

# Xin-Guang Zhu

## List of Publications by Year in descending order

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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	Diurnal and Seasonal Variations of Photosynthetic Energy Conversion Efficiency of Field Grown Wheat. <i>Frontiers in Plant Science</i> , 2022, 13, 817654.	3.6	3
2	The energy cost of repairing photoinactivated photosystem II: an experimental determination in cotton leaf discs. <i>New Phytologist</i> , 2022, 235, 446-456.	7.3	10
3	On the rate of phytoplankton respiration in the light. <i>Plant Physiology</i> , 2022, 190, 267-279.	4.8	2
4	The evolution of stomatal traits along the trajectory toward C4 photosynthesis. <i>Plant Physiology</i> , 2022, 190, 441-458.	4.8	10
5	Natural variation in the fast phase of chlorophyll a fluorescence induction curve (OJIP) in a global rice minicore panel. <i>Photosynthesis Research</i> , 2021, 150, 137-158.	2.9	20
6	Knocking out <i>NEGATIVE REGULATOR OF PHOTOSYNTHESIS 1</i> increases rice leaf photosynthesis and biomass production in the field. <i>Journal of Experimental Botany</i> , 2021, 72, 1836-1849.	4.8	12
7	Green giant—a tiny chloroplast genome with mighty power to produce high-value proteins: history and phylogeny. <i>Plant Biotechnology Journal</i> , 2021, 19, 430-447.	8.3	86
8	Honoring Bacon Ke at 100: a legend among the many luminaries and a highly collaborative scientist in photosynthesis research. <i>Photosynthesis Research</i> , 2021, 147, 243-252.	2.9	3
9	Precision genome editing heralds rapid de novo domestication for new crops. <i>Cell</i> , 2021, 184, 1133-1134.	28.9	17
10	Crops for Carbon Farming. <i>Frontiers in Plant Science</i> , 2021, 12, 636709.	3.6	57
11	Potential metabolic mechanisms for inhibited chloroplast nitrogen assimilation under high CO <sub>2</sub> . <i>Plant Physiology</i> , 2021, 187, 1812-1833.	4.8	9
12	Canopy occupation volume as an indicator of canopy photosynthetic capacity. <i>New Phytologist</i> , 2021, 232, 941-956.	7.3	26
13	The coordination of major events in C4 photosynthesis evolution in the genus <i>Flaveria</i> . <i>Scientific Reports</i> , 2021, 11, 15618.	3.3	12
14	Estimating uncertainty: A Bayesian approach to modelling photosynthesis in C <sub>3</sub> leaves. <i>Plant, Cell and Environment</i> , 2021, 44, 1436-1450.	5.7	6
15	Enhanced photosynthetic nitrogen use efficiency and increased nitrogen allocation to photosynthetic machinery under cotton domestication. <i>Photosynthesis Research</i> , 2021, 150, 239-250.	2.9	19
16	Decomposition analysis on soybean productivity increase under elevated CO <sub>2</sub> using 3-D canopy model reveals synergistic effects of CO <sub>2</sub> and light in photosynthesis. <i>Annals of Botany</i> , 2020, 126, 601-614.	2.9	15
17	An in situ approach to characterizing photosynthetic gas exchange of rice panicle. <i>Plant Methods</i> , 2020, 16, 92.	4.3	27
18	Photosynthetic and transcriptomic responses of two C4 grass species with different NaCl tolerance. <i>Journal of Plant Physiology</i> , 2020, 253, 153244.	3.5	7

