

Alexandra Weigelt

List of Publications by Year in descending order

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Version: 2024-02-01

90
papers

9,946
citations

50276

46
h-index

48315

88
g-index

95
all docs

95
docs citations

95
times ranked

10816
citing authors

#	ARTICLE	IF	CITATIONS
1	High plant diversity is needed to maintain ecosystem services. <i>Nature</i> , 2011, 477, 199-202.	27.8	1,195
2	Biodiversity increases the resistance of ecosystem productivity to climate extremes. <i>Nature</i> , 2015, 526, 574-577.	27.8	1,032
3	Bottom-up effects of plant diversity on multitrophic interactions in a biodiversity experiment. <i>Nature</i> , 2010, 468, 553-556.	27.8	786
4	The fungal collaboration gradient dominates the root economics space in plants. <i>Science Advances</i> , 2020, 6, .	10.3	377
5	Plant species richness and functional composition driveoveryielding in a six-year grassland experiment. <i>Ecology</i> , 2009, 90, 3290-3302.	3.2	317
6	Biodiversity effects on ecosystem functioning in a 15-year grassland experiment: Patterns, mechanisms, and open questions. <i>Basic and Applied Ecology</i> , 2017, 23, 1-73.	2.7	307
7	Multiple facets of biodiversity drive the diversity-stability relationship. <i>Nature Ecology and Evolution</i> , 2018, 2, 1579-1587.	7.8	296
8	Root traits as drivers of plant and ecosystem functioning: current understanding, pitfalls and future research needs. <i>New Phytologist</i> , 2021, 232, 1123-1158.	7.3	277
9	Predicting ecosystem stability from community composition and biodiversity. <i>Ecology Letters</i> , 2013, 16, 617-625.	6.4	251
10	The Future of Complementarity: Disentangling Causes from Consequences. <i>Trends in Ecology and Evolution</i> , 2019, 34, 167-180.	8.7	246
11	Persistence of dissolved organic matter explained by molecular changes during its passage through soil. <i>Nature Geoscience</i> , 2019, 12, 755-761.	12.9	230
12	A starting guide to root ecology: strengthening ecological concepts and standardising root classification, sampling, processing and trait measurements. <i>New Phytologist</i> , 2021, 232, 973-1122.	7.3	216
13	Plant-soil feedbacks: role of plant functional group and plant traits. <i>Journal of Ecology</i> , 2016, 104, 1608-1617.	4.0	213
14	Plant diversity and root traits benefit physical properties key to soil function in grasslands. <i>Ecology Letters</i> , 2016, 19, 1140-1149.	6.4	211
15	Grassland Resistance and Resilience after Drought Depends on Management Intensity and Species Richness. <i>PLoS ONE</i> , 2012, 7, e36992.	2.5	177
16	Plant Diversity Surpasses Plant Functional Groups and Plant Productivity as Driver of Soil Biota in the Long Term. <i>PLoS ONE</i> , 2011, 6, e16055.	2.5	172
17	Plant diversity effects on grassland productivity are robust to both nutrient enrichment and drought. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2016, 371, 20150277.	4.0	169
18	Long-term study of root biomass in a biodiversity experiment reveals shifts in diversity effects over time. <i>Oikos</i> , 2014, 123, 1528-1536.	2.7	165

