Xin-Guang Zhu

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/2002058/publications.pdf

Version: 2024-02-01

85 papers	8,313 citations	126907 33 h-index	56724 83 g-index
86 all docs	86 docs citations	86 times ranked	8000 citing authors

#	Article	IF	Citations
1	Improving Photosynthetic Efficiency for Greater Yield. Annual Review of Plant Biology, 2010, 61, 235-261.	18.7	1,410
2	Can improvement in photosynthesis increase crop yields?. Plant, Cell and Environment, 2006, 29, 315-330.	5.7	1,236
3	What is the maximum efficiency with which photosynthesis can convert solar energy into biomass?. Current Opinion in Biotechnology, 2008, 19, 153-159.	6.6	897
4	Meeting the Global Food Demand of the Future by Engineering Crop Photosynthesis and Yield Potential. Cell, 2015, 161, 56-66.	28.9	755
5	Raising yield potential of wheat. II. Increasing photosynthetic capacity and efficiency. Journal of Experimental Botany, 2011, 62, 453-467.	4.8	511
6	Melatonin delays leaf senescence and enhances salt stress tolerance in rice. Journal of Pineal Research, 2015, 59, 91-101.	7.4	272
7	Optimal crop canopy architecture to maximise canopy photosynthetic CO2 uptake under elevated CO2 â€“ a theoretical study using a mechanistic model of canopy photosynthesis. Functional Plant Biology, 2013, 40, 108.	2.1	179
8	Three distinct biochemical subtypes of C4 photosynthesis? A modelling analysis. Journal of Experimental Botany, 2014, 65, 3567-3578.	4.8	161
9	An analysis of ozone damage to historical maize and soybean yields in the United States. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 14390-14395.	7.1	159
10	Enhanced limonene production in cyanobacteria reveals photosynthesis limitations. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14225-14230.	7.1	152
11	Comparative transcriptome analysis of developmental stages of the <scp><i>L</i></scp><i>imonium bicolor</i> leaf generates insights into salt gland differentiation. Plant, Cell and Environment, 2015, 38, 1637-1657.	5.7	134
12	Sourceâ€“sink interaction: a century old concept under the light of modern molecular systems biology. Journal of Experimental Botany, 2017, 68, 4417-4431.	4.8	128
13	<i>e</i>â€photosynthesis: a comprehensive dynamic mechanistic model of C3 photosynthesis: from light capture to sucrose synthesis. Plant, Cell and Environment, 2013, 36, 1711-1727.	5.7	118
14	Opinion: Prospects for improving photosynthesis by altering leaf anatomy. Plant Science, 2012, 197, 92-101.	3.6	115
15	The transcriptome of NaCl-treated Limonium bicolor leaves reveals the genes controlling salt secretion of salt gland. Plant Molecular Biology, 2016, 91, 241-256.	3.9	102
16	The influence of leaf anatomy on the internal light environment and photosynthetic electron transport rate: exploration with a new leaf ray tracing model. Journal of Experimental Botany, 2016, 67, 6021-6035.	4.8	102
17	Perspectives for a better understanding of the metabolic integration of photorespiration within a complex plant primary metabolism network. Journal of Experimental Botany, 2016, 67, 3015-3026.	4.8	98
18	Green giantâ€"a tiny chloroplast genome with mighty power to produce highâ€value proteins: history and phylogeny. Plant Biotechnology Journal, 2021, 19, 430-447.	8.3	86

