Thomas David Sharkey

List of Publications by Citations

238 papers	23,410 citations	79 h-index	150 g-index
251 ext. papers	25,916 ext. citations	6.2 avg, IF	7.15 L-index

#	Paper	IF	Citations
238	Stomatal Conductance and Photosynthesis. *Annual Review of Plant Physiology*, **1982**, 33, 317-345		2714
237	Diffusive and metabolic limitations to photosynthesis under drought and salinity in C(3) plants. *Plant Biology*, **2004**, 6, 269-79	3.7	890
236	Fitting photosynthetic carbon dioxide response curves for C(3) leaves. *Plant, Cell and Environment*, **2007**, 30, 1035-40	8.4	883
235	Theoretical Considerations when Estimating the Mesophyll Conductance to CO(2) Flux by Analysis of the Response of Photosynthesis to CO(2). *Plant Physiology*, **1992**, 98, 1429-36	6.6	639
234	Photosynthesis in intact leaves of C3 plants: Physics, physiology and rate limitations. *Botanical Review, The*, **1985**, 51, 53-105	3.8	634
233	Acclimation of Photosynthesis to Elevated CO(2) in Five C(3) Species. *Plant Physiology*, **1989**, 89, 590-6	6.6	556
232	Biogenic Hydrocarbons in the Atmospheric Boundary Layer: A Review. *Bulletin of the American Meteorological Society*, **2000**, 81, 1537-1575	6.1	462
231	ISOPRENE EMISSION FROM PLANTS. *Annual Review of Plant Biology*, **2001**, 52, 407-436		427
230	Isoprene emission from plants: why and how. *Annals of Botany*, **2008**, 101, 5-18	4.1	414
229	Effects of moderate heat stress on photosynthesis: importance of thylakoid reactions, rubisco deactivation, reactive oxygen species, and thermotolerance provided by isoprene. *Plant, Cell and Environment*, **2005**, 28, 269-277	8.4	411
228	Estimating the rate of photorespiration in leaves. *Physiologia Plantarum*, **1988**, 73, 147-152	4.6	378
227	Water stress, temperature, and light effects on the capacity for isoprene emission and photosynthesis of kudzu leaves. *Oecologia*, **1993**, 95, 328-333	2.9	346
226	Electron transport is the functional limitation of photosynthesis in field-grown Pima cotton plants at high temperature. *Plant, Cell and Environment*, **2004**, 27, 717-724	8.4	338
225	Estimation of Mesophyll Conductance to CO(2) Flux by Three Different Methods. *Plant Physiology*, **1992**, 98, 1437-43	6.6	338
224	Carbon Isotope Discrimination measured Concurrently with Gas Exchange to Investigate CO2 Diffusion in Leaves of Higher Plants. *Functional Plant Biology*, **1986**, 13, 281	2.7	333
223	Why plants emit isoprene. *Nature*, **1995**, 374, 769-769	50.4	319
222	A gas-exchange study of photosynthesis and isoprene emission inQuercus rubra L. *Planta*, **1990**, 182, 523-31	4.7	261

221	Isoprene Increases Thermotolerance of Isoprene-Emitting Species. *Plant Physiology*, **1997**, 115, 1413-1420	6.6	260
220	The Effect of Temperature on the Occurrence of O(2) and CO(2) Insensitive Photosynthesis in Field Grown Plants. *Plant Physiology*, **1987**, 84, 658-64	6.6	257
219	The small, methionine-rich chloroplast heat-shock protein protects photosystem II electron transport during heat stress. *Plant Physiology*, **1998**, 116, 439-444	6.6	252
218	Environmental effects on photosynthesis, nitrogen-use efficiency, and metabolite pools in leaves of sun and shade plants. *Plant Physiology*, **1987**, 84, 796-802	6.6	252
217	O(2)-insensitive photosynthesis in c(3) plants : its occurrence and a possible explanation. *Plant Physiology*, **1985**, 78, 71-5	6.6	236
216	Thylakoid membrane responses to moderately high leaf temperature in Pima cotton. *Plant, Cell and Environment*, **2004**, 27, 725-735	8.4	216
215	Daylength and circadian effects on starch degradation and maltose metabolism. *Plant Physiology*, **2005**, 138, 2280-91	6.6	214
214	Limitation of Photosynthesis by Carbon Metabolism : II. O(2)-Insensitive CO(2) Uptake Results from Limitation Of Triose Phosphate Utilization. *Plant Physiology*, **1986**, 81, 1123-9	6.6	214
213	An improved model of C3 photosynthesis at high CO2: Reversed O 2 sensitivity explained by lack of glycerate reentry into the chloroplast. *Photosynthesis Research*, **1991**, 27, 169-78	3.7	211
212	Rewiring of jasmonate and phytochrome B signalling uncouples plant growth-defense tradeoffs. *Nature Communications*, **2016**, 7, 12570	17.4	205
211	Mild water stress effects on carbon-reduction-cycle intermediates, ribulose bisphosphate carboxylase activity, and spatial homogeneity of photosynthesis in intact leaves. *Plant Physiology*, **1989**, 89, 1060-5	6.6	202
210	Isoprene increases thermotolerance of fosmidomycin-fed leaves. *Plant Physiology*, **2001**, 125, 2001-6	6.6	198
209	Effect of Light Quality on Stomatal Opening in Leaves of Xanthium strumarium L. *Plant Physiology*, **1981**, 68, 1170-4	6.6	195
208	Maltose is the major form of carbon exported from the chloroplast at night. *Planta*, **2004**, 218, 474-82	4.7	188
207	The relationship between steady-state gas exchange of bean leaves and the levels of carbon-reduction-cycle intermediates. *Planta*, **1984**, 160, 305-13	4.7	182
206	Light-emitting diodes as a light source for photosynthesis research. *Photosynthesis Research*, **1994**, 39, 85-92	3.7	176
205	High carbon dioxide and sun/shade effects on isoprene emission from oak and aspen tree leaves. *Plant, Cell and Environment*, **1991**, 14, 333-338	8.4	174
204	Rapid appearance of 13C in biogenic isoprene when 13CO2 is fed to intact leaves. *Plant, Cell and Environment*, **1993**, 16, 587-591	8.4	162

