Alistair Rogers

List of Publications by Year
in descending order

86 papers	12,412 citations	47006 47 h-index	53230 85 g-index
97 all docs	97 docs citations	97 times ranked	12734 citing authors

#	Article	IF	Citations
1	The response of photosynthesis and stomatal conductance to rising [CO2]: mechanisms and environmental interactions. Plant, Cell and Environment, 2007, 30, 258-270.	5.7	1,810
2	RISING ATMOSPHERIC CARBON DIOXIDE: Plants FACE the Future. Annual Review of Plant Biology, 2004, 55, 591-628.	18.7	1,472
3	Elevated CO2 effects on plant carbon, nitrogen, and water relations: six important lessons from FACE. Journal of Experimental Botany, 2009, 60, 2859-2876.	4.8	1,343
4	TRY plant trait database â€“ enhanced coverage and open access. Global Change Biology, 2020, 26, 119-188.	9.5	1,038
5	Photosynthesis, Productivity, and Yield of Maize Are Not Affected by Open-Air Elevation of CO2 Concentration in the Absence of Drought. Plant Physiology, 2006, 140, 779-790.	4.8	451
6	Optimal stomatal behaviour around the world. Nature Climate Change, 2015, 5, 459-464.	18.8	397
7	A roadmap for improving the representation of photosynthesis in Earth system models. New Phytologist, 2017, 213, 22-42.	7.3	365
8	Testing the â€œsourceâ€“sinkâ€•hypothesis of down-regulation of photosynthesis in elevated [CO2] in the field with single gene substitutions in Glycine max. Agricultural and Forest Meteorology, 2004, 122, 85-94.	4.8	311
9	How can we make plants grow faster? A sourceâ€“sink perspective on growth rate. Journal of Experimental Botany, 2016, 67, 31-45.	4.8	228
10	Will Elevated Carbon Dioxide Concentration Amplify the Benefits of Nitrogen Fixation in Legumes?. Plant Physiology, 2009, 151, 1009-1016.	4.8	220
11	The use and misuse of V c,max in Earth System Models. Photosynthesis Research, 2014, 119, 15-29.	2.9	205
12	Acclimation of Photosynthesis to Elevated CO2under Low-Nitrogen Nutrition Is Affected by the Capacity for Assimilate Utilization. Perennial Ryegrass under Free-Air CO2 Enrichment. Plant Physiology, 1998, 118, 683-689.	4.8	190
13	Leaf photosynthesis and carbohydrate dynamics of soybeans grown throughout their life-cycle under Free-Air Carbon dioxide Enrichment. Plant, Cell and Environment, 2004, 27, 449-458.	5.7	182
14	Is stimulation of leaf photosynthesis by elevated carbon dioxide concentration maintained in the long term? A test with Lolium perenne grown for 10 years at two nitrogen fertilization levels under F ree A ir C O2 E nrichment (FACE). Plant, Cell and Environment, 2003, 26, 705-714.	5.7	172
15	Increased C availability at elevated carbon dioxide concentration improves N assimilation in a legume. Plant, Cell and Environment, 2006, 29, 1651-1658.	5.7	172
16	Acclimation and adaptation components of the temperature dependence of plant photosynthesis at the global scale. New Phytologist, 2019, 222, 768-784.	7.3	171
17	Targets for Crop Biotechnology in a Future High-CO₂ and High-O₃ World. Plant Physiology, 2008, 147, 13-19.	4.8	164
18	A test of the â€˜oneâ€point methodâ€™ for estimating maximum carboxylation capacity from fieldâ€measured, lightâ€saturated photosynthesis. New Phytologist, 2016, 210, 1130-1144.	7.3	159