#	Article	IF	Citations
19	Leaf Photosynthetic Parameters Related to Biomass Accumulation in a Global Rice Diversity Survey. Plant Physiology, 2017, 175, 248-258.	4.8	85
20	Elements of a dynamic systems model of canopy photosynthesis. Current Opinion in Plant Biology, 2012, 15, 237-244.	7.1	83
21	The impact of modifying photosystem antenna size on canopy photosynthetic efficiencyâ€”Development of a new canopy photosynthesis model scaling from metabolism to canopy level processes. Plant, Cell and Environment, 2017, 40, 2946-2957.	5.7	81
22	The Benefits of Photorespiratory Bypasses: How Can They Work? Â. Plant Physiology, 2015, 167, 574-585.	4.8	76
23	Plants <i>in silico</i>: why, why now and what?â€”an integrative platform for plant systems biology research. Plant, Cell and Environment, 2016, 39, 1049-1057.	5.7	66
24	Crops for Carbon Farming. Frontiers in Plant Science, 2021, 12, 636709.	3.6	57
25	C4 Rice â€“ an Ideal Arena for Systems Biology Research. Journal of Integrative Plant Biology, 2010, 52, 762-770.	8.5	54
26	Changes in the photosynthesis properties and photoprotection capacity in rice (Oryza sativa) grown under red, blue, or white light. Photosynthesis Research, 2019, 139, 107-121.	2.9	54
27	Whole transcriptome analysis using next-generation sequencing of model species Setaria viridis to support C4 photosynthesis research. Plant Molecular Biology, 2013, 83, 77-87.	3.9	53
28	Was low CO2 a driving force of C4 evolution: Arabidopsis responses to long-term low CO2 stress. Journal of Experimental Botany, 2014, 65, 3657-3667.	4.8	51
29	Gene and genome duplications and the origin of C4 photosynthesis: Birth of a trait in the Cleomaceae. Current Plant Biology, 2014, 1, 2-9.	4.7	46
30	RNA-Seq based phylogeny recapitulates previous phylogeny of the genus Flaveria (Asteraceae) with some modifications. BMC Evolutionary Biology, 2015, 15, 116.	3.2	46
31	Photosynthetic and agronomic traits of an elite hybrid rice Y-Liang-You 900 with a record-high yield. Field Crops Research, 2016, 187, 49-57.	5.1	44
32	A new canopy photosynthesis and transpiration measurement system (CAPTS) for canopy gas exchange research. Agricultural and Forest Meteorology, 2016, 217, 101-107.	4.8	43
33	Cyclic electron flow may provide some protection against PSII photoinhibition in rice (Oryza sativa L.) leaves under heat stress. Journal of Plant Physiology, 2017, 211, 138-146.	3.5	39
34	Developmental Genetic Mechanisms of C4 Syndrome Based on Transcriptome Analysis of C3 Cotyledons and C4 Assimilating Shoots in Haloxylon ammodendron. PLoS ONE, 2015, 10, e0117175.	2.5	38
35	Components of mesophyll resistance and their environmental responses: A theoretical modelling analysis. Plant, Cell and Environment, 2017, 40, 2729-2742.	5.7	38
36	C₄ photosynthesis in C₃ rice: a theoretical analysis of biochemical and anatomical factors. Plant, Cell and Environment, 2017, 40, 80-94.	5.7	36