203	Evolution of the isoprene biosynthetic pathway in kudzu. *Plant Physiology*, **2005**, 137, 700-12	6.6	159
202	Salinity and Nitrogen Effects on Photosynthesis, Ribulose-1,5-Bisphosphate Carboxylase and Metabolite Pool Sizes in Phaseolus vulgaris L. *Plant Physiology*, **1986**, 82, 555-60	6.6	151
201	The role of amylomaltase in maltose metabolism in the cytosol of photosynthetic cells. *Planta*, **2004**, 218, 466-73	4.7	147
200	Stromal Phosphate Concentration Is Low during Feedback Limited Photosynthesis. *Plant Physiology* , **1989**, 91, 679-84	6.6	145
199	Physiological influences on carbon isotope discrimination in huon pine (Lagarostrobos franklinii). *Oecologia*, **1985**, 66, 211-218	2.9	145
198	Measurements of mesophyll conductance, photosynthetic electron transport and alternative electron sinks of field grown wheat leaves. *Photosynthesis Research*, **1994**, 41, 397-403	3.7	144
197	Methylerythritol 4-phosphate (MEP) pathway metabolic regulation. *Natural Product Reports*, **2014**, 31, 1043-55	15.1	140
196	The relationship between leaf area growth and biomass accumulation in Arabidopsis thaliana. *Frontiers in Plant Science*, **2015**, 6, 167	6.2	135
195	The in-vivo response of the ribulose-1,5-bisphosphate carboxylase activation state and the pool sizes of photosynthetic metabolites to elevated CO2 inPhaseolus vulgaris L. *Planta*, **1988**, 174, 407-16	4.7	130
194	Increased thermostability of thylakoid membranes in isoprene-emitting leaves probed with three biophysical techniques. *Plant Physiology*, **2011**, 157, 905-16	6.6	128
193	Photosynthetic electron transport and proton flux under moderate heat stress. *Photosynthesis Research*, **2009**, 100, 29-43	3.7	127
192	Feedback inhibition of deoxy-D-xylulose-5-phosphate synthase regulates the methylerythritol 4-phosphate pathway. *Journal of Biological Chemistry*, **2013**, 288, 16926-16936	5.4	122
191	Mild Water Stress of Phaseolus vulgaris Plants Leads to Reduced Starch Synthesis and Extractable Sucrose Phosphate Synthase Activity. *Plant Physiology*, **1989**, 89, 1066-70	6.6	122
190	Photometric method for routine determination of kcat and carbamylation of rubisco. *Photosynthesis Research*, **1991**, 28, 41-8	3.7	121
189	Separation and measurement of direct and indirect effects of light on stomata. *Plant Physiology*, **1981**, 68, 33-40	6.6	118
188	High temperature effects on electron and proton circuits of photosynthesis. *Journal of Integrative Plant Biology*, **2010**, 52, 712-22	8.3	116
187	WEATHER EFFECTS ON ISOPRENE EMISSION CAPACITY AND APPLICATIONS IN EMISSIONS ALGORITHMS **1999**, 9, 1132-1137		115
186	On the relationship between isoprene emission and photosynthetic metabolites under different environmental conditions. *Planta*, **1993**, 189, 420-4	4.7	112