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19	Next generation of elevated [CO₂] experiments with crops: a critical investment for feeding the future world. Plant, Cell and Environment, 2008, 31, 1317-1324.	5.7	154
20	Global photosynthetic capacity is optimized to the environment. Ecology Letters, 2019, 22, 506-517.	6.4	153
21	The Effects of Elevated CO2 Concentration on Soybean Gene Expression. An Analysis of Growing and Mature Leaves. Plant Physiology, 2006, 142, 135-147.	4.8	142
22	Photosynthetic acclimation of Pinus taeda (loblolly pine) to long-term growth in elevated p CO2 (FACE). Plant, Cell and Environment, 2002, 25, 851-858.	5.7	132
23	Hourly and seasonal variation in photosynthesis and stomatal conductance of soybean grown at future CO2and ozone concentrations for 3 years under fully open-air field conditions. Plant, Cell and Environment, 2006, 29, 2077-2090.	5.7	132
24	A mechanistic evaluation of photosynthetic acclimation at elevated CO2. Global Change Biology, 2000, 6, 1005-1011.	9.5	123
25	Anthropogenic Changes in Tropospheric Composition Increase Susceptibility of Soybean to Insect Herbivory. Environmental Entomology, 2005, 34, 479-485.	1.4	115
26	Parallel determination of enzyme activities and in vivo fluxes in Brassica napus embryos grown on organic or inorganic nitrogen source. Phytochemistry, 2007, 68, 2232-2242.	2.9	106
27	Does elevated atmospheric [CO2] alter diurnal C uptake and the balance of C and N metabolites in growing and fully expanded soybean leaves?. Journal of Experimental Botany, 2006, 58, 579-591.	4.8	102
28	Connecting genes, coexpression modules, and molecular signatures to environmental stress phenotypes in plants. BMC Systems Biology, 2008, 2, 16.	3.0	102
29	Growth at elevated ozone or elevated carbon dioxide concentration alters antioxidant capacity and response to acute oxidative stress in soybean (Glycine max). Journal of Experimental Botany, 2011, 62, 2667-2678.	4.8	100
30	Poplar and its Bacterial Endophytes: Coexistence and Harmony. Critical Reviews in Plant Sciences, 2009, 28, 346-358.	5.7	97
31	Globalâ€scale environmental control of plant photosynthetic capacity. Ecological Applications, 2015, 25, 2349-2365.	3.8	95
32	A global scale mechanistic model of photosynthetic capacity (LUNA V1.0). Geoscientific Model Development, 2016, 9, 587-606.	3.6	88
33	From the Arctic to the tropics: multibiome prediction of leaf mass per area using leaf reflectance. New Phytologist, 2019, 224, 1557-1568.	7.3	86
34	Benchmarking and parameter sensitivity of physiological and vegetation dynamics using the Functionally Assembled Terrestrial Ecosystem Simulator (FATES) at Barro Colorado Island, Panama. Biogeosciences, 2020, 17, 3017-3044.	3.3	82
35	A best-practice guide to predicting plant traits from leaf-level hyperspectral data using partial least squares regression. Journal of Experimental Botany, 2021, 72, 6175-6189.	4.8	74
36	The transcriptome of <i>Populus</i> in elevated CO₂ reveals increased anthocyanin biosynthesis during delayed autumnal senescence. New Phytologist, 2010, 186, 415-428.	7.3	73

