Matthew J Paul

List of Publications by Year
in descending order

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95 papers	9,906 citations	44069 48 h-index	37204 96 g-index
100 all docs	100 docs citations	100 times ranked	8161 citing authors

#	Article	IF	Citations
1	Sink regulation of photosynthesis. Journal of Experimental Botany, 2001, 52, 1383-1400.	4.8	952
2	Trehalose Metabolism and Signaling. Annual Review of Plant Biology, 2008, 59, 417-441.	18.7	580
3	Inhibition of SNF1-Related Protein Kinase1 Activity and Regulation of Metabolic Pathways by Trehalose-6-Phosphate Â Â. Plant Physiology, 2009, 149, 1860-1871.	4.8	479
4	Improved Performance of Transgenic Fructan-Accumulating Tobacco under Drought Stress. Plant Physiology, 1995, 107, 125-130.	4.8	459
5	Trehalose 6-phosphate is indispensable for carbohydrate utilization and growth in Arabidopsis thaliana. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 6849-6854.	7.1	447
6	Carbon metabolite feedback regulation of leaf photosynthesis and development. Journal of Experimental Botany, 2003, 54, 539-547.	4.8	391
7	Expression of trehalose-6-phosphate phosphatase in maize ears improves yield in well-watered and drought conditions. Nature Biotechnology, 2015, 33, 862-869.	17.5	354
8	Trehalose 6-phosphate regulates starch synthesis via posttranslational redox activation of ADP-glucose pyrophosphorylase. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 11118-11123.	7.1	347
9	Trehalose Mediated Growth Inhibition of Arabidopsis Seedlings Is Due to Trehalose-6-Phosphate Accumulation Â. Plant Physiology, 2004, 135, 879-890.	4.8	293
10	Sugar repression of photosynthesis: the role of carbohydrates in signalling nitrogen deficiency through source:sink imbalance. Plant, Cell and Environment, 1997, 20, 110-116.	5.7	280
11	How Do Sugars Regulate Plant Growth and Development? New Insight into the Role of Trehalose-6-Phosphate. Molecular Plant, 2013, 6, 261-274.	8.3	231
12	Metabolic signalling and carbon partitioning: role of Snf1-related (SnRK1) protein kinase. Journal of Experimental Botany, 2003, 54, 467-475.	4.8	219
13	Trehalose 6-Phosphate Is Required for the Onset of Leaf Senescence Associated with High Carbon Availability Â Â. Plant Physiology, 2012, 158, 1241-1251.	4.8	180
14	Wheat Grain Development Is Characterized by Remarkable Trehalose 6-Phosphate Accumulation Pregrain Filling: Tissue Distribution and Relationship to SNF1-Related Protein Kinase1 Activity Â Â. Plant Physiology, 2011, 156, 373-381.	4.8	162
15	The Trehalose 6-Phosphate/SnRK1 Signaling Pathway Primes Growth Recovery following Relief of Sink Limitation Â Â. Plant Physiology, 2013, 162, 1720-1732.	4.8	162
16	Chemical intervention in plant sugar signalling increases yield and resilience. Nature, 2016, 540, 574-578.	27.8	157
17	Pinitol, a Compatible Solute inMesembryanthemum crystallinumL.?. Journal of Experimental Botany, 1989, 40, 1093-1098.	4.8	152
18	Enhancing photosynthesis with sugar signals. Trends in Plant Science, 2001, 6, 197-200.	8.8	146

