

# Alistair Rogers

## List of Publications by Year in descending order

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86  
papers

12,412  
citations

46918

47  
h-index

53109

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 [CO <sub>2</sub> ]: mechanisms and environmental interactions. <i>Plant, Cell and Environment</i> , 2007, 30, 258-270.	2.8	1,810
2	RISING ATMOSPHERIC CARBON DIOXIDE: Plants FACE the Future. <i>Annual Review of Plant Biology</i> , 2004, 55, 591-628.	8.6	1,472
3	Elevated CO <sub>2</sub> effects on plant carbon, nitrogen, and water relations: six important lessons from FACE. <i>Journal of Experimental Botany</i> , 2009, 60, 2859-2876.	2.4	1,343
4	TRY plant trait database “ enhanced coverage and open access. <i>Global Change Biology</i> , 2020, 26, 119-188.	4.2	1,038
5	Photosynthesis, Productivity, and Yield of Maize Are Not Affected by Open-Air Elevation of CO <sub>2</sub> Concentration in the Absence of Drought. <i>Plant Physiology</i> , 2006, 140, 779-790.	2.3	451
6	Optimal stomatal behaviour around the world. <i>Nature Climate Change</i> , 2015, 5, 459-464.	8.1	397
7	A roadmap for improving the representation of photosynthesis in Earth system models. <i>New Phytologist</i> , 2017, 213, 22-42.	3.5	365
8	Testing the “source” sink hypothesis of down-regulation of photosynthesis in elevated [CO <sub>2</sub> ] in the field with single gene substitutions in <i>Glycine max</i> . <i>Agricultural and Forest Meteorology</i> , 2004, 122, 85-94.	1.9	311
9	How can we make plants grow faster? A source “sink perspective on growth rate. <i>Journal of Experimental Botany</i> , 2016, 67, 31-45.	2.4	228
10	Will Elevated Carbon Dioxide Concentration Amplify the Benefits of Nitrogen Fixation in Legumes?. <i>Plant Physiology</i> , 2009, 151, 1009-1016.	2.3	220
11	The use and misuse of V <sub>c,max</sub> in Earth System Models. <i>Photosynthesis Research</i> , 2014, 119, 15-29.	1.6	205
12	Acclimation of Photosynthesis to Elevated CO <sub>2</sub> under Low-Nitrogen Nutrition Is Affected by the Capacity for Assimilate Utilization. <i>Perennial Ryegrass under Free-Air CO<sub>2</sub> Enrichment</i> . <i>Plant Physiology</i> , 1998, 118, 683-689.	2.3	190
13	Leaf photosynthesis and carbohydrate dynamics of soybeans grown throughout their life-cycle under Free-Air Carbon dioxide Enrichment. <i>Plant, Cell and Environment</i> , 2004, 27, 449-458.	2.8	182
14	Is stimulation of leaf photosynthesis by elevated carbon dioxide concentration maintained in the long term? A test with <i>Lolium perenne</i> grown for 10 years at two nitrogen fertilization levels under Free Air CO <sub>2</sub> Enrichment (FACE). <i>Plant, Cell and Environment</i> , 2003, 26, 705-714.	2.8	172
15	Increased C availability at elevated carbon dioxide concentration improves N assimilation in a legume. <i>Plant, Cell and Environment</i> , 2006, 29, 1651-1658.	2.8	172
16	Acclimation and adaptation components of the temperature dependence of plant photosynthesis at the global scale. <i>New Phytologist</i> , 2019, 222, 768-784.	3.5	171
17	Targets for Crop Biotechnology in a Future High-CO <sub>2</sub> and High-O <sub>3</sub> World. <i>Plant Physiology</i> , 2008, 147, 13-19.	2.3	164
18	A test of the “one” point method™ for estimating maximum carboxylation capacity from field-measured, light-saturated photosynthesis. <i>New Phytologist</i> , 2016, 210, 1130-1144.	3.5	159