185	Isoprene Emission from Velvet Bean Leaves (Interactions among Nitrogen Availability, Growth Photon Flux Density, and Leaf Development). *Plant Physiology*, **1994**, 105, 279-285	6.6	109
184	Biological aspects of constructing volatile organic compound emission inventories. *Atmospheric Environment*, **1995**, 29, 2989-3002	5.3	108
183	Isoprene synthesis by plants and animals. *Endeavour*, **1996**, 20, 74-8	0.5	107
182	Regulation of Ribulose-1,5-Bisphosphate Carboxylase Activity in Response to Changing Partial Pressure of O(2) and Light in Phaseolus vulgaris. *Plant Physiology*, **1986**, 81, 788-91	6.6	106
181	The regulation of isoprene emission responses to rapid leaf temperature fluctuations. *Plant, Cell and Environment*, **1998**, 21, 1181-1188	8.4	105
180	Transpiration-induced changes in the photosynthetic capacity of leaves. *Planta*, **1984**, 160, 143-50	4.7	105
179	Regulation of photosynthetic electron-transport in Phaseolus vulgaris L., as determined by room-temperature chlorophyll a fluorescence. *Planta*, **1988**, 176, 415-24	4.7	101
178	Different sources of reduced carbon contribute to form three classes of terpenoid emitted by Quercus ilex L. leaves. *Proceedings of the National Academy of Sciences of the United States of America*, **1996**, 93, 9966-9	11.5	100
177	Regulation of Ribulose-1,5-Bisphosphate Carboxylase Activity in Response to Light Intensity and CO(2) in the C(3) Annuals Chenopodium album L. and Phaseolus vulgaris L. *Plant Physiology*, **1990**, 94, 1735-42	6.6	100
176	What gas exchange data can tell us about photosynthesis. *Plant, Cell and Environment*, **2016**, 39, 1161-3	8.4	98
175	Activity ratios of ribulose-1,5-bisphosphate carboxylase accurately reflect carbamylation ratios. *Plant Physiology*, **1989**, 89, 735-9	6.6	96
174	Effects of water stress on photosynthetic electron transport, photophosphorylation, and metabolite levels of Xanthium strumarium mesophyll cells. *Planta*, **1982**, 156, 199-206	4.7	96
173	Export of carbon from chloroplasts at night. *Plant Physiology*, **1998**, 118, 1439-45	6.6	92
172	The importance of maltose in transitory starch breakdown. *Plant, Cell and Environment*, **2006**, 29, 353-66	8.4	90
171	Carbon balance and circadian regulation of hydrolytic and phosphorolytic breakdown of transitory starch. *Plant Physiology*, **2006**, 141, 879-86	6.6	88
170	The effects of high temperature on isoprene synthesis in oak leaves. *Plant, Cell and Environment*, **2000**, 23, 751-757	8.4	88
169	Kinetics of leaf temperature fluctuation affect isoprene emission from red oak (Quercus rubra) leaves. *Tree Physiology*, **1999**, 19, 917-924	4.2	88
168	Effects of CO 2 Enrichment on Four Great Basin Grasses. *Functional Ecology*, **1987**, 1, 139	5.6	88

167	A Direct Confirmation of the Standard Method of Estimating Intercellular Partial Pressure of CO(2). *Plant Physiology*, **1982**, 69, 657-9	6.6	88
166	Contribution of Metabolites of Photosynthesis to Postillumination CO(2) Assimilation in Response to Lightflects. *Plant Physiology*, **1986**, 82, 1063-8	6.6	86
165	Development of the capacity for isoprene emission in kudzu. *Plant, Cell and Environment*, **2005**, 28, 898-905	8.4	85
164	The response of isoprene emission rate and photosynthetic rate to photon flux and nitrogen supply in aspen and white oak trees. *Plant, Cell and Environment*, **1996**, 19, 549-559	8.4	84
163	Altered photosynthesis, flowering, and fruiting in transgenic tomato plants that have an increased capacity for sucrose synthesis. *Planta*, **1995**, 196, 327	4.7	82
162	Effects of phaseic Acid and dihydrophaseic Acid on stomata and the photosynthetic apparatus. *Plant Physiology*, **1980**, 65, 291-7	6.6	82
161	Evolutionary significance of isopreneemission from mosses. *American Journal of Botany*, **1999**, 86, 634-639	2.7	81
160	Gas Exchange, Stomatal Behavior, and deltaC Values of the flacca Tomato Mutant in Relation to Abscisic Acid. *Plant Physiology*, **1983**, 72, 245-50	6.6	80
159	Efficiency of photosynthesis in continuous and pulsed light emitting diode irradiation. *Photosynthesis Research*, **1995**, 44, 261-9	3.7	79
158	Regulation of Ribulose-1,5-Bisphosphate Carboxylase Activity in Alocasia macrorrhiza in Response to Step Changes in Irradiance. *Plant Physiology*, **1988**, 88, 148-52	6.6	78
157	Feedback limitation of photosynthesis of Phaseolus vulgaris L grown in elevated CO2. *Plant, Cell and Environment*, **1993**, 16, 81-86	8.4	77
156	Isoprene emission rates under elevated CO2 and O3 in two field-grown aspen clones differing in their sensitivity to O3. *New Phytologist*, **2008**, 179, 55-61	9.8	75
155	Increased heat sensitivity of photosynthesis in tobacco plants with reduced Rubisco activase. *Photosynthesis Research*, **2001**, 67, 147-56	3.7	75
154	Comparisons of Photosynthetic Responses of Xanthium strumarium and Helianthus annuus to Chronic and Acute Water Stress in Sun and Shade. *Plant Physiology*, **1987**, 84, 476-82	6.6	75
153	Starch and Sucrose Synthesis in Phaseolus vulgaris as Affected by Light, CO(2), and Abscisic Acid. *Plant Physiology*, **1985**, 77, 617-20	6.6	74
152	Stabilization of thylakoid membranes in isoprene-emitting plants reduces formation of reactive oxygen species. *Plant Signaling and Behavior*, **2012**, 7, 139-41	2.5	72
151	End product feedback effects on photosynthetic electron transport. *Photosynthesis Research*, **1993**, 35, 5-14	3.7	72
150	The role of transitory starch in C(3), CAM, and C(4) metabolism and opportunities for engineering leaf starch accumulation. *Journal of Experimental Botany*, **2011**, 62, 3109-18	7	71