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19	Effects of nitrogen and phosphorus deficiencies on levels of carbohydrates, respiratory enzymes and metabolites in seedlings of tobacco and their response to exogenous sucrose. Plant, Cell and Environment, 1993, 16, 1047-1057.	5.7	141
20	Production of high-starch, low-glucose potatoes through over-expression of the metabolic regulator SnRK1. Plant Biotechnology Journal, 2006, 4, 409-418.	8.3	141
21	Inhibition of SnRK1 by metabolites: Tissue-dependent effects and cooperative inhibition by glucose 1-phosphate in combination with trehalose 6-phosphate. Plant Physiology and Biochemistry, 2013, 63, 89-98.	5.8	141
22	Low sink demand limits photosynthesis under Pi deficiency. Journal of Experimental Botany, 2001, 52, 1083-1091.	4.8	136
23	Growth Arrest by Trehalose-6-Phosphate: An Astonishing Case of Primary Metabolite Control over Growth by Way of the SnRK1 Signaling Pathway Â Â Â. Plant Physiology, 2011, 157, 160-174.	4.8	135
24	Genetic modification of photosynthesis with E. coli genes for trehalose synthesis. Plant Biotechnology Journal, 2004, 2, 71-82.	8.3	129
25	Drought tolerance during reproductive development is important for increasing wheat yield potential under climate change in Europe. Journal of Experimental Botany, 2019, 70, 2549-2560.	4.8	127
26	Metabolite transport and associated sugar signalling systems underpinning source/sink interactions. Biochimica Et Biophysica Acta - Bioenergetics, 2016, 1857, 1715-1725.	1.0	126
27	Trehalose 6-phosphate. Current Opinion in Plant Biology, 2007, 10, 303-309.	7.1	125
28	Trehalose 6-Phosphate Regulates Photosynthesis and Assimilate Partitioning in Reproductive Tissue. Plant Physiology, 2018, 176, 2623-2638.	4.8	121
29	Regulation of Rubisco by inhibitors in the light. Plant, Cell and Environment, 1997, 20, 528-534.	5.7	115
30	The Role of Trehalose 6-Phosphate in Crop Yield and Resilience. Plant Physiology, 2018, 177, 12-23.	4.8	114
31	Reduction in phosphoribulokinase activity by antisense RNA in transgenic tobacco: effect on CO2 assimilation and growth in low irradiance. Plant Journal, 1995, 7, 535-542.	5.7	110
32	Carbon metabolite sensing and signalling. Plant Biotechnology Journal, 2003, 1, 381-398.	8.3	108
33	Where are the drought tolerant crops? An assessment of more than two decades of plant biotechnology effort in crop improvement. Plant Science, 2018, 273, 110-119.	3.6	106
34	Nonstomatal limitations are responsible for droughtâ€induced photosynthetic inhibition in four C 4 grasses. New Phytologist, 2003, 159, 599-608.	7.3	105
35	Increased capacity for photosynthesis in wheat grown at elevated CO2: the relationship between electron transport and carbon metabolism. Planta, 1995, 197, 482.	3.2	88
36	Differential Role for Trehalose Metabolism in Salt-Stressed Maize. Plant Physiology, 2015, 169, 1072-1089.	4.8	88

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37	Engineering Rubisco to change its catalytic properties. Journal of Experimental Botany, 1995, 46, 1269-1276.	4.8	87
38	Molecular cloning of an arabidopsis homologue of GCN2, a protein kinase involved in co-ordinated response to amino acid starvation. Planta, 2003, 217, 668-675.	3.2	86
39	Source/sink interactions underpin crop yield: the case for trehalose 6-phosphate/SnRK1 in improvement of wheat. Frontiers in Plant Science, 2014, 5, 418.	3.6	82
40	Up-regulation of biosynthetic processes associated with growth by trehalose 6-phosphate. Plant Signaling and Behavior, 2010, 5, 386-392.	2.4	78
41	Ethylene promotes germination of Arabidopsis seed under salinity by decreasing reactive oxygen species: Evidence for the involvement of nitric oxide simulated by sodium nitroprusside. Plant Physiology and Biochemistry, 2013, 73, 211-218.	5.8	73
42	Exogenous trehalose largely alleviates ionic unbalance, ROS burst, and PCD occurrence induced by high salinity in Arabidopsis seedlings. Frontiers in Plant Science, 2014, 5, 570.	3.6	65
43	Products of leaf primary carbon metabolism modulate the developmental programme determining plant morphology. Journal of Experimental Botany, 2006, 57, 1857-1862.	4.8	56
44	The role of Tre6P and SnRK1 in maize early kernel development and events leading to stress-induced kernel abortion. BMC Plant Biology, 2017, 17, 74.	3.6	53
45	The Effect of Temperature on Photosynthesis and Carbon Fluxes in Sunflower and Rape. Journal of Experimental Botany, 1990, 41, 547-555.	4.8	52
46	Highly conserved protein kinases involved in the regulation of carbon and amino acid metabolism. Journal of Experimental Botany, 2003, 55, 35-42.	4.8	52
47	Trehalose 6-phosphate signalling and impact on crop yield. Biochemical Society Transactions, 2020, 48, 2127-2137.	3.4	52
48	Trehalose Metabolites in Arabidopsisâ€"elusive, active and central. The Arabidopsis Book, 2009, 7, e0122.	0.5	51
49	Starch-degrading enzymes during the induction of CAM in Mesembryanthemum crystallinum. Plant, Cell and Environment, 1993, 16, 531-538.	5.7	50
50	Decrease in Phosphoribulokinase Activity by Antisense RNA in Transgenic Tobacco. Relationship between Photosynthesis, Growth, and Allocation at Different Nitrogen Levels1. Plant Physiology, 1999, 119, 1125-1136.	4.8	47
51	Increasing crop yield and resilience with trehalose 6-phosphate: targeting a feastâ€"famine mechanism in cereals for better sourceâ€"sink optimization. Journal of Experimental Botany, 2017, 68, 4455-4462.	4.8	46
52	The case for improving crop carbon sink strength or plasticity for a CO2-rich future. Current Opinion in Plant Biology, 2020, 56, 259-272.	7.1	45
53	The Effect of Cooling on Photosynthesis, Amounts of Carbohydrate and Assimilate Export in Sunflower. Journal of Experimental Botany, 1991, 42, 845-852.	4.8	44
54	Sink-Regulation of Photosynthesis in Relation to Temperature in Sunflower and Rape. Journal of Experimental Botany, 1992, 43, 147-153.	4.8	44

