

# Martin H Spalding

## List of Publications by Year in descending order

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80  
papers

9,824  
citations

71102

41  
h-index

64796

79  
g-index

83  
all docs

83  
docs citations

83  
times ranked

10013  
citing authors

#	ARTICLE	IF	CITATIONS
1	The <i>Chlamydomonas</i> Genome Reveals the Evolution of Key Animal and Plant Functions. <i>Science</i> , 2007, 318, 245-250.	12.6	2,354
2	High-efficiency TALEN-based gene editing produces disease-resistant rice. <i>Nature Biotechnology</i> , 2012, 30, 390-392.	17.5	965
3	Redesigning photosynthesis to sustainably meet global food and bioenergy demand. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 8529-8536.	7.1	751
4	Large chromosomal deletions and heritable small genetic changes induced by CRISPR/Cas9 in rice. <i>Nucleic Acids Research</i> , 2014, 42, 10903-10914.	14.5	547
5	TAL nucleases (TALNs): hybrid proteins composed of TAL effectors and FokI DNA-cleavage domain. <i>Nucleic Acids Research</i> , 2011, 39, 359-372.	14.5	477
6	Modularly assembled designer TAL effector nucleases for targeted gene knockout and gene replacement in eukaryotes. <i>Nucleic Acids Research</i> , 2011, 39, 6315-6325.	14.5	368
7	An <i>Agrobacterium</i> -delivered CRISPR/Cas9 system for high-frequency targeted mutagenesis in maize. <i>Plant Biotechnology Journal</i> , 2017, 15, 257-268.	8.3	300
8	The CO <sub>2</sub> concentrating mechanism and photosynthetic carbon assimilation in limiting CO <sub>2</sub> : how <i>Chlamydomonas</i> works against the gradient. <i>Plant Journal</i> , 2015, 82, 429-448.	5.7	214
9	Use of designer nucleases for targeted gene and genome editing in plants. <i>Plant Biotechnology Journal</i> , 2016, 14, 483-495.	8.3	195
10	Microalgal carbon-dioxide-concentrating mechanisms: <i>Chlamydomonas</i> inorganic carbon transporters. <i>Journal of Experimental Botany</i> , 2007, 59, 1463-1473.	4.8	192
11	Transcriptome-Wide Changes in <i>Chlamydomonas reinhardtii</i> Gene Expression Regulated by Carbon Dioxide and the CO <sub>2</sub> -Concentrating Mechanism Regulator CIA5/CCM1.	6.6	180
12	Carbonic Anhydrase-Deficient Mutant of <i>Chlamydomonas reinhardtii</i> Requires Elevated Carbon Dioxide Concentration for Photoautotrophic Growth. <i>Plant Physiology</i> , 1983, 73, 268-272.	4.8	169
13	Quantification of Compartmented Metabolic Fluxes in Developing Soybean Embryos by Employing Biosynthetically Directed Fractional <sup>13</sup> C Labeling, Two-Dimensional [ <sup>13</sup> C, <sup>1</sup> H] Nuclear Magnetic Resonance, and Comprehensive Isotopomer Balancing. <i>Plant Physiology</i> , 2004, 136, 3043-3057.	4.8	152
14	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
15	<i>Chlamydomonas reinhardtii</i> thermal tolerance enhancement mediated by a mutualistic interaction with vitamin B12-producing bacteria. <i>ISME Journal</i> , 2013, 7, 1544-1555.	9.8	140
16	Carbon dioxide concentrating mechanism in <i>Chlamydomonas reinhardtii</i> : inorganic carbon transport and CO <sub>2</sub> recapture. <i>Photosynthesis Research</i> , 2011, 109, 115-122.	2.9	112
17	Heritable site-specific mutagenesis using TALENs in maize. <i>Plant Biotechnology Journal</i> , 2015, 13, 1002-1010.	8.3	110
18	TALEN-mediated genome editing: prospects and perspectives. <i>Biochemical Journal</i> , 2014, 462, 15-24.	3.7	109