149	Isoprene synthase expression and protein levels are reduced under elevated O3 but not under elevated CO2 (FACE) in field-grown aspen trees. *Plant, Cell and Environment*, **2007**, 30, 654-61	8.4	71
148	Rapid regulation of the methylerythritol 4-phosphate pathway during isoprene synthesis. *Plant Physiology*, **2004**, 135, 1939-45	6.6	69
147	Metabolic profiling of the methylerythritol phosphate pathway reveals the source of post-illumination isoprene burst from leaves. *Plant, Cell and Environment*, **2013**, 36, 429-37	8.4	67
146	Mechanism of Photosynthesis Decrease by Verticillium dahliae in Potato. *Plant Physiology*, **1990**, 94, 1048-55	6.6	67
145	Water stress, carbon dioxide, and light effects on sucrosephosphate synthase activity in Phaseolus vulgaris. *Physiologia Plantarum*, **1991**, 81, 37-44	4.6	65
144	Isoprene synthase genes form a monophyletic clade of acyclic terpene synthases in the TPS-B terpene synthase family. *Evolution; International Journal of Organic Evolution*, **2013**, 67, 1026-40	3.8	64
143	Antisense inhibition of sorbitol synthesis leads to up-regulation of starch synthesis without altering CO2 assimilation in apple leaves. *Planta*, **2005**, 220, 767-76	4.7	63
142	beta-Maltose is the metabolically active anomer of maltose during transitory starch degradation. *Plant Physiology*, **2005**, 137, 756-61	6.6	62
141	Intramolecular deuterium distributions reveal disequilibrium of chloroplast phosphoglucose isomerase. *Plant, Cell and Environment*, **1999**, 22, 525-533	8.4	62
140	The glucose 6-phosphate shunt around the Calvin-Benson cycle. *Journal of Experimental Botany*, **2016**, 67, 4067-77	7	61
139	Regulation of isoprene emission from poplar leaves throughout a day. *Plant, Cell and Environment*, **2009**, 32, 939-47	8.4	60
138	Moderate heat stress of Arabidopsis thaliana leaves causes chloroplast swelling and plastoglobule formation. *Photosynthesis Research*, **2010**, 105, 123-34	3.7	60
137	The role of cytosolic alpha-glucan phosphorylase in maltose metabolism and the comparison of amylomaltase in Arabidopsis and Escherichia coli. *Plant Physiology*, **2006**, 142, 878-89	6.6	60
136	Moderate heat stress reduces the pH component of the transthylakoid proton motive force in light-adapted, intact tobacco leaves. *Plant, Cell and Environment*, **2009**, 32, 1538-47	8.4	57
135	Isoprene research - 60 years later, the biology is still enigmatic. *Plant, Cell and Environment*, **2017**, 40, 1671-1678	8.4	56
134	Engineering plants for elevated CO(2): a relationship between starch degradation and sugar sensing. *Plant Biology*, **2004**, 6, 280-8	3.7	55
133	Responses of Two CAM Species to Different Irradiances during Growth and Susceptibility to Photoinhibition by High Light. *Plant Physiology*, **1987**, 83, 213-8	6.6	55
132	Low oxygen inhibition of photosynthesis is caused by inhibition of starch synthesis. *Plant Physiology* , **1989**, 90, 385-7	6.6	54