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55	Are GM Crops for Yield and Resilience Possible?. Trends in Plant Science, 2018, 23, 10-16.	8.8	41
56	Exogenous trehalose improves growth under limiting nitrogen through upregulation of nitrogen metabolism. BMC Plant Biology, 2017, 17, 247.	3.6	37
57	Decrease of phosphoribulokinase activity by antisense RNA in transgenic tobacco: definition of the light environment under which phosphoribulokinase is not in large excess. Planta, 2000, 211, 112-119.	3.2	36
58	Linking fundamental science to crop improvement through understanding source and sink traits and their integration for yield enhancement. Journal of Experimental Botany, 2020, 71, 2270-2280.	4.8	36
59	Responses to water withdrawal of tobacco plants genetically engineered with the AtTPS1 gene: a special reference to photosynthetic parameters. Euphytica, 2007, 154, 113-126.	1.2	33
60	The sensitivity of photosynthesis to phosphorus deficiency differs between C3 and C4 tropical grasses. Functional Plant Biology, 2008, 35, 213.	2.1	30
61	Trehalose 6-phosphate: a signal of sucrose status. Biochemical Journal, 2008, 412, e1-e2.	3.7	30
62	The wheat SnRK1Î± family and its contribution to Fusarium toxin tolerance. Plant Science, 2019, 288, 110217.	3.6	30
63	Turgor, solute import and growth in maize roots treated with galactose. Functional Plant Biology, 2004, 31, 1095.	2.1	24
64	Regulation of growth by the trehalose pathway. Plant Signaling and Behavior, 2013, 8, e26626.	2.4	24
65	Leaf to panicle ratio (LPR): a new physiological trait indicative of source and sink relation in japonica rice based on deep learning. Plant Methods, 2020, 16, 117.	4.3	22
66	REGULATION OF RESERVE CARBOHYDRATE METABOLISM IN MESEMBRYANTHEMUM CRYSTALLINUM EXHIBITING C3 AND CAM PHOTOSYNTHESIS. New Phytologist, 1987, 107, 1-13.	7.3	21
67	Potential for manipulating carbon metabolism in wheat. Annals of Applied Biology, 2001, 138, 33-45.	2.5	21
68	The stimulation of CAM activity in Mesembryanthemum crystallinum in nitrate and phosphateâ€deficient conditions. New Phytologist, 1990, 114, 391-398.	7.3	20
69	Dissection and manipulation of metabolic signalling pathways. Annals of Applied Biology, 2003, 142, 25-31.	2.5	17
70	Sugar sensing responses to low and high light in leaves of the C4 model grass Setaria viridis. Journal of Experimental Botany, 2019, 71, 1039-1052.	4.8	17
71	Improving Photosynthetic Metabolism for Crop Yields: What Is Going to Work?. Frontiers in Plant Science, 2021, 12, 743862.	3.6	17
72	Targeting carbon for crop yield and drought resilience. Journal of the Science of Food and Agriculture, 2017, 97, 4663-4671.	3.5	16