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37	Spectroscopy can predict key leaf traits associated with sourceâ€"sink balance and carbonâ€"nitrogen status. Journal of Experimental Botany, 2019, 70, 1789-1799.	4.8	72
38	Quantitative Multilevel Analysis of Central Metabolism in Developing Oilseeds of Oilseed Rape during in Vitro Culture. Plant Physiology, 2015, 168, 828-848.	4.8	71
39	Biological processes dominate seasonality of remotely sensed canopy greenness in an Amazon evergreen forest. New Phytologist, 2018, 217, 1507-1520.	7.3	66
40	Variation in acclimation of photosynthesis in Trifolium repens after eight years of exposure to Free Air CO2 Enrichment (FACE). Journal of Experimental Botany, 2003, 54, 2769-2774.	4.8	60
41	The response of stomatal conductance to seasonal drought in tropical forests. Global Change Biology, 2020, 26, 823-839.	9.5	60
42	A global traitâ€based approach to estimate leaf nitrogen functional allocation from observations. Ecological Applications, 2017, 27, 1421-1434.	3.8	59
43	Terrestrial biosphere models underestimate photosynthetic capacity and CO₂ assimilation in the Arctic. New Phytologist, 2017, 216, 1090-1103.	7.3	59
44	Triose phosphate limitation in photosynthesis models reduces leaf photosynthesis and global terrestrial carbon storage. Environmental Research Letters, 2018, 13, 074025.	5.2	56
45	Leaf reflectance spectroscopy captures variation in carboxylation capacity across species, canopy environment and leaf age in lowland moist tropical forests. New Phytologist, 2019, 224, 663-674.	7.3	55
46	Carbon sourceâ€"sink limitations differ between two species with contrasting growth strategies. Plant, Cell and Environment, 2016, 39, 2460-2472.	5.7	53
47	Transcriptomic comparison in the leaves of two aspen genotypes having similar carbon assimilation rates but different partitioning patterns under elevated [CO₂]. New Phytologist, 2009, 182, 891-911.	7.3	50
48	Minirhizotron imaging reveals that nodulation of field-grown soybean is enhanced by free-air CO2 enrichment only when combined with drought stress. Functional Plant Biology, 2013, 40, 137.	2.1	48
49	Inoculation of hybrid poplar with the endophytic bacterium <scp><i>E</i></scp><i>nterobacter</i> sp. 638 increases biomass but does not impact leaf level physiology. GCB Bioenergy, 2012, 4, 364-370.	5.6	47
50	Challenges in elevated CO2 experiments on forests. Trends in Plant Science, 2010, 15, 5-10.	8.8	46
51	Possible explanation of the disparity between the in vitro and in vivo measurements of Rubisco activity: a study in loblolly pine grown in elevated pCO2. Journal of Experimental Botany, 2001, 52, 1555-1561.	4.8	37
52	Gene expression profiling: opening the black box of plant ecosystem responses to global change. Global Change Biology, 2009, 15, 1201-1213.	9.5	35
53	The phenology of leaf quality and its withinâ€canopy variation is essential for accurate modeling of photosynthesis in tropical evergreen forests. Global Change Biology, 2017, 23, 4814-4827.	9.5	33
54	Enzyme Kinetics: Theory and Practice. , 2009, , 71-103.		30

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55	Homoeostatic maintenance of nonstructural carbohydrates during the 2015â€“2016 El NiÃ±o drought across a tropical forest precipitation gradient. Plant, Cell and Environment, 2019, 42, 1705-1714.	5.7	29
56	No evidence for triose phosphate limitation of lightâ€saturated leaf photosynthesis under current atmospheric CO 2 concentration. Plant, Cell and Environment, 2019, 42, 3241-3252.	5.7	25
57	Detection of the metabolic response to drought stress using hyperspectral reflectance. Journal of Experimental Botany, 2021, 72, 6474-6489.	4.8	23
58	Multiâ€hypothesis comparison of Farquhar and Collatz photosynthesis models reveals the unexpected influence of empirical assumptions at leaf and global scales. Global Change Biology, 2021, 27, 804-822.	9.5	22
59	A reporting format for leaf-level gas exchange data and metadata. Ecological Informatics, 2021, 61, 101232.	5.2	22
60	The â€œoneâ€point methodâ€for estimating maximum carboxylation capacity of photosynthesis: A cautionary tale. Plant, Cell and Environment, 2019, 42, 2472-2481.	5.7	21
61	The Response of Foliar Carbohydrates to Elevated [CO2]. , 2006, , 293-308.		21
62	Comparison of gas use efficiency and treatment uniformity in a forest ecosystem exposed to elevated [CO₂] using pure and prediluted freeâ€air CO₂ enrichment technology. Global Change Biology, 2009, 15, 388-395.	9.5	20
63	Stimulation of isoprene emissions and electron transport rates as key mechanisms of thermal tolerance in the tropical species <i>Vismia guianensis</i>. Global Change Biology, 2020, 26, 5928-5941.	9.5	20
64	One Stomatal Model to Rule Them All? Toward Improved Representation of Carbon and Water Exchange in Global Models. Journal of Advances in Modeling Earth Systems, 2022, 14, .	3.8	20
65	Spectroscopy outperforms leaf trait relationships for predicting photosynthetic capacity across different forest types. New Phytologist, 2021, 232, 134-147.	7.3	19
66	Seasonal trends in photosynthesis and leaf traits in scarlet oak. Tree Physiology, 2021, 41, 1413-1424.	3.1	17
67	Source:sink imbalance detected with leafâ€and canopyâ€level spectroscopy in a fieldâ€grown crop. Plant, Cell and Environment, 2021, 44, 2466-2479.	5.7	15
68	Monitoring leaf phenology in moist tropical forests by applying a superpixel-based deep learning method to time-series images of tree canopies. ISPRS Journal of Photogrammetry and Remote Sensing, 2022, 183, 19-33.	11.1	15
69	Terrestrial biosphere models may overestimate Arctic <scp>CO</scp>₂ assimilation if they do not account for decreased quantum yield and convexity at low temperature. New Phytologist, 2019, 223, 167-179.	7.3	14
70	The multi-assumption architecture and testbed (MAAT v1.0): R code for generating ensembles with dynamic model structure and analysis of epistemic uncertainty from multiple sources. Geoscientific Model Development, 2018, 11, 3159-3185.	3.6	13
71	Inhibition of trehalose breakdown increases new carbon partitioning into cellulosic biomass in Nicotiana tabacum. Carbohydrate Research, 2011, 346, 595-601.	2.3	11
72	Nutrient sink limitation constrains growth in two barley species with contrasting growth strategies. Plant Direct, 2018, 2, e00094.	1.9	11

