Susanne von Caemmerer

List of Publications by Year
in descending order

96 papers	10,576 citations	28274 55 h-index	38395 95 g-index
106 all docs	106 docs citations	106 times ranked	8051 citing authors

#	Article	IF	Citations
1	Redesigning photosynthesis to sustainably meet global food and bioenergy demand. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 8529-8536.	7.1	751
2	Temperature Response of Mesophyll Conductance. Implications for the Determination of Rubisco Enzyme Kinetics and for Limitations to Photosynthesis in Vivo. Plant Physiology, 2002, 130, 1992-1998.	4.8	659
3	The kinetics of ribulose-1,5-bisphosphate carboxylase/oxygenase in vivo inferred from measurements of photosynthesis in leaves of transgenic tobacco. Planta, 1994, 195, 88-97.	3.2	366
4	A roadmap for improving the representation of photosynthesis in Earth system models. New Phytologist, 2017, 213, 22-42.	7.3	365
5	The C(4) pathway: an efficient CO(2) pump. Photosynthesis Research, 2003, 77, 191-207.	2.9	337
6	Sensitivity of plants to changing atmospheric <scp>CO</scp>₂ concentration: from the geological past to the next century. New Phytologist, 2013, 197, 1077-1094.	7.3	336
7	The Development of C ₄ Rice: Current Progress and Future Challenges. Science, 2012, 336, 1671-1672.	12.6	306
8	Estimating mesophyll conductance to CO2: methodology, potential errors, and recommendations. Journal of Experimental Botany, 2009, 60, 2217-2234.	4.8	289
9	Temperature responses of mesophyll conductance differ greatly between species. Plant, Cell and Environment, 2015, 38, 629-637.	5.7	271
10	Reduction of Ribulose-1,5-Bisphosphate Carboxylase/Oxygenase Content by Antisense RNA Reduces Photosynthesis in Transgenic Tobacco Plants. Plant Physiology, 1992, 98, 294-302.	4.8	259
11	Models of Photosynthesis. Plant Physiology, 2001, 125, 42-45.	4.8	251
12	Quantifying impacts of enhancing photosynthesis on crop yield. Nature Plants, 2019, 5, 380-388.	9.3	226
13	Faster Rubisco Is the Key to Superior Nitrogen-Use Efficiency in NADP-Malic Enzyme Relative to NAD-Malic Enzyme C4 Grasses. Plant Physiology, 2005, 137, 638-650.	4.8	223
14	The relationship between steady-state gas exchange of bean leaves and the levels of carbon-reduction-cycle intermediates. Planta, 1984, 160, 305-313.	3.2	200
15	Carboxysome encapsulation of the CO2-fixing enzyme Rubisco in tobacco chloroplasts. Nature Communications, 2018, 9, 3570.	12.8	196
16	Temperature response of carbon isotope discrimination and mesophyll conductance in tobacco. Plant, Cell and Environment, 2013, 36, 745-756.	5.7	193
17	The cyanobacterial CCM as a source of genes for improving photosynthetic CO2 fixation in crop species. Journal of Experimental Botany, 2013, 64, 753-768.	4.8	178
18	Steadyâ€state models of photosynthesis. Plant, Cell and Environment, 2013, 36, 1617-1630.	5.7	177