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19	Contrasting Responses of Plastid Terminal Oxidase Activity Under Salt Stress in Two C4 Species With Different Salt Tolerance. <i>Frontiers in Plant Science</i> , 2020, 11, 1009.	3.6	9
20	Concurrent Increases in Leaf Temperature With Light Accelerate Photosynthetic Induction in Tropical Tree Seedlings. <i>Frontiers in Plant Science</i> , 2020, 11, 1216.	3.6	10
21	What Matters for C4 Transporters: Evolutionary Changes of Phosphoenolpyruvate Transporter for C4 Photosynthesis. <i>Frontiers in Plant Science</i> , 2020, 11, 935.	3.6	4
22	A wish list for synthetic biology in photosynthesis research. <i>Journal of Experimental Botany</i> , 2020, 71, 2219-2225.	4.8	31
23	Overexpression of maize transcription factor mEmBP-1 increases photosynthesis, biomass, and yield in rice. <i>Journal of Experimental Botany</i> , 2020, 71, 4944-4957.	4.8	22
24	Dissection of mechanisms for high yield in two elite rice cultivars. <i>Field Crops Research</i> , 2019, 241, 107563.	5.1	10
25	Systems models, phenomics and genomics: three pillars for developing high-yielding photosynthetically efficient crops. <i>In Silico Plants</i> , 2019, 1, .	1.9	16
26	Genome-wide association study identifies variation of glucosidase being linked to natural variation of the maximal quantum yield of photosystem II. <i>Physiologia Plantarum</i> , 2019, 166, 105-119.	5.2	17
27	A three-dimensional canopy photosynthesis model in rice with a complete description of the canopy architecture, leaf physiology, and mechanical properties. <i>Journal of Experimental Botany</i> , 2019, 70, 2479-2490.	4.8	36
28	Changes in the photosynthesis properties and photoprotection capacity in rice ( <i>Oryza sativa</i> ) grown under red, blue, or white light. <i>Photosynthesis Research</i> , 2019, 139, 107-121.	2.9	54
29	Measuring Canopy Gas Exchange Using CANopy Photosynthesis and Transpiration Systems (CAPTS). <i>Methods in Molecular Biology</i> , 2018, 1770, 69-81.	0.9	8
30	Can miscanthus C <sub>4</sub> photosynthesis compete with festulolium C <sub>3</sub> photosynthesis in a temperate climate?. <i>GCB Bioenergy</i> , 2017, 9, 18-30.	5.6	14
31	Cyclic electron flow may provide some protection against PSII photoinhibition in rice ( <i>Oryza sativa</i> L.) leaves under heat stress. <i>Journal of Plant Physiology</i> , 2017, 211, 138-146.	3.5	39
32	A user-friendly means to scale from the biochemistry of photosynthesis to whole crop canopies and production in time and space – development of Java WIMOVAC. <i>Plant, Cell and Environment</i> , 2017, 40, 51-55.	5.7	9
33	Altered expression profiles of microRNA families during de-etiolation of maize and rice leaves. <i>BMC Research Notes</i> , 2017, 10, 108.	1.4	7
34	Development of a Three-Dimensional Ray-Tracing Model of Sugarcane Canopy Photosynthesis and Its Application in Assessing Impacts of Varied Row Spacing. <i>Bioenergy Research</i> , 2017, 10, 626-634.	3.9	31
35	Source-sink interaction: a century old concept under the light of modern molecular systems biology. <i>Journal of Experimental Botany</i> , 2017, 68, 4417-4431.	4.8	128
36	Kinetic Modeling of Photorespiration. <i>Methods in Molecular Biology</i> , 2017, 1653, 203-216.	0.9	2

