i> , 2020, 5, 2748-2749.	0.4	7
80	The Genome of the Haptophyte <i>Diacronema lutheri</i> (<i>Pavlova lutheri</i> , Pavlovales): A Model for Lipid Biosynthesis in Eukaryotic Algae. <i>Genome Biology and Evolution</i> , 2021, 13, .	2.5	7
81	New Frontiers in Hydrogenase Structure and Biosynthesis. <i>Current Chemical Biology</i> , 2008, 2, 178-199.	0.5	6
82	Role of the conserved histidines in the Zn module of the copper-activated transcription factors in yeast. <i>Journal of Biological Inorganic Chemistry</i> , 1996, 1, 560-566.	2.6	5
83	Engineering pathways to biofuels in photoautotrophic microorganisms. <i>Biofuels</i> , 2014, 5, 67-78.	2.4	5
84	CRISPR/Cas9 disruption of glucan synthase in <i>Nannochloropsis gaditana</i> attenuates accumulation of β -1,3-glucose oligomers. <i>Algal Research</i> , 2021, 58, 102385.	4.6	5
85	Interaction of metallothionein with the carcinogenic metals Ni(II), Cr(VI) and As(III). , 1999, , 585-594.		2
86	Insights into Algal Fermentation. <i>Plant Cell Monographs</i> , 2014, , 135-163.	0.4	2
87	Microbial hydrocarbons: back to the future. <i>Biofuels</i> , 2012, 3, 103-105.	2.4	1
88	7 Hydrogenase evolution and function in eukaryotic algae. , 2015, , 145-172.		0