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19	Reduced Inorganic Carbon Transport in a CO <sub>2</sub> -Requiring Mutant of <i>Chlamydomonas reinhardtii</i> . <i>Plant Physiology</i> , 1983, 73, 273-276.	4.8	108
20	Knockdown of limiting-CO <sub>2</sub> induced gene <i>HLA3</i> decreases HCO <sub>3</sub> <sup>-</sup> transport and photosynthetic Ci affinity in <i>Chlamydomonas reinhardtii</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 5990-5995.	7.1	102
21	An inorganic carbon transport system responsible for acclimation specific to air levels of CO <sub>2</sub> in <i>Chlamydomonas reinhardtii</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 10110-10115.	7.1	94
22	Growth, photosynthesis, and gene expression in <i>Chlamydomonas</i> over a range of CO <sub>2</sub> concentrations and CO <sub>2</sub> /O <sub>2</sub> ratios: CO <sub>2</sub> regulates multiple acclimation states. <i>Canadian Journal of Botany</i> , 2005, 83, 796-809.	1.1	90
23	Acclimation to Very Low CO <sub>2</sub> : Contribution of Limiting CO <sub>2</sub> Inducible Proteins, LCIB and LCIA, to Inorganic Carbon Uptake in <i>Chlamydomonas reinhardtii</i> . <i>Plant Physiology</i> , 2014, 166, 2040-2050.	4.8	87
24	Periplasmic Carbonic Anhydrase Structural Gene ( <i>Cah1</i> ) Mutant in <i>Chlamydomonas reinhardtii</i> 1. <i>Plant Physiology</i> , 1999, 120, 757-764.	4.8	83
25	Influence of carbon dioxide concentration during growth on fluorescence induction characteristics of the Green Alga <i>Chlamydomonas reinhardtii</i> . <i>Photosynthesis Research</i> , 1984, 5, 169-176.	2.9	76
26	Photosynthesis is required for induction of the CO <sub>2</sub> -concentrating system in <i>Chlamydomonas reinhardtii</i> . <i>FEBS Letters</i> , 1982, 145, 41-44.	2.8	75
27	Membrane-Associated Polypeptides Induced in <i>Chlamydomonas</i> by Limiting CO <sub>2</sub> Concentrations. <i>Plant Physiology</i> , 1989, 89, 133-137.	4.8	70
28	Regulation of photosynthesis during <i>Arabidopsis</i> leaf development in continuous light. <i>Photosynthesis Research</i> , 2002, 72, 27-37.	2.9	66
29	Disruption of the glycolate dehydrogenase gene in the high-CO <sub>2</sub> -requiring mutant HCR89 of <i>Chlamydomonas reinhardtii</i> . <i>Canadian Journal of Botany</i> , 2005, 83, 820-833.	1.1	64
30	A Photorespiratory Mutant of <i>Chlamydomonas reinhardtii</i> . <i>Plant Physiology</i> , 1990, 93, 231-237.	4.8	63
31	Carbohydrate regulation of leaf development: Prolongation of leaf senescence in Rubisco antisense mutants of tobacco. <i>Photosynthesis Research</i> , 2000, 63, 1-8.	2.9	62
32	Thylakoid Lumen Carbonic Anhydrase ( <i>CAH3</i> ) Mutation Suppresses Air-Dier Phenotype of <i>LCIB</i> Mutant in <i>Chlamydomonas reinhardtii</i> . <i>Plant Physiology</i> , 2009, 149, 929-937.	4.8	61
33	Expression activation and functional analysis of <i>HLA3</i> , a putative inorganic carbon transporter in <i>Chlamydomonas reinhardtii</i> . <i>Plant Journal</i> , 2015, 82, 1-11.	5.7	61
34	Changes in Photorespiratory Enzyme Activity in Response to Limiting CO <sub>2</sub> in <i>Chlamydomonas reinhardtii</i> . <i>Plant Physiology</i> , 1991, 97, 420-425.	4.8	57
35	A 36 Kilodalton Limiting-CO <sub>2</sub> Induced Polypeptide of <i>Chlamydomonas</i> Is Distinct from the 37 Kilodalton Periplasmic Carbonic Anhydrase. <i>Plant Physiology</i> , 1990, 93, 116-121.	4.8	56
36	CO <sub>2</sub> Acquisition, Concentration and Fixation in Cyanobacteria and Algae. <i>Advances in Photosynthesis and Respiration</i> , 2000, , 369-397.	1.0	55