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37	Leaf Photosynthetic Parameters Related to Biomass Accumulation in a Global Rice Diversity Survey. <i>Plant Physiology</i> , 2017, 175, 248-258.	4.8	85
38	Components of mesophyll resistance and their environmental responses: A theoretical modelling analysis. <i>Plant, Cell and Environment</i> , 2017, 40, 2729-2742.	5.7	38
39	The impact of modifying photosystem antenna size on canopy photosynthetic efficiency—Development of a new canopy photosynthesis model scaling from metabolism to canopy level processes. <i>Plant, Cell and Environment</i> , 2017, 40, 2946-2957.	5.7	81
40	C <sub>4</sub> photosynthesis in C <sub>3</sub> rice: a theoretical analysis of biochemical and anatomical factors. <i>Plant, Cell and Environment</i> , 2017, 40, 80-94.	5.7	36
41	Systems analysis of cis-regulatory motifs in C <sub>4</sub> photosynthesis genes using maize and rice leaf transcriptomic data during a process of de-etiolation. <i>Journal of Experimental Botany</i> , 2016, 67, 5105-5117.	4.8	31
42	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. <i>Frontiers in Plant Science</i> , 2016, 7, 383.	3.6	22
43	A mathematical model of the photosynthetic carbon metabolism has multiple steady states under the same parameter conditions. <i>Acta Mathematicae Applicatae Sinica</i> , 2016, 32, 591-604.	0.7	1
44	The transcriptome of NaCl-treated <i>Limonium bicolor</i> leaves reveals the genes controlling salt secretion of salt gland. <i>Plant Molecular Biology</i> , 2016, 91, 241-256.	3.9	102
45	Perspectives for a better understanding of the metabolic integration of photorespiration within a complex plant primary metabolism network. <i>Journal of Experimental Botany</i> , 2016, 67, 3015-3026.	4.8	98
46	Plants <i>in silico</i> : why, why now and what?—an integrative platform for plant systems biology research. <i>Plant, Cell and Environment</i> , 2016, 39, 1049-1057.	5.7	66
47	The influence of leaf anatomy on the internal light environment and photosynthetic electron transport rate: exploration with a new leaf ray tracing model. <i>Journal of Experimental Botany</i> , 2016, 67, 6021-6035.	4.8	102
48	Enhanced limonene production in cyanobacteria reveals photosynthesis limitations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 14225-14230.	7.1	152
49	CMIP: a software package capable of reconstructing genome-wide regulatory networks using gene expression data. <i>BMC Bioinformatics</i> , 2016, 17, 535.	2.6	26
50	Photosynthetic and agronomic traits of an elite hybrid rice Y-Liang-You 900 with a record-high yield. <i>Field Crops Research</i> , 2016, 187, 49-57.	5.1	44
51	A new canopy photosynthesis and transpiration measurement system (CAPTS) for canopy gas exchange research. <i>Agricultural and Forest Meteorology</i> , 2016, 217, 101-107.	4.8	43
52	Transcriptome comparisons shed light on the pre-condition and potential barrier for C <sub>4</sub> photosynthesis evolution in eudicots. <i>Plant Molecular Biology</i> , 2016, 91, 193-209.	3.9	2
53	Evidence for the role of transposons in the recruitment of cis-regulatory motifs during the evolution of C <sub>4</sub> photosynthesis. <i>BMC Genomics</i> , 2016, 17, 201.	2.8	25
54	Developmental Genetic Mechanisms of C <sub>4</sub> Syndrome Based on Transcriptome Analysis of C <sub>3</sub> Cotyledons and C <sub>4</sub> Assimilating Shoots in <i>Haloxylon ammodendron</i> . <i>PLoS ONE</i> , 2015, 10, e0117175.	2.5	38