131	Effect of temperature on postillumination isoprene emission in oak and poplar. *Plant Physiology*, **2011**, 155, 1037-46	6.6	53
130	Sucrose-phosphate synthase activity and yield analysis of tomato plants transformed with maize sucrose-phosphate synthase. *Planta*, **1997**, 203, 253-259	4.7	53
129	The future of isoprene emission from leaves, canopies and landscapes. *Plant, Cell and Environment*, **2014**, 37, 1727-40	8.4	52
128	Rate of acclimation of the capacity for isoprene emission in response to light and temperature. *Plant, Cell and Environment*, **2001**, 24, 937-946	8.4	51
127	Carbon metabolism enzymes and photosynthesis in transgenic tobacco (Nicotiana tabacum L.) having excess phytochrome. *Planta*, **1991**, 185, 287-96	4.7	50
126	The Effect of Abscisic Acid and Other Inhibitors on Photosynthetic Capacity and the Biochemistry of CO(2) Assimilation. *Plant Physiology*, **1987**, 84, 696-700	6.6	49
125	Stem photosynthesis in a desert ephemeral, Eriogonum inflatum : Characterization of leaf and stem CO fixation and HO vapor exchange under controlled conditions. *Oecologia*, **1987**, 72, 542-549	2.9	49
124	Biogenic isoprene emission: Model evaluation in a southeastern United States bottomland deciduous forest. *Journal of Geophysical Research*, **1997**, 102, 18889-18901		48
123	Carbon Partitioning in a Flaveria linearis Mutant with Reduced Cytosolic Fructose Bisphosphatase. *Plant Physiology*, **1992**, 100, 210-5	6.6	48
122	Triose phosphate limitation in photosynthesis models reduces leaf photosynthesis and global terrestrial carbon storage. *Environmental Research Letters*, **2018**, 13, 074025	6.2	47
121	Engineering starch accumulation by manipulation of phosphate metabolism of starch. *Plant Biotechnology Journal*, **2012**, 10, 545-54	11.6	46
120	Isoprene emission by plants is affected by transmissible wound signals. *Plant, Cell and Environment*, **1993**, 16, 563-570	8.4	46
119	Effects of Irradiance and Methyl Viologen Treatment on ATP, ADP, and Activation of Ribulose Bisphosphate Carboxylase in Spinach Leaves. *Plant Physiology*, **1988**, 88, 850-3	6.6	46
118	Biochemical regulation of isoprene emission. *Plant, Cell and Environment*, **2003**, 26, 1357-1364	8.4	45
117	Isoprene Acts as a Signaling Molecule in Gene Networks Important for Stress Responses and Plant Growth. *Plant Physiology*, **2019**, 180, 124-152	6.6	43
116	Biochemical characterization and homology modeling of methylbutenol synthase and implications for understanding hemiterpene synthase evolution in plants. *Journal of Biological Chemistry*, **2011**, 286, 20582-90	5.4	43
115	Emission of low molecular mass hydrocarbons from plants. *Trends in Plant Science*, **1996**, 1, 78-82	13.1	43
114	Triose phosphate use limitation of photosynthesis: short-term and long-term effects. *Planta*, **2016**, 243, 687-98	4.7	42

113	The Biochemistry of Isoprene Emission from Leaves during Photosynthesis **1991**, 153-184		41
112	Modification of a Specific Class of Plasmodesmata and Loss of Sucrose Export Ability in the sucrose export defective1 Maize Mutant. *Plant Cell*, **1996**, 8, 645	11.6	40
111	Fractionation of Carbon Isotopes during Biogenesis of Atmospheric Isoprene. *Plant Physiology*, **1991**, 97, 463-6	6.6	40
110	Plant volatiles: a lack of function or a lack of knowledge?. *Trends in Plant Science*, **2006**, 11, 421; author reply 422-3	13.1	39
109	Promoter strength and tissue specificity effects on growth of tomato plants transformed with maize sucrose-phosphate synthase. *Planta*, **2001**, 212, 817-22	4.7	39
108	Prospects for enhancing leaf photosynthetic capacity by manipulating mesophyll cell morphology. *Journal of Experimental Botany*, **2019**, 70, 1153-1165	7	39
107	Regulation of isoprene emission in Populus trichocarpa leaves subjected to changing growth temperature. *Plant, Cell and Environment*, **2008**, 31, 258-67	8.4	38
106	Differential response of aspen and birch trees to heat stress under elevated carbon dioxide. *Environmental Pollution*, **2010**, 158, 1008-14	9.3	36
105	Activation and deactivation of ribulose-1,5-bisphosphate carboxylase/oxygenase (Rubisco) in three marine microalgae. *Photosynthesis Research*, **1997**, 51, 93-106	3.7	36
104	Effect of growth conditions on isoprene emission and other thermotolerance-enhancing compounds. *Plant, Cell and Environment*, **2001**, 24, 929-936	8.4	36
103	Exogenous isoprene modulates gene expression in unstressed Arabidopsis thaliana plants. *Plant, Cell and Environment*, **2016**, 39, 1251-63	8.4	36
102	HIGH TEMPERATURE STRESS **2006**, 101-129		35
101	Reduced Cytosolic Fructose-1,6-Bisphosphatase Activity Leads to Loss of O(2) Sensitivity in a Flaveria linearis Mutant. *Plant Physiology*, **1988**, 86, 667-71	6.6	35
100	Measuring dimethylallyl diphosphate available for isoprene synthesis. *Analytical Biochemistry*, **2013**, 435, 27-34	3.1	34
99	The Effect of Leaf Nitrogen and Temperature on the CO2 Response of Photosynthesis in the C3 Dicot MChenopodium album L. *Functional Plant Biology*, **1990**, 17, 135	2.7	34
98	Molecular cloning and characterization of two cDNAs encoding 1-deoxy-D-xylulose 5-phosphate reductoisomerase from Hevea brasiliensis. *Journal of Plant Physiology*, **2008**, 165, 991-1002	3.6	33
97	Domain characterization of a 4-alpha-glucanotransferase essential for maltose metabolism in photosynthetic leaves. *Journal of Biological Chemistry*, **2008**, 283, 20797-804	5.4	32
96	Isopentenyl diphosphate and dimethylallyl diphosphate/isopentenyl diphosphate ratio measured with recombinant isopentenyl diphosphate isomerase and isoprene synthase. *Analytical Biochemistry*, **2013**, 440, 130-6	3.1	31