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37	TALE activation of endogenous genes in <i>Chlamydomonas reinhardtii</i> . <i>Algal Research</i> , 2014, 5, 52-60.	4.6	51
38	Effects of growth condition on the structure of glycogen produced in cyanobacterium <i>Synechocystis</i> sp. PCC6803. <i>International Journal of Biological Macromolecules</i> , 2007, 40, 498-504.	7.5	47
39	Intracellular localization of phosphoenolpyruvate carboxykinase in leaves of C4 and CAM plants. <i>Plant Science Letters</i> , 1980, 19, 1-8.	1.8	46
40	Acclimation of <i>Chlamydomonas</i> to changing carbon availability. <i>Functional Plant Biology</i> , 2002, 29, 221.	2.1	45
41	Isolation and Oxidative Properties of Intact Mitochondria from the Leaves of <i>Sedum praealtum</i> . <i>Plant Physiology</i> , 1979, 64, 182-186.	4.8	43
42	High-throughput fluorescence-activated cell sorting for lipid hyperaccumulating <i>Chlamydomonas reinhardtii</i> mutants. <i>Plant Biotechnology Journal</i> , 2014, 12, 872-882.	8.3	42
43	Photosynthesis and photorespiration in freshwater green algae. <i>Aquatic Botany</i> , 1989, 34, 181-209.	1.6	40
44	Characterization of cyanobacterial glycogen isolated from the wild type and from a mutant lacking of branching enzyme. <i>Carbohydrate Research</i> , 2002, 337, 2195-2203.	2.3	38
45	Insertional Mutants of <i>Chlamydomonas reinhardtii</i> That Require Elevated CO <sub>2</sub> for Survival. <i>Plant Physiology</i> , 2001, 127, 607-614.	4.8	36
46	Changes in protein and gene expression during induction of the CO <sub>2</sub> -concentrating mechanism in wild-type and mutant <i>Chlamydomonas</i> . <i>Canadian Journal of Botany</i> , 1991, 69, 1008-1016.	1.1	33
47	Imazaquin and chlorsulfuron resistance and cross resistance in mutants of <i>Chlamydomonas reinhardtii</i> . <i>Molecular Genetics and Genomics</i> , 1988, 213, 394-399.	2.4	31
48	Translational Regulation of the Large and Small Subunits of Ribulose Bisphosphate Carboxylase/Oxygenase during Induction of the CO <sub>2</sub> -Concentrating Mechanism in <i>Chlamydomonas reinhardtii</i> . <i>Plant Physiology</i> , 1992, 98, 1409-1414.	4.8	31
49	Genetic and physiological analysis of the CO <sub>2</sub> -concentrating system of <i>Chlamydomonas reinhardtii</i> . <i>Planta</i> , 1983, 159, 261-266.	3.2	30
50	Evidence for a saturable transport component in the inorganic carbon uptake of <i>Chlamydomonas reinhardtii</i> . <i>FEBS Letters</i> , 1983, 154, 335-338.	2.8	30
51	Lysis of <i>Chlamydomonas reinhardtii</i> by high-intensity focused ultrasound as a function of exposure time. <i>Ultrasonics Sonochemistry</i> , 2014, 21, 1258-1264.	8.2	29
52	Glycogen Synthase Isoforms in <i>Synechocystis</i> sp. PCC6803: Identification of Different Roles to Produce Glycogen by Targeted Mutagenesis. <i>PLoS ONE</i> , 2014, 9, e91524.	2.5	29
53	The CO <sub>2</sub> -Concentrating Mechanism and Carbon Assimilation. , 2009, , 257-301.		28
54	Adaptation of <i>Chlamydomonas reinhardtii</i> High-CO <sub>2</sub> -Requiring Mutants to Limiting CO <sub>2</sub> . <i>Plant Physiology</i> , 1989, 90, 1195-1200.	4.8	27

