Robert Edward Sharwood

List of Publications by Year
in descending order

48 papers	2,592 citations	201674 27 h-index	223800 46 g-index
51 all docs	51 docs citations	51 times ranked	2358 citing authors

#	Article	IF	Citations
1	Carboxysome encapsulation of the CO2-fixing enzyme Rubisco in tobacco chloroplasts. Nature Communications, 2018, 9, 3570.	12.8	196
2	Large variation in the Rubisco kinetics of diatoms reveals diversity among their carbon-concentrating mechanisms. Journal of Experimental Botany, 2016, 67, 3445-3456.	4.8	176
3	Overexpression of Rubisco subunits with RAF1 increases Rubisco content in maize. Nature Plants, 2018, 4, 802-810.	9.3	143
4	Engineering chloroplasts to improve Rubisco catalysis: prospects for translating improvements into food and fiber crops. New Phytologist, 2017, 213, 494-510.	7.3	136
5	Isoleucine 309 acts as a C ₄ catalytic switch that increases ribulose-1,5-bisphosphate carboxylase/oxygenase (rubisco) carboxylation rate in <i>Flaveria</i>. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 14688-14693.	7.1	129
6	<i>Rht18</i> Semidwarfism in Wheat Is Due to Increased <i>GA 2-oxidaseA9</i> Expression and Reduced GA Content. Plant Physiology, 2018, 177, 168-180.	4.8	128
7	Temperature responses of Rubisco from Paniceae grasses provide opportunities for improving C3 photosynthesis. Nature Plants, 2016, 2, 16186.	9.3	115
8	Using Deubiquitylating Enzymes as Research Tools. Methods in Enzymology, 2005, 398, 540-554.	1.0	114
9	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
10	Prospects for improving CO2 fixation in C3-crops through understanding C4-Rubisco biogenesis and catalytic diversity. Current Opinion in Plant Biology, 2016, 31, 135-142.	7.1	86
11	Construction of a tobacco master line to improve Rubisco engineering in chloroplasts. Journal of Experimental Botany, 2008, 59, 1909-1921.	4.8	81
12	Improved analysis of C₄and C₃photosynthesis via refined<i>in vitro</i>assays of their carbon fixation biochemistry. Journal of Experimental Botany, 2016, 67, 3137-3148.	4.8	81
13	Modifying Plant Photosynthesis and Growth via Simultaneous Chloroplast Transformation of Rubisco Large and Small Subunits. Plant Cell, 2020, 32, 2898-2916.	6.6	79
14	Chloroplast RNase J compensates for inefficient transcription termination by removal of antisense RNA. Rna, 2011, 17, 2165-2176.	3.5	68
15	Photosynthetic flexibility in maize exposed to salinity and shade. Journal of Experimental Botany, 2014, 65, 3715-3724.	4.8	68
16	Photosynthesis of C3, C3â€"C4, and C4 grasses at glacial CO2. Journal of Experimental Botany, 2014, 65, 3669-3681.	4.8	67
17	The RNA-binding proteins CSP41a and CSP41b may regulate transcription and translation of chloroplast-encoded RNAs in Arabidopsis. Plant Molecular Biology, 2009, 69, 541-552.	3.9	63
18	The role of Rubisco kinetics and pyrenoid morphology in shaping the CCM of haptophyte microalgae. Journal of Experimental Botany, 2017, 68, 3959-3969.	4.8	54