95	Cellular and organ level localization of maltose in maltose-excess Arabidopsis mutants. *Planta*, **2006**, 224, 935-43	4.7	31
94	A Cytosolic Bypass and G6P Shunt in Plants Lacking Peroxisomal Hydroxypyruvate Reductase. *Plant Physiology*, **2019**, 180, 783-792	6.6	30
93	Triose phosphate utilization and beyond: from photosynthesis to end product synthesis. *Journal of Experimental Botany*, **2019**, 70, 1755-1766	7	30
92	Concentration of isoprene in artificial and thylakoid membranes. *Journal of Bioenergetics and Biomembranes*, **2015**, 47, 419-29	3.7	30
91	Is it useful to ask why plants emit isoprene?. *Plant, Cell and Environment*, **2013**, 36, 517-20	8.4	30
90	Evaluating the role of Rubisco regulation in photosynthesis of C 3 plants. *Philosophical Transactions of the Royal Society of London Series B, Biological Sciences*, **1989**, 323, 435-448		30
89	Discovery of the canonical Calvin-Benson cycle. *Photosynthesis Research*, **2019**, 140, 235-252	3.7	30
88	Perspectives: plant biology. Some like it hot. *Science*, **2000**, 287, 435, 437	33.3	29
87	Facing the Future: Effects of Short-Term Climate Extremes on Isoprene-Emitting and Nonemitting Poplar. *Plant Physiology*, **2015**, 169, 560-75	6.6	28
86	Plant heat stress: Concepts directing future research. *Plant, Cell and Environment*, **2021**, 44, 1992-2005	8.4	28
85	Isoprene: New insights into the control of emission and mediation of stress tolerance by gene expression. *Plant, Cell and Environment*, **2019**, 42, 2808-2826	8.4	27
84	Limitation to Photosynthesis in Pratylenchus penetrans- and Verticillium dahliae-Infected Potato. *Crop Science*, **1999**, 39, 1340-1346	2.4	27
83	Plastidic glucose-6-phosphate dehydrogenases are regulated to maintain activity in the light. *Biochemical Journal*, **2019**, 476, 1539-1551	3.8	26
82	Effects of heat and drought stress on post-illumination bursts of volatile organic compounds in isoprene-emitting and non-emitting poplar. *Plant, Cell and Environment*, **2016**, 39, 1204-15	8.4	26
81	Pollen development at high temperature and role of carbon and nitrogen metabolites. *Plant, Cell and Environment*, **2019**, 42, 2759-2775	8.4	25
80	Insect herbivory antagonizes leaf cooling responses to elevated temperature in tomato. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 2211-2217	11.5	25
79	Molecular and Pathway Controls on Biogenic Volatile Organic Compound Emissions. *Tree Physiology*, **2013**, 119-151		25
78	Rapid heating of intact leaves reveals initial effects of stromal oxidation on photosynthesis. *Plant, Cell and Environment*, **2007**, 30, 671-8	8.4	23

77	Elevated temperatures cause loss of seed set in common bean (Phaseolus vulgaris L.) potentially through the disruption of source-sink relationships. *BMC Genomics*, **2019**, 20, 312	4.5	21
76	High temperature enhances inhibitor production but reduces fallover in tobacco Rubisco. *Functional Plant Biology*, **2006**, 33, 921-929	2.7	20
75	Identification and levels of 2Rcarboxyarabinitol in leaves. *Plant Physiology*, **1992**, 99, 1546-50	6.6	20
74	The arc mutants of Arabidopsis with fewer large chloroplasts have a lower mesophyll conductance. *Photosynthesis Research*, **2015**, 124, 117-26	3.7	19
73	Stomatal Control of Trace Gas Emissions **1991**, 335-339		19
72	Pectin Methylesterification Impacts the Relationship between Photosynthesis and Plant Growth. *Plant Physiology*, **2016**, 171, 833-48	6.6	19
71	The metabolic origins of non-photorespiratory CO2 release during photosynthesis: a metabolic flux analysis. *Plant Physiology*, **2021**, 186, 297-314	6.6	19
70	Transcriptional Regulation of the Glucose-6-Phosphate/Phosphate Translocator 2 Is Related to Carbon Exchange Across the Chloroplast Envelope. *Frontiers in Plant Science*, **2019**, 10, 827	6.2	18
69	Evolution of the Phosphoenolpyruvate Carboxylase Protein Kinase Family in C3 and C4 Flaveria spp. *Plant Physiology*, **2014**, 165, 1076-1091	6.6	18
68	The reduction in leaf area precedes that in photosynthesis under potassium deficiency: the importance of leaf anatomy. *New Phytologist*, **2020**, 227, 1749-1763	9.8	17
67	Constant-light Injury of Potato: Temporal and Spatial Patterns of Carbon Dioxide Assimilation, Starch Content, Chloroplast Integrity, and Necrotic Lesions. *Journal of the American Society for Horticultural Science*, **1995**, 120, 1032-1040	2.3	16
66	Leaf isoprene emission as a trait that mediates the growth-defense tradeoff in the face of climate stress. *Oecologia*, **2021**, 197, 885-902	2.9	16
65	The effects of moderately high temperature on zeaxanthin accumulation and decay. *Photosynthesis Research*, **2011**, 108, 171-81	3.7	15
64	Regulation of Photosynthesis in Triazine-Resistant and -Susceptible Brassica napus. *Plant Physiology*, **1992**, 98, 1069-73	6.6	15
63	Intracellular localization of CA1P and CA1P phosphatase activity in leaves of Phaseolus vulgaris L. *Photosynthesis Research*, **1995**, 45, 219-24	3.7	14
62	Import of 14C-Photosynthate by Developing Leaves of Sugarcane. *Botanica Acta*, **1990**, 103, 424-429		14
61	Is triose phosphate utilization important for understanding photosynthesis?. *Journal of Experimental Botany*, **2019**, 70, 5521-5525	7	13
60	Source of 12C in Calvin-Benson cycle intermediates and isoprene emitted from plant leaves fed with 13CO2. *Biochemical Journal*, **2020**, 477, 3237-3252	3.8	13