#	Article	IF	Citations
37	A three-dimensional canopy photosynthesis model in rice with a complete description of the canopy architecture, leaf physiology, and mechanical properties. Journal of Experimental Botany, 2019, 70, 2479-2490.	4.8	36
38	Variations between the photosynthetic properties of elite and landrace Chinese rice cultivars revealed by simultaneous measurements of 820 nm transmission signal and chlorophyll a fluorescence induction. Journal of Plant Physiology, 2015, 177, 128-138.	3.5	35
39	A model of chlorophyll a fluorescence induction kinetics with explicit description of structural constraints of individual photosystem II units. Photosynthesis Research, 2013, 117, 339-354.	2.9	33
40	Systems analysis of<i>cis</i>-regulatory motifs in C₄photosynthesis genes using maize and rice leaf transcriptomic data during a process of de-etiolation. Journal of Experimental Botany, 2016, 67, 5105-5117.	4.8	31
41	Development of a Three-Dimensional Ray-Tracing Model of Sugarcane Canopy Photosynthesis and Its Application in Assessing Impacts of Varied Row Spacing. Bioenergy Research, 2017, 10, 626-634.	3.9	31
42	A wish list for synthetic biology in photosynthesis research. Journal of Experimental Botany, 2020, 71, 2219-2225.	4.8	31
43	Coupling Cyberinfrastructure and Geographic Information Systems to Empower Ecological and Environmental Research. BioScience, 2008, 58, 94-95.	4.9	29
44	An in situ approach to characterizing photosynthetic gas exchange of rice panicle. Plant Methods, 2020, 16, 92.	4.3	27
45	CMIP: a software package capable of reconstructing genome-wide regulatory networks using gene expression data. BMC Bioinformatics, 2016, 17, 535.	2.6	26
46	Canopy occupation volume as an indicator of canopy photosynthetic capacity. New Phytologist, 2021, 232, 941-956.	7.3	26
47	Evidence for the role of transposons in the recruitment of cis-regulatory motifs during the evolution of C4 photosynthesis. BMC Genomics, 2016, 17, 201.	2.8	25
48	Identifying cooperative transcription factors by combining ChIP-chip data and knockout data. Cell Research, 2010, 20, 1276-1278.	12.0	23
49	Response of Chloroplast NAD(P)H Dehydrogenase-Mediated Cyclic Electron Flow to a Shortage or Lack in Ferredoxin-Quinone Oxidoreductase-Dependent Pathway in Rice Following Short-Term Heat Stress. Frontiers in Plant Science, 2016, 7, 383.	3.6	22
50	Overexpression of maize transcription factor mEmBP-1 increases photosynthesis, biomass, and yield in rice. Journal of Experimental Botany, 2020, 71, 4944-4957.	4.8	22
51	Natural variation in the fast phase of chlorophyll a fluorescence induction curve (OJIP) in a global rice minicore panel. Photosynthesis Research, 2021, 150, 137-158.	2.9	20
52	Reconstruction of gene regulatory network related to photosynthesis in Arabidopsis thaliana. Frontiers in Plant Science, 2014, 5, 273.	3.6	19
53	Enhanced photosynthetic nitrogen use efficiency and increased nitrogen allocation to photosynthetic machinery under cotton domestication. Photosynthesis Research, 2021, 150, 239-250.	2.9	19
54	Genomeâ€wide association study identifies variation of glucosidase being linked to natural variation of the maximal quantum yield of photosystem II. Physiologia Plantarum, 2019, 166, 105-119.	5.2	17