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73	Triose phosphate utilization limitation: an unnecessary complexity in terrestrial biosphere model representation of photosynthesis. New Phytologist, 2021, 230, 17-22.	7.3	11
74	The importance of independent replication of treatments in plant science. Journal of Experimental Botany, 2021, 72, 5270-5274.	4.8	9
75	An improved representation of the relationship between photosynthesis and stomatal conductance leads to more stable estimation of conductance parameters and improves the goodnessâ€ofâ€fit across diverse data sets. Global Change Biology, 2022, 28, 3537-3556.	9.5	9
76	Rapid estimation of photosynthetic leaf traits of tropical plants in diverse environmental conditions using reflectance spectroscopy. PLoS ONE, 2021, 16, e0258791.	2.5	8
77	Late-day measurement of excised branches results in uncertainty in the estimation of two stomatal parameters derived from response curves in<i>Populus deltoides</i>Bartr.ÂÃ—Â<i>Populus nigra</i>L.. Tree Physiology, 2022, 42, 1377-1395.	3.1	8
78	A Guide to Using GitHub for Developing and Versioning Data Standards and Reporting Formats. Earth and Space Science, 2021, 8, e2021EA001797.	2.6	7
79	Hydraulic architecture explains species moisture dependency but not mortality rates across a tropical rainfall gradient. Biotropica, 2021, 53, 1213-1225.	1.6	6
80	Reducing model uncertainty of climate change impacts on high latitude carbon assimilation. Global Change Biology, 2022, 28, 1222-1247.	9.5	6
81	Implementation and evaluation of the unified stomatal optimization approach in the Functionally Assembled Terrestrial Ecosystem Simulator (FATES). Geoscientific Model Development, 2022, 15, 4313-4329.	3.6	5
82	Scaling nitrogen and carbon interactions: what are the consequences of biological buffering?. Ecology and Evolution, 2015, 5, 2839-2850.	1.9	4
83	New calculations for photosynthesis measurement systems: what's the impact for physiologists and modelers?. New Phytologist, 2022, 233, 592-598.	7.3	4
84	A zero-power warming chamber for investigating plant responses to rising temperature. Biogeosciences, 2017, 14, 4071-4083.	3.3	3
85	The effects of rising CO₂ concentrations on terrestrial systems: scaling it up. New Phytologist, 2021, 229, 2383-2385.	7.3	3
86	Canopy Position Influences the Degree of Light Suppression of Leaf Respiration in Abundant Tree Genera in the Amazon Forest. Frontiers in Forests and Global Change, 2021, 4, .	2.3	3