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55	Meeting the Global Food Demand of the Future by Engineering Crop Photosynthesis and Yield Potential. <i>Cell</i> , 2015, 161, 56-66.	28.9	755
56	Comparative transcriptome analysis of developmental stages of the <i>Sida acuta</i> leaf generates insights into salt gland differentiation. <i>Plant, Cell and Environment</i> , 2015, 38, 1637-1657.	5.7	134
57	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. <i>Journal of Plant Physiology</i> , 2015, 177, 128-138.	3.5	35
58	Melatonin delays leaf senescence and enhances salt stress tolerance in rice. <i>Journal of Pineal Research</i> , 2015, 59, 91-101.	7.4	272
59	The Benefits of Photorespiratory Bypasses: How Can They Work? <i>Plant Physiology</i> , 2015, 167, 574-585.	4.8	76
60	RNA-Seq based phylogeny recapitulates previous phylogeny of the genus <i>Flaveria</i> (Asteraceae) with some modifications. <i>BMC Evolutionary Biology</i> , 2015, 15, 116.	3.2	46
61	An analysis of ozone damage to historical maize and soybean yields in the United States. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 14390-14395.	7.1	159
62	Photosynthesis: The Final Frontier. <i>CSA News</i> , 2014, 59, 12-13.	0.0	3
63	Gene and genome duplications and the origin of C4 photosynthesis: Birth of a trait in the Cleomaceae. <i>Current Plant Biology</i> , 2014, 1, 2-9.	4.7	46
64	Was low CO2 a driving force of C4 evolution: Arabidopsis responses to long-term low CO2 stress. <i>Journal of Experimental Botany</i> , 2014, 65, 3657-3667.	4.8	51
65	Reconstruction of gene regulatory network related to photosynthesis in <i>Arabidopsis thaliana</i> . <i>Frontiers in Plant Science</i> , 2014, 5, 273.	3.6	19
66	Three distinct biochemical subtypes of C4 photosynthesis? A modelling analysis. <i>Journal of Experimental Botany</i> , 2014, 65, 3567-3578.	4.8	161
67	Major alterations in transcript profiles between C3 and C4 photosynthesis of an amphibious species <i>Eleocharis baldwinii</i> . <i>Plant Molecular Biology</i> , 2014, 86, 93-110.	3.9	14
68	Optimal crop canopy architecture to maximise canopy photosynthetic CO2 uptake under elevated CO2: a theoretical study using a mechanistic model of canopy photosynthesis. <i>Functional Plant Biology</i> , 2013, 40, 108.	2.1	179
69	A model of chlorophyll a fluorescence induction kinetics with explicit description of structural constraints of individual photosystem II units. <i>Photosynthesis Research</i> , 2013, 117, 339-354.	2.9	33
70	C3 photosynthesis: a comprehensive dynamic mechanistic model of C3 photosynthesis: from light capture to sucrose synthesis. <i>Plant, Cell and Environment</i> , 2013, 36, 1711-1727.	5.7	118
71	Whole transcriptome analysis using next-generation sequencing of model species <i>Setaria viridis</i> to support C4 photosynthesis research. <i>Plant Molecular Biology</i> , 2013, 83, 77-87.	3.9	53
72	Opinion: Prospects for improving photosynthesis by altering leaf anatomy. <i>Plant Science</i> , 2012, 197, 92-101.	3.6	115

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73	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
74	Elements of a dynamic systems model of canopy photosynthesis. Current Opinion in Plant Biology, 2012, 15, 237-244.	7.1	83
75	Raising yield potential of wheat. II. Increasing photosynthetic capacity and efficiency. Journal of Experimental Botany, 2011, 62, 453-467.	4.8	511
76	A parameter condition for ruling out multiple equilibria of the photosynthetic carbon metabolism. Asian Journal of Control, 2011, 13, 611-624.	3.0	5
77	Improving Photosynthetic Efficiency for Greater Yield. Annual Review of Plant Biology, 2010, 61, 235-261.	18.7	1,410
78	Systems-level modelingâ€”A new approach for engineering efficient photosynthetic machinery. Journal of Biotechnology, 2010, 149, 201-208.	3.8	4
79	C4 Rice â€” an Ideal Arena for Systems Biology Research. Journal of Integrative Plant Biology, 2010, 52, 762-770.	8.5	54
80	Identifying cooperative transcription factors by combining ChIP-chip data and knockout data. Cell Research, 2010, 20, 1276-1278.	12.0	23
81	Analysis on steady states of photosynthetic carbon metabolic system. , 2009, , .		2
82	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
83	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
84	Coupling Cyberinfrastructure and Geographic Information Systems to Empower Ecological and Environmental Research. BioScience, 2008, 58, 94-95.	4.9	29
85	Can improvement in photosynthesis increase crop yields?. Plant, Cell and Environment, 2006, 29, 315-330.	5.7	1,236