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19	Stomatal conductance does not correlate with photosynthetic capacity in transgenic tobacco with reduced amounts of Rubisco. Journal of Experimental Botany, 2004, 55, 1157-1166.	4.8	145
20	Effects of growth and measurement light intensities on temperature dependence of CO₂assimilation rate in tobacco leaves. Plant, Cell and Environment, 2010, 33, 332-343.	5.7	144
21	The Roles of ATP Synthase and the Cytochrome <i>b</i> Â6/<i>f</i> Complexes in Limiting Chloroplast Electron Transport and Determining Photosynthetic Capacity Â Â. Plant Physiology, 2011, 155, 956-962.	4.8	144
22	C4 Photosynthesis at Low Temperature. A Study Using Transgenic Plants with Reduced Amounts of Rubisco. Plant Physiology, 2003, 132, 1577-1585.	4.8	139
23	Specific reduction of chloroplast glyceraldehyde-3-phosphate dehydrogenase activity by antisense RNA reduces CO2 assimilation via a reduction in ribulose bisphosphate regeneration in transgenic tobacco plants. Planta, 1995, 195, 369-378.	3.2	135
24	Modeling C4 Photosynthesis. , 1999, , 173-211.		135
25	On the road to C₄ rice: advances and perspectives. Plant Journal, 2020, 101, 940-950.	5.7	133
26	Using tunable diode laser spectroscopy to measure carbon isotope discrimination and mesophyll conductance to CO₂ diffusion dynamically at different CO₂ concentrations. Plant, Cell and Environment, 2011, 34, 580-591.	5.7	132
27	Directed Mutation of the Rubisco Large Subunit of Tobacco Influences Photorespiration and Growth. Plant Physiology, 1999, 121, 579-588.	4.8	131
28	Strategies for improving C4 photosynthesis. Current Opinion in Plant Biology, 2016, 31, 125-134.	7.1	119
29	Light and CO2 do not affect the mesophyll conductance to CO2 diffusion in wheat leaves. Journal of Experimental Botany, 2009, 60, 2291-2301.	4.8	117
30	The Prospect of Using Cyanobacterial Bicarbonate Transporters to Improve Leaf Photosynthesis in C3 Crop Plants. Plant Physiology, 2011, 155, 20-26.	4.8	117
31	Growth of the C4 dicot Flaveria bidentis: photosynthetic acclimation to low light through shifts in leaf anatomy and biochemistry. Journal of Experimental Botany, 2010, 61, 4109-4122.	4.8	116
32	C4 rice: a challenge for plant phenomics. Functional Plant Biology, 2009, 36, 845.	2.1	115
33	Enhancing C3 Photosynthesis. Plant Physiology, 2010, 154, 589-592.	4.8	113
34	Carbon isotope discrimination as a tool to explore C4 photosynthesis. Journal of Experimental Botany, 2014, 65, 3459-3470.	4.8	110
35	The Catalytic Properties of Hybrid Rubisco Comprising Tobacco Small and Sunflower Large Subunits Mirror the Kinetically Equivalent Source Rubiscos and Can Support Tobacco Growth. Plant Physiology, 2008, 146, 83-96.	4.8	109
36	The relationship between CO2-assimilation rate, Rubisco carbamylation and Rubisco activase content in activase-deficient transgenic tobacco suggests a simple model of activase action. Planta, 1996, 198, 604-613.	3.2	101

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37	The Role of Chloroplast Electron Transport and Metabolites in Modulating Rubisco Activity in Tobacco. Insights from Transgenic Plants with Reduced Amounts of Cytochrome b/fComplex or Glyceraldehyde 3-Phosphate Dehydrogenase. Plant Physiology, 2000, 122, 491-504.	4.8	101
38	Plastid transport and metabolism of C3 and C4 plants â€” comparative analysis and possible biotechnological exploitation. Current Opinion in Plant Biology, 2010, 13, 256-264.	7.1	100
39	The effect of drought on plant water use efficiency of nine NAD - ME and nine NADP - ME Australian C4 grasses. Functional Plant Biology, 2002, 29, 1337.	2.1	99
40	High temperature acclimation of C4photosynthesis is linked to changes in photosynthetic biochemistry. Plant, Cell and Environment, 2007, 30, 53-66.	5.7	97
41	Online <scp>CO</scp>₂ and H₂O oxygen isotope fractionation allows estimation of mesophyll conductance in C₄ plants, and reveals that mesophyll conductance decreases as leaves age in both C₄ and C₃ plants. New Phytologist, 2016, 210, 875-889.	7.3	95
42	Increased heat sensitivity of photosynthesis in tobacco plants with reduced Rubisco activase. Photosynthesis Research, 2001, 67, 147-156.	2.9	92
43	Overexpression of the Rieske FeS protein of the Cytochrome b6f complex increases C4 photosynthesis in Setaria viridis. Communications Biology, 2019, 2, 314.	4.4	88
44	Differences in Carbon Isotope Discrimination of Three Variants of D-Ribulose-1,5-bisphosphate Carboxylase/Oxygenase Reflect Differences in Their Catalytic Mechanisms. Journal of Biological Chemistry, 2007, 282, 36068-36076.	3.4	87
45	The Role of Phospho<i>enol</i>pyruvate Carboxylase during C4 Photosynthetic Isotope Exchange and Stomatal Conductance. Plant Physiology, 2007, 145, 1006-1017.	4.8	87
46	C4 photosynthetic isotope exchange in NAD-ME- and NADP-ME-type grasses. Journal of Experimental Botany, 2008, 59, 1695-1703.	4.8	87
47	Installation of C₄ photosynthetic pathway enzymes in rice using a single construct. Plant Biotechnology Journal, 2021, 19, 575-588.	8.3	78
48	Some relationships between contents of photosynthetic intermediates and the rate of photosynthetic carbon assimilation in leaves of Zea mays L.. Planta, 1989, 178, 258-266.	3.2	75
49	The relationship between contents of photosynthetic metabolites and the rate of photosynthetic carbon assimilation in leaves of Amaranthus edulis L.. Planta, 1988, 174, 253-262.	3.2	69
50	Carbonic Anhydrase and Its Influence on Carbon Isotope Discrimination during C4 Photosynthesis. Insights from Antisense RNA in Flaveria bidentis. Plant Physiology, 2006, 141, 232-242.	4.8	69
51	The interplay between limiting processes in C3 photosynthesis studied by rapid-response gas exchange using transgenic tobacco impaired in photosynthesis. Functional Plant Biology, 1998, 25, 859.	2.1	68
52	The Metabolite Pathway between Bundle Sheath and Mesophyll: Quantification of Plasmodesmata in Leaves of C₃ and C₄ Monocots. Plant Cell, 2016, 28, 1461-1471.	6.6	67
53	Reductions of Rubisco Activase by Antisense RNA in the C4 Plant Flaveria bidentis Reduces Rubisco Carbamylation and Leaf Photosynthesis. Plant Physiology, 2005, 137, 747-755.	4.8	61
54	Photosynthesis is strongly reduced by antisense suppression of chloroplastic cytochrome bf complex in transgenic tobacco. Functional Plant Biology, 1998, 25, 445.	2.1	60