#	Article	IF	Citations
55	Precision genome editing heralds rapid de novo domestication for new crops. Cell, 2021, 184, 1133-1134.	28.9	17
56	Systems models, phenomics and genomics: three pillars for developing high-yielding photosynthetically efficient crops. In Silico Plants, 2019, 1, .	1.9	16
57	Decomposition analysis on soybean productivity increase under elevated CO2 using 3-D canopy model reveals synergestic effects of CO2 and light in photosynthesis. Annals of Botany, 2020, 126, 601-614.	2.9	15
58	Major alterations in transcript profiles between C3â€“C4 and C4 photosynthesis of an amphibious species Eleocharis baldwinii. Plant Molecular Biology, 2014, 86, 93-110.	3.9	14
59	Can miscanthus C₄ photosynthesis compete with festulolium C₃ photosynthesis in a temperate climate?. GCB Bioenergy, 2017, 9, 18-30.	5.6	14
60	Knocking out <i>NEGATIVE REGULATOR OF PHOTOSYNTHESIS 1</i> increases rice leaf photosynthesis and biomass production in the field. Journal of Experimental Botany, 2021, 72, 1836-1849.	4.8	12
61	The coordination of major events in C4 photosynthesis evolution in the genus Flaveria. Scientific Reports, 2021, 11, 15618.	3.3	12
62	Dissection of mechanisms for high yield in two elite rice cultivars. Field Crops Research, 2019, 241, 107563.	5.1	10
63	Concurrent Increases in Leaf Temperature With Light Accelerate Photosynthetic Induction in Tropical Tree Seedlings. Frontiers in Plant Science, 2020, 11, 1216.	3.6	10
64	The energy cost of repairing photoinactivated photosystem II: an experimental determination in cotton leaf discs. New Phytologist, 2022, 235, 446-456.	7.3	10
65	The evolution of stomatal traits along the trajectory toward C4 photosynthesis. Plant Physiology, 2022, 190, 441-458.	4.8	10
66	A userâ€friendly means to scale from the biochemistry of photosynthesis to whole crop canopies and production in time and space â€“ development of Java WIMOVAC. Plant, Cell and Environment, 2017, 40, 51-55.	5.7	9
67	Contrasting Responses of Plastid Terminal Oxidase Activity Under Salt Stress in Two C4 Species With Different Salt Tolerance. Frontiers in Plant Science, 2020, 11, 1009.	3.6	9
68	Potential metabolic mechanisms for inhibited chloroplast nitrogen assimilation under high CO2. Plant Physiology, 2021, 187, 1812-1833.	4.8	9
69	Measuring Canopy Gas Exchange Using CAnopy Photosynthesis and Transpiration Systems (CAPTS). Methods in Molecular Biology, 2018, 1770, 69-81.	0.9	8
70	Altered expression profiles of microRNA families during de-etiolation of maize and rice leaves. BMC Research Notes, 2017, 10, 108.	1.4	7
71	Photosynthetic and transcriptomic responses of two C4 grass species with different NaCl tolerance. Journal of Plant Physiology, 2020, 253, 153244.	3.5	7
72	Can Increase in Rubisco Specificity Increase Carbon Gain by Whole Canopy? A Modeling Analysis. Advances in Photosynthesis and Respiration, 2009, , 401-416.	1.0	7

#	Article	IF	Citations
73	Estimating uncertainty: A Bayesian approach to modelling photosynthesis in <scp>C3</scp> leaves. Plant, Cell and Environment, 2021, 44, 1436-1450.	5.7	6
74	A parameter condition for ruling out multiple equilibria of the photosynthetic carbon metabolism. Asian Journal of Control, 2011, 13, 611-624.	3.0	5
75	Systems-level modelingâ€"A new approach for engineering efficient photosynthetic machinery. Journal of Biotechnology, 2010, 149, 201-208.	3.8	4
76	What Matters for C4 Transporters: Evolutionary Changes of Phosphoenolpyruvate Transporter for C4 Photosynthesis. Frontiers in Plant Science, 2020, 11, 935.	3.6	4
77	Photosynthesis: The Final Frontier. CSA News, 2014, 59, 12-13.	0.0	3
78	Honoring Bacon Ke at 100: a legend among the many luminaries and a highly collaborative scientist in photosynthesis research. Photosynthesis Research, 2021, 147, 243-252.	2.9	3
79	Diurnal and Seasonal Variations of Photosynthetic Energy Conversion Efficiency of Field Grown Wheat. Frontiers in Plant Science, 2022, 13, 817654.	3.6	3
80	Analysis on steady states of photosynthetic carbon metabolic system. , 2009, , .		2
81	A model of canopy photosynthesis in rice that combines sub-models of 3D plant architecture, radiation transfer, leaf energy balance and C3 photosynthesis. , 2012, , .		2
82	Transcriptome comparisons shed light on the pre-condition and potential barrier for C4 photosynthesis evolution in eudicots. Plant Molecular Biology, 2016, 91, 193-209.	3.9	2
83	Kinetic Modeling of Photorespiration. Methods in Molecular Biology, 2017, 1653, 203-216.	0.9	2
84	On the rate of phytoplankton respiration in the light. Plant Physiology, 2022, 190, 267-279.	4.8	2
85	A mathematical model of the photosynthetic carbon metabolism has multiple steady states under the same parameter conditions. Acta Mathematicae Applicatae Sinica, 2016, 32, 591-604.	0.7	1