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73	Differential ear growth of two maize varieties to shading in the field environment: Effects on whole plant carbon allocation and sugar starvation response. Journal of Plant Physiology, 2020, 251, 153194.	3.5	16
74	Saturation transfer difference NMR reveals functionally essential kinetic differences for a sugar-binding repressor protein. Chemical Communications, 2009, , 5862.	4.1	15
75	Turning sugar into oil: making photosynthesis blind to feedback inhibition. Journal of Experimental Botany, 2020, 71, 2216-2218.	4.8	15
76	Seasonal and diurnal patterns of non-structural carbohydrates in source and sink tissues in field maize. BMC Plant Biology, 2019, 19, 508.	3.6	14
77	Dynamics of dry matter accumulation in internodes indicates source and sink relations during grain-filling stage of japonica rice. Field Crops Research, 2021, 263, 108009.	5.1	14
78	Genetic Manipulation of Rubisco: Chromatium vinosum rbcL is expressed in Nicotiana tabacum but does not form a functional protein. Annals of Applied Biology, 2002, 140, 13-19.	2.5	13
79	Photosynthesis. Plastid biology, energy conversion and carbon assimilation. Annals of Botany, 2013, 111, ix-ix.	2.9	13
80	Geneâ€based mapping of trehalose biosynthetic pathway genes reveals association with sourceâ€•and sinkâ€related yield traits in a spring wheat panel. Food and Energy Security, 2021, 10, e292.	4.3	13
81	A novel light interception trait of a hybrid rice ideotype indicative of leaf to panicle ratio. Field Crops Research, 2021, 274, 108338.	5.1	12
82	The regulation of component processes of photosynthesis in transgenic tobacco with decreased phosphoribulokinase activity. Photosynthesis Research, 1996, 49, 159-167.	2.9	11
83	Altered Rubisco activity and amounts of a daytime tightbinding inhibitor in transgenic tobacco expressing limiting amounts of phosphoribulokinase. Journal of Experimental Botany, 1996, 47, 1963-1966.	4.8	11
84	Loss-of-function mutation of EIN2 in Arabidopsis exaggerates oxidative stress induced by salinity. Acta Physiologiae Plantarum, 2013, 35, 1319-1328.	2.1	11
85	Manipulation of phosphoribulokinase and phosphate translocator activities in transgenic tobacco plants. Journal of Experimental Botany, 1995, 46, 1309-1315.	4.8	10
86	Combining yield potential and drought resilience in a spring wheat diversity panel. Food and Energy Security, 2020, 9, e241.	4.3	10
87	How Do Sugars Regulate Plant Growth?. Frontiers in Plant Science, 2011, 2, 90.	3.6	8
88	Temporal and spatial variations of carbon isotope signature reveal substantial contribution of bracts and internode assimilates to grain filling of japonica rice. Crop Journal, 2021, 9, 271-281.	5.2	5
89	Dissection of environmental and physiological effects on the temperature difference between superior and inferior spikelets within a rice panicle. Crop Journal, 2021, 9, 1098-1107.	5.2	5
90	Integration of embryoâ€“endosperm interaction into a holistic and dynamic picture of seed development using a rice mutant with notched-belly kernels. Crop Journal, 2022, 10, 729-742.	5.2	5

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91	What are the regulatory targets for intervention in assimilate partitioning to improve crop yield and resilience?. Journal of Plant Physiology, 2021, 266, 153537.	3.5	4
92	The Role of Trehalose Metabolism in Chloroplast Development and Leaf Senescence. Advances in Photosynthesis and Respiration, 2013, , 551-565.	1.0	4
93	Improving rice photosynthesis and yield through trehalose 6-phosphate signaling. Molecular Plant, 2022, 15, 586-588.	8.3	4
94	Photosynthetic Carbon Dioxide Fixation. , 2004, , 336-341.		2
95	Manipulation of Photosynthetic Metabolism. Methods in Biotechnology, 1998, , 229-249.	0.2	2