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19	Next generation of elevated [CO <sub>2</sub> ] experiments with crops: a critical investment for feeding the future world. <i>Plant, Cell and Environment</i> , 2008, 31, 1317-1324.	2.8	154
20	Global photosynthetic capacity is optimized to the environment. <i>Ecology Letters</i> , 2019, 22, 506-517.	3.0	153
21	The Effects of Elevated CO <sub>2</sub> Concentration on Soybean Gene Expression. An Analysis of Growing and Mature Leaves. <i>Plant Physiology</i> , 2006, 142, 135-147.	2.3	142
22	Photosynthetic acclimation of <i>Pinus taeda</i> (loblolly pine) to long-term growth in elevated p CO <sub>2</sub> (FACE). <i>Plant, Cell and Environment</i> , 2002, 25, 851-858.	2.8	132
23	Hourly and seasonal variation in photosynthesis and stomatal conductance of soybean grown at future CO <sub>2</sub> and ozone concentrations for 3 years under fully open-air field conditions. <i>Plant, Cell and Environment</i> , 2006, 29, 2077-2090.	2.8	132
24	A mechanistic evaluation of photosynthetic acclimation at elevated CO <sub>2</sub> . <i>Global Change Biology</i> , 2000, 6, 1005-1011.	4.2	123
25	Anthropogenic Changes in Tropospheric Composition Increase Susceptibility of Soybean to Insect Herbivory. <i>Environmental Entomology</i> , 2005, 34, 479-485.	0.7	115
26	Parallel determination of enzyme activities and in vivo fluxes in <i>Brassica napus</i> embryos grown on organic or inorganic nitrogen source. <i>Phytochemistry</i> , 2007, 68, 2232-2242.	1.4	106
27	Does elevated atmospheric [CO <sub>2</sub> ] alter diurnal C uptake and the balance of C and N metabolites in growing and fully expanded soybean leaves?. <i>Journal of Experimental Botany</i> , 2006, 58, 579-591.	2.4	102
28	Connecting genes, coexpression modules, and molecular signatures to environmental stress phenotypes in plants. <i>BMC Systems Biology</i> , 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 ( <i>Glycine max</i> ). <i>Journal of Experimental Botany</i> , 2011, 62, 2667-2678.	2.4	100
30	Poplar and its Bacterial Endophytes: Coexistence and Harmony. <i>Critical Reviews in Plant Sciences</i> , 2009, 28, 346-358.	2.7	97
31	Global-scale environmental control of plant photosynthetic capacity. <i>Ecological Applications</i> , 2015, 25, 2349-2365.	1.8	95
32	A global scale mechanistic model of photosynthetic capacity (LUNA V1.0). <i>Geoscientific Model Development</i> , 2016, 9, 587-606.	1.3	88
33	From the Arctic to the tropics: multi biome prediction of leaf mass per area using leaf reflectance. <i>New Phytologist</i> , 2019, 224, 1557-1568.	3.5	86
34	Benchmarking and parameter sensitivity of physiological and vegetation dynamics using the Functionally Assembled Terrestrial Ecosystem Simulator (FATES) at Barro Colorado Island, Panama. <i>Biogeosciences</i> , 2020, 17, 3017-3044.	1.3	82
35	A best-practice guide to predicting plant traits from leaf-level hyperspectral data using partial least squares regression. <i>Journal of Experimental Botany</i> , 2021, 72, 6175-6189.	2.4	74
36	The transcriptome of <i>Populus</i> in elevated CO <sub>2</sub> reveals increased anthocyanin biosynthesis during delayed autumnal senescence. <i>New Phytologist</i> , 2010, 186, 415-428.	3.5	73