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55	Stomatal responses to CO₂ during a diel Crassulacean acid metabolism cycle in <i>Kalanchoe daigremontiana</i> and <i>Kalanchoe pinnata</i>. Plant, Cell and Environment, 2009, 32, 567-576.	5.7	60
56	Functional Analysis of Corn Husk Photosynthesis Â. Plant Physiology, 2011, 156, 503-513.	4.8	59
57	Rubisco activity is associated with photosynthetic thermotolerance in a wild rice (<i>Oryza) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 5	5.2	59
58	Coupled response of stomatal and mesophyll conductance to light enhances photosynthesis of shade leaves under sunflecks. Plant, Cell and Environment, 2016, 39, 2762-2773.	5.7	55
59	NDH-Mediated Cyclic Electron Flow Around Photosystem I is Crucial for C₄Photosynthesis. Plant and Cell Physiology, 2016, 57, 2020-2028.	3.1	53
60	Effects of reduced carbonic anhydrase activity on CO₂assimilation rates in<i>Setaria viridis</i>: a transgenic analysis. Journal of Experimental Botany, 2017, 68, 299-310.	4.8	52
61	Expression of Tobacco Carbonic Anhydrase in the C4Dicot Flaveria bidentis Leads to Increased Leakiness of the Bundle Sheath and a Defective CO2-Concentrating Mechanism. Plant Physiology, 1998, 117, 1071-1081.	4.8	49
62	Rubisco carboxylase/oxygenase: From the enzyme to the globe: A gas exchange perspective. Journal of Plant Physiology, 2020, 252, 153240.	3.5	49
63	Targeted Knockdown of<i>GDCH</i>in Rice Leads to a Photorespiratory-Deficient Phenotype Useful as a Building Block for C₄Rice. Plant and Cell Physiology, 2016, 57, 919-932.	3.1	48
64	Rubisco: the consequences of altering its expression and activation in transgenic plants. Journal of Experimental Botany, 1995, 46, 1293-1300.	4.8	47
65	Discrimination in the Dark. Resolving the Interplay between Metabolic and Physical Constraints to Phosphoenolpyruvate Carboxylase Activity during the Crassulacean Acid Metabolism Cycle. Plant Physiology, 2007, 143, 1055-1067.	4.8	47
66	Antisense Reduction of NADP-Malic Enzyme in <i>Flaveria bidentis</i> Reduces Flow of CO2 through the C4 Cycle Â. Plant Physiology, 2012, 160, 1070-1080.	4.8	36
67	Antisense reductions in the PsbO protein of photosystem II leads to decreased quantum yield but similar maximal photosynthetic rates. Journal of Experimental Botany, 2012, 63, 4781-4795.	4.8	36
68	Multiple mechanisms for enhanced plasmodesmata density in disparate subtypes of C4 grasses. Journal of Experimental Botany, 2018, 69, 1135-1145.	4.8	36
69	Carbon isotope discrimination as a diagnostic tool for C₄photosynthesis in C₃-C₄intermediate species. Journal of Experimental Botany, 2016, 67, 3109-3121.	4.8	33
70	Expression of a CO2-permeable aquaporin enhances mesophyll conductance in the C4 species Setaria viridis. ELife, 2021, 10, .	6.0	33
71	A wish list for synthetic biology in photosynthesis research. Journal of Experimental Botany, 2020, 71, 2219-2225.	4.8	31
72	Chapter 8 Nitrogen and Water Use Efficiency of C4 Plants. Advances in Photosynthesis and Respiration, 2010, , 129-146.	1.0	31