59	Characterization of photosynthesis in Arabidopsis ER-to-plastid lipid trafficking mutants. *Photosynthesis Research*, **2012**, 112, 49-61	3.7	12
58	Effects of G, a Growth Regulator from Eucalyptus grandis, on Photosynthesis. *Plant Physiology*, **1982**, 69, 935-8	6.6	12
57	Older Thinopyrum intermedium (Poaceae) plants exhibit superior photosynthetic tolerance to cold stress and greater increases in two photosynthetic enzymes under freezing stress compared with young plants. *Journal of Experimental Botany*, **2016**, 67, 4743-53	7	12
56	Understanding carbon partitioning and its role in determining plant growth. *Plant, Cell and Environment*, **2015**, 38, 1963-4	8.4	11
55	A reporting format for leaf-level gas exchange data and metadata. *Ecological Informatics*, **2021**, 61, 101232	4.2	11
54	Journal of Experimental Botany. Preface. *Journal of Experimental Botany*, **2009**, 60, 2215-6	7	10
53	Genetic and physiological characterization of Flaveria linearis plants having a reduced activity of cytosolic fructose-1.6-bisphosphatase. *Plant, Cell and Environment*, **1996**, 19, 1-9	8.4	10
52	The metabolic and biochemical impact of glucose 6-sulfonate (sulfoquinovose), a dietary sugar, on carbohydrate metabolism. *Carbohydrate Research*, **2012**, 362, 21-9	2.9	9
51	Life history and resource acquisition: Photosynthetic traits in selected accessions of three perennial cereal species compared with annual wheat and rye. *American Journal of Botany*, **2013**, 100, 2468-77	2.7	9
50	In situ emission of BVOCs by three urban woody species. *Urban Forestry and Urban Greening*, **2017**, 21, 153-157	5.4	8
49	Responses to elevated CO2 of Flaveria linearis plants having a reduced activity of cytosolic fructose-1,6-bisphosphatase. *Plant, Cell and Environment*, **1996**, 19, 10-16	8.4	8
48	Factors Limiting Photosynthesis as Determined from Gas Exchange Characteristics and Metabolite Pool Sizes **1984**, 325-328		8
47	Contrasting anther glucose-6-phosphate dehydrogenase activities between two bean varieties suggest an important role in reproductive heat tolerance. *Plant, Cell and Environment*, **2021**, 44, 2185-2199	8.4	8
46	Engineering of Recombinant Poplar Deoxy-D-Xylulose-5-Phosphate Synthase (PtDXS) by Site-Directed Mutagenesis Improves Its Activity. *PLoS ONE*, **2016**, 11, e0161534	3.7	8
45	Will increased photosynthetic efficiency lead to increased yield in rice?. *Studies in Plant Science*, **2000**, 7, 73-86		7
44	CO2 effects on photosynthetic end product synthesis and feedback **1994**, 55-78		7
43	Isolation and characterization of two distinct classes of DXS genes in Hevea brasiliensis. *DNA Sequence*, **2008**, 19, 291-300		6
42	Steady-state room temperature fluorescence and CO2 assimilation rates in intact leaves. *Photosynthesis Research*, **1985**, 7, 163-74	3.7	6