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37	Spectroscopy can predict key leaf traits associated with source-sink balance and carbon-nitrogen status. <i>Journal of Experimental Botany</i> , 2019, 70, 1789-1799.	2.4	72
38	Quantitative Multilevel Analysis of Central Metabolism in Developing Oilseeds of Oilseed Rape during in Vitro Culture. <i>Plant Physiology</i> , 2015, 168, 828-848.	2.3	71
39	Biological processes dominate seasonality of remotely sensed canopy greenness in an Amazon evergreen forest. <i>New Phytologist</i> , 2018, 217, 1507-1520.	3.5	66
40	Variation in acclimation of photosynthesis in <i>Trifolium repens</i> after eight years of exposure to Free Air CO <sub>2</sub> Enrichment (FACE). <i>Journal of Experimental Botany</i> , 2003, 54, 2769-2774.	2.4	60
41	The response of stomatal conductance to seasonal drought in tropical forests. <i>Global Change Biology</i> , 2020, 26, 823-839.	4.2	60
42	A global trait-based approach to estimate leaf nitrogen functional allocation from observations. <i>Ecological Applications</i> , 2017, 27, 1421-1434.	1.8	59
43	Terrestrial biosphere models underestimate photosynthetic capacity and CO <sub>2</sub> assimilation in the Arctic. <i>New Phytologist</i> , 2017, 216, 1090-1103.	3.5	59
44	Triose phosphate limitation in photosynthesis models reduces leaf photosynthesis and global terrestrial carbon storage. <i>Environmental Research Letters</i> , 2018, 13, 074025.	2.2	56
45	Leaf reflectance spectroscopy captures variation in carboxylation capacity across species, canopy environment and leaf age in lowland moist tropical forests. <i>New Phytologist</i> , 2019, 224, 663-674.	3.5	55
46	Carbon source-sink limitations differ between two species with contrasting growth strategies. <i>Plant, Cell and Environment</i> , 2016, 39, 2460-2472.	2.8	53
47	Transcriptomic comparison in the leaves of two aspen genotypes having similar carbon assimilation rates but different partitioning patterns under elevated [CO <sub>2</sub> ]. <i>New Phytologist</i> , 2009, 182, 891-911.	3.5	50
48	Minirhizotron imaging reveals that nodulation of field-grown soybean is enhanced by free-air CO <sub>2</sub> enrichment only when combined with drought stress. <i>Functional Plant Biology</i> , 2013, 40, 137.	1.1	48
49	Inoculation of hybrid poplar with the endophytic bacterium <i>Enterobacter</i> sp. 638 increases biomass but does not impact leaf level physiology. <i>GCB Bioenergy</i> , 2012, 4, 364-370.	2.5	47
50	Challenges in elevated CO <sub>2</sub> experiments on forests. <i>Trends in Plant Science</i> , 2010, 15, 5-10.	4.3	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 pCO <sub>2</sub> . <i>Journal of Experimental Botany</i> , 2001, 52, 1555-1561.	2.4	37
52	Gene expression profiling: opening the black box of plant ecosystem responses to global change. <i>Global Change Biology</i> , 2009, 15, 1201-1213.	4.2	35
53	The phenology of leaf quality and its within-canopy variation is essential for accurate modeling of photosynthesis in tropical evergreen forests. <i>Global Change Biology</i> , 2017, 23, 4814-4827.	4.2	33
54	Enzyme Kinetics: Theory and Practice. , 2009, , 71-103.		30

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55	Homeostatic maintenance of nonstructural carbohydrates during the 2015–2016 El Niño drought across a tropical forest precipitation gradient. <i>Plant, Cell and Environment</i> , 2019, 42, 1705-1714.	2.8	29
56	No evidence for triose phosphate limitation of light-saturated leaf photosynthesis under current atmospheric CO <sub>2</sub> concentration. <i>Plant, Cell and Environment</i> , 2019, 42, 3241-3252.	2.8	25
57	Detection of the metabolic response to drought stress using hyperspectral reflectance. <i>Journal of Experimental Botany</i> , 2021, 72, 6474-6489.	2.4	23
58	Multi-hypothesis comparison of Farquhar and Collatz photosynthesis models reveals the unexpected influence of empirical assumptions at leaf and global scales. <i>Global Change Biology</i> , 2021, 27, 804-822.	4.2	22
59	A reporting format for leaf-level gas exchange data and metadata. <i>Ecological Informatics</i> , 2021, 61, 101232.	2.3	22
60	The ‘one-point method’ for estimating maximum carboxylation capacity of photosynthesis: A cautionary tale. <i>Plant, Cell and Environment</i> , 2019, 42, 2472-2481.	2.8	21
61	The Response of Foliar Carbohydrates to Elevated [CO <sub>2</sub> ]., 2006, , 293-308.		21
62	Comparison of gas use efficiency and treatment uniformity in a forest ecosystem exposed to elevated [CO <sub>2</sub> ] using pure and prediluted free-air CO <sub>2</sub> enrichment technology. <i>Global Change Biology</i> , 2009, 15, 388-395.	4.2	20
63	Stimulation of isoprene emissions and electron transport rates as key mechanisms of thermal tolerance in the tropical species <i>Vismia guianensis</i> . <i>Global Change Biology</i> , 2020, 26, 5928-5941.	4.2	20
64	One Stomatal Model to Rule Them All? Toward Improved Representation of Carbon and Water Exchange in Global Models. <i>Journal of Advances in Modeling Earth Systems</i> , 2022, 14, .	1.3	20
65	Spectroscopy outperforms leaf trait relationships for predicting photosynthetic capacity across different forest types. <i>New Phytologist</i> , 2021, 232, 134-147.	3.5	19
66	Seasonal trends in photosynthesis and leaf traits in scarlet oak. <i>Tree Physiology</i> , 2021, 41, 1413-1424.	1.4	17
67	Source:sink imbalance detected with leaf- and canopy-level spectroscopy in a field-grown crop. <i>Plant, Cell and Environment</i> , 2021, 44, 2466-2479.	2.8	15
68	Monitoring leaf phenology in moist tropical forests by applying a superpixel-based deep learning method to time-series images of tree canopies. <i>ISPRS Journal of Photogrammetry and Remote Sensing</i> , 2022, 183, 19-33.	4.9	15
69	Terrestrial biosphere models may overestimate Arctic CO <sub>2</sub> assimilation if they do not account for decreased quantum yield and convexity at low temperature. <i>New Phytologist</i> , 2019, 223, 167-179.	3.5	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. <i>Geoscientific Model Development</i> , 2018, 11, 3159-3185.	1.3	13
71	Inhibition of trehalose breakdown increases new carbon partitioning into cellulosic biomass in <i>Nicotiana tabacum</i> . <i>Carbohydrate Research</i> , 2011, 346, 595-601.	1.1	11
72	Nutrient sink limitation constrains growth in two barley species with contrasting growth strategies. <i>Plant Direct</i> , 2018, 2, e00094.	0.8	11