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73	Photosynthesis: ancient, essential, complex, diverse â€¦ and in need of improvement in a changing world. New Phytologist, 2017, 213, 43-47.	7.3	30
74	Single cell C4 photosynthesis in aquatic and terrestrial plants: A gas exchange perspective. Aquatic Botany, 2014, 118, 71-80.	1.6	29
75	Light Quality Affects Chloroplast Electron Transport Rates Estimated from Chl Fluorescence Measurements. Plant and Cell Physiology, 2017, 58, 1652-1660.	3.1	28
76	Short-term thermal photosynthetic responses of C4 grasses are independent of the biochemical subtype. Journal of Experimental Botany, 2017, 68, 5583-5597.	4.8	28
77	Diffusion of CO₂ across the Mesophyll-Bundle Sheath Cell Interface in a C₄ Plant with Genetically Reduced PEP Carboxylase Activity. Plant Physiology, 2018, 178, 72-81.	4.8	27
78	Carbon Isotope Discrimination during C4 Photosynthesis: Insights from Transgenic Plants. Functional Plant Biology, 1997, 24, 487.	2.1	25
79	Elevated CO2 increases the leaf temperature of two glasshouse-grown C4 grasses. Functional Plant Biology, 2002, 29, 1377.	2.1	24
80	High temperature enhances inhibitor production but reduces fallover in tobacco Rubisco. Functional Plant Biology, 2006, 33, 921.	2.1	24
81	CO ₂ diffusion in tobacco: a link between mesophyll conductance and leaf anatomy. Interface Focus, 2021, 11, 20200040.	3.0	21
82	Updating the steady-state model of C4 photosynthesis. Journal of Experimental Botany, 2021, 72, 6003-6017.	4.8	21
83	C₄photosynthesis: 50 years of discovery and innovation. Journal of Experimental Botany, 2017, 68, 97-102.	4.8	20
84	Transgenic maize phosphoenolpyruvate carboxylase alters leafâ€œatmosphere CO2 and 13CO2 exchanges in Oryza sativa. Photosynthesis Research, 2019, 142, 153-167.	2.9	20
85	Bundle sheath suberisation is required for C4 photosynthesis in a Setaria viridis mutant. Communications Biology, 2021, 4, 254.	4.4	19
86	Knockdown of glycine decarboxylase complex alters photorespiratory carbon isotope fractionation in Oryza sativa leaves. Journal of Experimental Botany, 2019, 70, 2773-2786.	4.8	17
87	Response of plasmodesmata formation in leaves of C₄ grasses to growth irradiance. Plant, Cell and Environment, 2019, 42, 2482-2494.	5.7	17
88	Upregulation of bundle sheath electron transport capacity under limiting light in C₄<i>Setaria viridis</i>. Plant Journal, 2021, 106, 1443-1454.	5.7	15
89	Exploiting transplastomically modified Rubisco to rapidly measure natural diversity in its carbon isotope discrimination using tuneable diode laser spectroscopy. Journal of Experimental Botany, 2014, 65, 3759-3767.	4.8	13
90	A low CO2-responsive mutant of <i>Setaria viridis</i> reveals that reduced carbonic anhydrase limits C4 photosynthesis. Journal of Experimental Botany, 2021, 72, 3122-3136.	4.8	13

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91	The crucial roles of mitochondria in supporting C₄ photosynthesis. New Phytologist, 2022, 233, 1083-1096.	7.3	11
92	Mesophyll conductance is unaffected by expression of Arabidopsis <i>PIP1</i> aquaporins in the plasmalemma of <i>Nicotiana</i>. Journal of Experimental Botany, 2022, 73, 3625-3636.	4.8	10
93	A single <scp>promoterâ€TALE</scp> system for tissueâ€specific and tuneable expression of multiple genes in rice. Plant Biotechnology Journal, 2022, 20, 1786-1806.	8.3	6
94	A sorghum (Sorghum bicolor) mutant with altered carbon isotope ratio. PLoS ONE, 2017, 12, e0179567.	2.5	5
95	Dark respiration rates are not determined by differences in mitochondrial capacity, abundance and ultrastructure in C₄ leaves. Plant, Cell and Environment, 2022, 45, 1257-1269.	5.7	5
96	Future Research into C4Biology. Plant and Cell Physiology, 2016, 57, 879-880.	3.1	2