41	The roles of photorespiration and alternative electron acceptors in the responses of photosynthesis to elevated temperatures in cowpea. *Plant, Cell and Environment*, **2021**, 44, 2290-2307	8.4	6
40	Molecular Mechanisms Affecting Cell Wall Properties and Leaf Architecture. *Advances in Photosynthesis and Respiration*, **2018**, 209-253	1.7	6
39	Autotrophic Carbon Dioxide Fixation. *Advances in Photosynthesis and Respiration*, **2012**, 651-674	1.7	5
38	Chloroplast to Leaf. *Ecological Studies*, **2004**, 171-206	1.1	5
37	Inheritance of the Reversal of O(2) Response of Photosynthesis in a Flaveria linearis Mutant. *Plant Physiology*, **1990**, 92, 186-90	6.6	5
36	Emerging research in plant photosynthesis. *Emerging Topics in Life Sciences*, **2020**, 4, 137-150	3.5	5
35	Pentose Phosphate Pathway Reactions in Photosynthesizing Cells. *Cells*, **2021**, 10,	7.9	5
34	The BEMA-project: A North American perspective. *Atmospheric Environment*, **1997**, 31, 251-255	5.3	4
33	The Time Course for Deactivation and Reactivation of Ribulose-1,5-Bisphosphate Carboxylase Following Changes in CO2 AND O2 **1987**, 285-288		4
32	Isoprene Suppression by CO2 Is Not Due to Triose Phosphate Utilization (TPU) Limitation. *Frontiers in Forests and Global Change*, **2019**, 2,	3.7	4
31	Phosphorus requirement for biomass accumulation is higher compared to photosynthetic biochemistry for three ornamental shrubs. *Scientia Horticulturae*, **2021**, 275, 109719	4.1	4
30	Reimport of carbon from cytosolic and vacuolar sugar pools into the Calvin-Benson cycle explains photosynthesis labeling anomalies.. *Proceedings of the National Academy of Sciences of the United States of America*, **2022**, 119, e2121531119	11.5	4
29	Photosynthesis and Carbon Assimilation. *Assa, Cssa and Sssa*, **2015**, 187-210	0.3	3
28	Feedback Effects on Photosynthesis Induced by Assay and Growth at High Carbon Dioxide. *Assa, Cssa and Sssa*, **2015**, 461-466	0.3	3
27	Isoprene enhances leaf cytokinin metabolism and induces early senescence. *New Phytologist*, **2021**,	9.8	3
26	Water stress, carbon dioxide, and light effects on sucrose-phosphate synthase activity in Phaseolus vulgaris. *Physiologia Plantarum*, **1991**, 81, 37-44	4.6	3
25	Phosphoglucoisomerase Is an Important Regulatory Enzyme in Partitioning Carbon out of the Calvin-Benson Cycle. *Frontiers in Plant Science*, **2020**, 11, 580726	6.2	2
24	Hartmut Lichtenthaler: an authority on chloroplast structure and isoprenoid biochemistry. *Photosynthesis Research*, **2016**, 128, 117-23	3.7	2

23	Photorespiration **2001**,		2
22	Intramolecular carbon isotope signals reflect metabolite allocation in plants.. *Journal of Experimental Botany*, **2022**,	7	2
21	High Temperature Inhibition of Photosynthesis Requires Rubisco Activase for Reversibility **1998**, 2465-2468		2
20	Loss of Peroxisomal Hydroxypyruvate Reductase Inhibits Triose Phosphate Isomerase but Stimulates Cyclic Photosynthetic Electron Flow and the Glc-6P-Phosphate Shunt		2
19	Supply and consumption of glucose 6-phosphate in the chloroplast stroma		2
18	Building a better equation for electron transport estimated from Chl fluorescence: accounting for nonphotosynthetic light absorption. *New Phytologist*, **2020**, 225, 604-608	9.8	2
17	SUT1.1 is a high affinity sucrose-proton co-transporter. *Plant Direct*, **2020**, 4, e00260	3.3	2
16	Evolution of a biochemical model of steady-state photosynthesis. *Plant, Cell and Environment*, **2021**, 44, 2811-2837	8.4	2
15	Compartment-specific energy requirements of photosynthetic carbon metabolism in Camelina sativa leaves.. *Planta*, **2022**, 255, 103	4.7	2
14	A dichotomy resolved: Plant growth can control the rate of starch accumulation. *Plant, Cell and Environment*, **2017**, 40, 2606-2607	8.4	1
13	Isoprene Emission and Carbon Dioxide Protect Aspen Leaves from Heat Stress. *Nature Precedings*, **2008**,		1
12	Atmospheric Chemistry and Hydrocarbon Emissions from Plants **1999**, 9, 1107-1108		1
11	WEATHER EFFECTS ON ISOPRENE EMISSION CAPACITY AND APPLICATIONS IN EMISSIONS ALGORITHMS **1999**, 9, 1132		1
10	Sucrose Synthesis, Temperature, and Plant Yield **1995**, 4527-4532		1
9	Effects of Stress on Photosynthesis **1990**, 3343-3350		1
8	Isopentenyl Diphosphate Inhibition of Thiamin Diphosphate Enzymes, Especially Deoxyxylulose 5-Phosphate Synthase. *FASEB Journal*, **2015**, 29, 887.20	0.9	1
7	Validation of an insertion-engineered isoprene synthase as a strategy to functionalize terpene synthases.. *RSC Advances*, **2021**, 11, 29997-30005	3.7	1
6	The triose phosphate utilization limitation of photosynthetic rate: Out of global models but important for leaf models. *Plant, Cell and Environment*, **2021**, 44, 3223-3226	8.4	1

List of Publications

5	Carbon-based End Products of Artificial Photosynthesis **2006**, 283-289	
4	Feedback inhibition of 1-deoxy-D-xylulose 5-phosphate synthase (DXS) regulates the 2-C-methyl-D-erythritol 4- phosphate (MEP) pathway. *FASEB Journal*, **2013**, 27, lb119	0.9
3	Analysis of Regulation and Limitations of Photosynthetic Carbon Metabolism **1987**, 321-324	
2	Effects of Water Stress on in Vivo Photosynthetic Biochemistry (Maximum Photosynthesis, Quantum Yield and 77 K Fluorescence) **1987**, 157-160	
1	Photosynthesis | Photosynthetic Carbon Dioxide Fixation **2021**, 399-412	