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73	Triose phosphate utilization limitation: an unnecessary complexity in terrestrial biosphere model representation of photosynthesis. <i>New Phytologist</i> , 2021, 230, 17-22.	3.5	11
74	The importance of independent replication of treatments in plant science. <i>Journal of Experimental Botany</i> , 2021, 72, 5270-5274.	2.4	9
75	An improved representation of the relationship between photosynthesis and stomatal conductance leads to more stable estimation of conductance parameters and improves the goodness-of-fit across diverse data sets. <i>Global Change Biology</i> , 2022, 28, 3537-3556.	4.2	9
76	Rapid estimation of photosynthetic leaf traits of tropical plants in diverse environmental conditions using reflectance spectroscopy. <i>PLoS ONE</i> , 2021, 16, e0258791.	1.1	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. – <i>Populus nigra</i> L.. <i>Tree Physiology</i> , 2022, 42, 1377-1395.	1.4	8
78	A Guide to Using GitHub for Developing and Versioning Data Standards and Reporting Formats. <i>Earth and Space Science</i> , 2021, 8, e2021EA001797.	1.1	7
79	Hydraulic architecture explains species moisture dependency but not mortality rates across a tropical rainfall gradient. <i>Biotropica</i> , 2021, 53, 1213-1225.	0.8	6
80	Reducing model uncertainty of climate change impacts on high latitude carbon assimilation. <i>Global Change Biology</i> , 2022, 28, 1222-1247.	4.2	6
81	Implementation and evaluation of the unified stomatal optimization approach in the Functionally Assembled Terrestrial Ecosystem Simulator (FATES). <i>Geoscientific Model Development</i> , 2022, 15, 4313-4329.	1.3	5
82	Scaling nitrogen and carbon interactions: what are the consequences of biological buffering?. <i>Ecology and Evolution</i> , 2015, 5, 2839-2850.	0.8	4
83	New calculations for photosynthesis measurement systems: what's the impact for physiologists and modelers?. <i>New Phytologist</i> , 2022, 233, 592-598.	3.5	4
84	A zero-power warming chamber for investigating plant responses to rising temperature. <i>Biogeosciences</i> , 2017, 14, 4071-4083.	1.3	3
85	The effects of rising CO <sub>2</sub> concentrations on terrestrial systems: scaling it up. <i>New Phytologist</i> , 2021, 229, 2383-2385.	3.5	3
86	Canopy Position Influences the Degree of Light Suppression of Leaf Respiration in Abundant Tree Genera in the Amazon Forest. <i>Frontiers in Forests and Global Change</i> , 2021, 4, .	1.0	3