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55	LCI1, a <i>Chlamydomonas reinhardtii</i> plasma membrane protein, functions in active CO <sub>2</sub> uptake under low CO <sub>2</sub> . <i>Plant Journal</i> , 2020, 102, 1127-1141.	5.7	27
56	Photosynthesis in enzymatically isolated leaf cells from the CAM plant <i>Sedum telephium</i> L.. <i>Planta</i> , 1978, 141, 59-63.	3.2	26
57	LCIB in the <i>Chlamydomonas</i> CO <sub>2</sub> -concentrating mechanism. <i>Photosynthesis Research</i> , 2014, 121, 185-192.	2.9	25
58	Photosynthesis in Isolated Chloroplasts of the Crassulacean Acid Metabolism Plant <i>Sedum praealtum</i> . <i>Plant Physiology</i> , 1980, 65, 1044-1048.	4.8	23
59	Malate decarboxylation in isolated mitochondria from the crassulacean acid metabolism plant <i>Sedum praealtum</i> . <i>Archives of Biochemistry and Biophysics</i> , 1980, 199, 448-456.	3.0	22
60	Alterations in photosynthesis in <i>Arabidopsis</i> lacking IMMUTANS, a chloroplast terminal oxidase. <i>Photosynthesis Research</i> , 2007, 91, 11-23.	2.9	22
61	In vivo evidence for a regulatory role of phosphorylation of <i>Arabidopsis</i> Rubisco activase at the Thr78 site. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 18723-18731.	7.1	22
62	Co-targeting strategy for precise, scarless gene editing with CRISPR/Cas9 and donor ssODNs in <i>Chlamydomonas</i> . <i>Plant Physiology</i> , 2021, 187, 2637-2655.	4.8	18
63	Quantum Requirement for Photosynthesis in <i>Sedum praealtum</i> during Two Phases of Crassulacean Acid Metabolism. <i>Plant Physiology</i> , 1980, 66, 463-465.	4.8	17
64	Structure and function of LCI1: a plasma membrane CO <sub>2</sub> channel in the <i>Chlamydomonas</i> CO <sub>2</sub> concentrating mechanism. <i>Plant Journal</i> , 2020, 102, 1107-1126.	5.7	17
65	The Plastid Casein Kinase 2 Phosphorylates Rubisco Activase at the Thr-78 Site but Is Not Essential for Regulation of Rubisco Activation State. <i>Frontiers in Plant Science</i> , 2016, 7, 404.	3.6	15
66	CRISPR/Cas9 Based Site-Specific Modification of FAD2 cis-Regulatory Motifs in Peanut ( <i>Arachis</i> ) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 30	2.3	15
67	Post-translational processing of the highly processed, secreted periplasmic carbonic anhydrase of <i>Chlamydomonas</i> is largely conserved in transgenic tobacco. <i>Plant Molecular Biology</i> , 1995, 29, 303-315.	3.9	14
68	Temperature response of CO <sub>2</sub> fixation in isolated <i>Opuntia</i> cells. <i>Plant Science Letters</i> , 1978, 13, 389-396.	1.8	11
69	Microfluidic chip for automated screening of carbon dioxide conditions for microalgal cell growth. <i>Biomicrofluidics</i> , 2017, 11, 064104.	2.4	10
70	CO <sub>2</sub> exchange characteristics during dark-light transitions in wild-type and mutant <i>Chlamydomonas reinhardtii</i> cells. <i>Photosynthesis Research</i> , 1985, 6, 363-369.	2.9	9
71	Effect of photon flux density on inorganic carbon accumulation and net CO <sub>2</sub> exchange in a high-CO <sub>2</sub> -requiring mutant of <i>Chlamydomonas reinhardtii</i> . <i>Photosynthesis Research</i> , 1990, 24, 245-252.	2.9	9
72	Insertional suppressors of <i>Chlamydomonas reinhardtii</i> that restore growth of air-dier lcib mutants in low CO <sub>2</sub> . <i>Photosynthesis Research</i> , 2011, 109, 123-132.	2.9	9

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73	Acclimation to low or limiting CO <sub>2</sub> in non-synchronous <i>Chlamydomonas</i> causes a transient synchronization of the cell division cycle. <i>Photosynthesis Research</i> , 2011, 109, 161-168.	2.9	7
74	Flow rate and duty cycle effects in lysis of <i>Chlamydomonas reinhardtii</i> using high-energy pulsed focused ultrasound. <i>Journal of the Acoustical Society of America</i> , 2014, 135, 3632-3638.	1.1	7
75	Arabidopsis plants expressing only the redox-regulated Rca isoform have constrained photosynthesis and plant growth. <i>Plant Journal</i> , 2020, 103, 2250-2262.	5.7	7
76	Application of CRISPR/Cas9 System for Efficient Gene Editing in Peanut. <i>Plants</i> , 2022, 11, 1361.	3.5	7
77	Biocatalytic role of potato starch synthase III for $\alpha$ -glucan biosynthesis in <i>Synechocystis</i> sp. PCC6803 mutants. <i>International Journal of Biological Macromolecules</i> , 2015, 81, 710-717.	7.5	5
78	A novel activation domain is essential for CIA5-mediated gene regulation in response to CO <sub>2</sub> changes in <i>Chlamydomonas reinhardtii</i> . <i>Algal Research</i> , 2017, 24, 207-217.	4.6	5
79	Insertional Mutants of <i>Chlamydomonas reinhardtii</i> That Require Elevated CO <sub>2</sub> for Survival. <i>Plant Physiology</i> , 2001, 127, 607-614.	4.8	3
80	Opportunistic proteolytic processing of carbonic anhydrase 1 from <i>Chlamydomonas</i> in <i>Arabidopsis</i> reveals a novel route for protein maturation. <i>Journal of Experimental Botany</i> , 2016, 67, 2339-2351.	4.8	2