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19	Photons to food: genetic improvement of cereal crop photosynthesis. Journal of Experimental Botany, 2020, 71, 2226-2238.	4.8	54
20	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
21	Photosynthetic capacity and leaf nitrogen decline along a controlled climate gradient in provenances of two widely distributed <i>Eucalyptus</i> species. Global Change Biology, 2018, 24, 4626-4644.	9.5	47
22	Shade compromises the photosynthetic efficiency of NADP-ME less than that of PEP-CK and NAD-ME C4 grasses. Journal of Experimental Botany, 2018, 69, 3053-3068.	4.8	42
23	Linked Rubisco Subunits Can Assemble into Functional Oligomers without Impeding Catalytic Performance. Journal of Biological Chemistry, 2007, 282, 3809-3818.	3.4	40
24	Rubisco Oligomers Composed of Linked Small and Large Subunits Assemble in Tobacco Plastids and Have Higher Affinities for CO2 and O2 Â Â Â Â. Plant Physiology, 2009, 149, 1887-1895.	4.8	39
25	Variations in nitrogen use efficiency reflect the biochemical subtype while variations in water use efficiency reflect the evolutionary lineage of C₄ grasses at interâ€glacial CO₂. Plant, Cell and Environment, 2016, 39, 514-526.	5.7	36
26	Overaccumulation of the chloroplast antisense RNA AS5 is correlated with decreased abundance of 5S rRNA in vivo and inefficient 5S rRNA maturation in vitro. Rna, 2011, 17, 230-243.	3.5	34
27	The role of leaf width and conductances to <scp>CO</scp>₂ in determining water use efficiency in C₄ grasses. New Phytologist, 2019, 223, 1280-1295.	7.3	34
28	Expression of a CO2-permeable aquaporin enhances mesophyll conductance in the C4 species Setaria viridis. ELife, 2021, 10, .	6.0	33
29	Linking photosynthesis and leaf N allocation under future elevated CO2and climate warming inEucalyptus globulus. Journal of Experimental Botany, 2017, 68, erw484.	4.8	32
30	RNase J participates in a pentatricopeptide repeat protein-mediated 5â€² end maturation of chloroplast mRNAs. Nucleic Acids Research, 2013, 41, 9141-9151.	14.5	29
31	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
32	Increased Rubisco content in maize mitigates chilling stress and speeds recovery. Plant Biotechnology Journal, 2020, 18, 1409-1420.	8.3	28
33	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
34	The Rubisco Chaperone BSD2 May Regulate Chloroplast Coverage in Maize Bundle Sheath Cells. Plant Physiology, 2017, 175, 1624-1633.	4.8	21
35	Impacts of growth temperature, water deficit and heatwaves on carbon assimilation and growth of cotton plants (Gossypium hirsutum L.). Environmental and Experimental Botany, 2020, 179, 104204.	4.2	16
36	Mining for allelic gold: finding genetic variation in photosynthetic traits in crops and wild relatives. Journal of Experimental Botany, 2022, 73, 3085-3108.	4.8	16

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37	Plastid Transformation for Rubisco Engineering and Protocols for Assessing Expression. Methods in Molecular Biology, 2014, 1132, 245-262.	0.9	14
38	Investigating the NAD-ME biochemical pathway within C4 grasses using transcript and amino acid variation in C4 photosynthetic genes. Photosynthesis Research, 2018, 138, 233-248.	2.9	13
39	Synthetic biology and opportunities within agricultural crops. , 2022, 1, 89-107.		13
40	Loss of the Chloroplast Transit Peptide from an Ancestral C₃ Carbonic Anhydrase Is Associated with C₄ Evolution in the Grass Genus <i>Neurachne</i>. Plant Physiology, 2017, 173, 1648-1658.	4.8	12
41	Correlating <scp>R</scp>ubisco catalytic and sequence diversity within <scp>C</scp>₃ plants with changes in atmospheric <scp>CO</scp>₂ concentrations. Plant, Cell and Environment, 2014, 37, 1981-1984.	5.7	11
42	Elucidating the role of SWEET13 in phloem loading of the C₄ grass <i>Setaria viridis</i>. Plant Journal, 2022, 109, 615-632.	5.7	7
43	Rubisco Engineering by Plastid Transformation and Protocols for Assessing Expression. Methods in Molecular Biology, 2021, 2317, 195-214.	0.9	5
44	A step forward to building an algal pyrenoid in higher plants. New Phytologist, 2017, 214, 496-499.	7.3	4
45	Mix-and-match Rubisco subunits. Nature Plants, 2020, 6, 1199-1200.	9.3	4
46	Chapter 11 Engineering Photosynthetic CO2 Assimilation to Develop New Crop Varieties to Cope with Future Climates. Advances in Photosynthesis and Respiration, 2021, , 333-354.	1.0	2
47	Chapter 19 Engineering the Sunflower Rubisco Subunits into Tobacco Chloroplasts: New Considerations. Advances in Photosynthesis and Respiration, 2010, , 285-306.	1.0	2
48	Rubisco Extraction and Purification from Diatoms. Bio-protocol, 2017, 7, e2191.	0.4	0