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19	Biodiversityâ€“multifunctionality relationships depend on identity and number of measured functions. <i>Nature Ecology and Evolution</i> , 2018, 2, 44-49.	7.8	155
20	An integrated framework of plant form and function: the belowground perspective. <i>New Phytologist</i> , 2021, 232, 42-59.	7.3	153
21	Positive biodiversityâ€“productivity relationship due to increased plant density. <i>Journal of Ecology</i> , 2009, 97, 696-704.	4.0	141
22	Does biodiversity increase spatial stability in plant community biomass?. <i>Ecology Letters</i> , 2008, 11, 338-347.	6.4	120
23	Flooding disturbances increase resource availability and productivity but reduce stability in diverse plant communities. <i>Nature Communications</i> , 2015, 6, 6092.	12.8	116
24	Plant traits alone are poor predictors of ecosystem properties and long-term ecosystem functioning. <i>Nature Ecology and Evolution</i> , 2020, 4, 1602-1611.	7.8	114
25	Identifying populationâ€“and communityâ€“level mechanisms of diversityâ€“stability relationships in experimental grasslands. <i>Journal of Ecology</i> , 2011, 99, 1460-1469.	4.0	105
26	The Jena Experiment: six years of data from a grassland biodiversity experiment. <i>Ecology</i> , 2010, 91, 930-931.	3.2	94
27	The results of biodiversityâ€“ecosystem functioning experiments are realistic. <i>Nature Ecology and Evolution</i> , 2020, 4, 1485-1494.	7.8	93
28	A comparison of the strength of biodiversity effects across multiple functions. <i>Oecologia</i> , 2013, 173, 223-237.	2.0	91
29	Plant diversity effects on aboveground and belowground N pools in temperate grassland ecosystems: Development in the first 5 years after establishment. <i>Global Biogeochemical Cycles</i> , 2011, 25, n/a-n/a.	4.9	90
30	Global root traits (GRooT) database. <i>Global Ecology and Biogeography</i> , 2021, 30, 25-37.	5.8	90
31	Effects of biodiversity strengthen over time as ecosystem functioning declines at low and increases at high biodiversity. <i>Ecosphere</i> , 2016, 7, e01619.	2.2	87
32	Plants are less negatively affected by flooding when growing in speciesâ€“rich plant communities. <i>New Phytologist</i> , 2017, 213, 645-656.	7.3	79
33	Plant diversity does not buffer drought effects on earlyâ€“stage litter mass loss rates and microbial properties. <i>Global Change Biology</i> , 2013, 19, 2795-2803.	9.5	76
34	Belowâ€“ground complementarity effects in a grassland biodiversity experiment are related to deepâ€“rooting species. <i>Journal of Ecology</i> , 2018, 106, 265-277.	4.0	76
35	Identifying mechanisms of competition in multi-species communities. <i>Journal of Ecology</i> , 2007, 95, 53-64.	4.0	75
36	Plant Diversity Impacts Decomposition and Herbivory via Changes in Aboveground Arthropods. <i>PLoS ONE</i> , 2014, 9, e106529.	2.5	73

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37	Biodiversity Effects on Plant Stoichiometry. PLoS ONE, 2013, 8, e58179.	2.5	71
38	Plant species richness and functional groups have different effects on soil water content in a decade-long grassland experiment. Journal of Ecology, 2019, 107, 127-141.	4.0	69
39	Plant diversity effects on forage quality, yield and revenues of semi-natural grasslands. Nature Communications, 2020, 11, 768.	12.8	62
40	Root traits explain plant species distributions along climatic gradients yet challenge the nature of ecological trade-offs. Nature Ecology and Evolution, 2021, 5, 1123-1134.	7.8	62
41	An improved model to predict the effects of changing biodiversity levels on ecosystem function. Journal of Ecology, 2013, 101, 344-355.	4.0	56
42	Plant species diversity affects soil-atmosphere fluxes of methane and nitrous oxide. Oecologia, 2016, 181, 919-930.	2.0	56
43	Plant species richness and functional traits affect community stability after a flood event. Philosophical Transactions of the Royal Society B: Biological Sciences, 2016, 371, 20150276.	4.0	56
44	No Evidence of Complementary Water Use along a Plant Species Richness Gradient in Temperate Experimental Grasslands. PLoS ONE, 2015, 10, e0116367.	2.5	54
45	Below-ground resource partitioning alone cannot explain the biodiversity-ecosystem function relationship: A field test using multiple tracers. Journal of Ecology, 2018, 106, 2002-2018.	4.0	53
46	LCVP, The Leipzig catalogue of vascular plants, a new taxonomic reference list for all known vascular plants. Scientific Data, 2020, 7, 416.	5.3	53
47	N ₂ fixation and performance of 12 legume species in a 6-year grassland biodiversity experiment. Plant and Soil, 2011, 341, 333-348.	3.7	51
48	From pots to plots: hierarchical trait-based prediction of plant performance in a mesic grassland. Journal of Ecology, 2016, 104, 206-218.	4.0	51
49	Dynamic niche partitioning in root water uptake facilitates efficient water use in more diverse grassland plant communities. Functional Ecology, 2018, 32, 214-227.	3.6	51
50	Plant functional group drives the community structure of saprophytic fungi in a grassland biodiversity experiment. Plant and Soil, 2021, 461, 91-105.	3.7	50
51	Biodiversity increases multitrophic energy use efficiency, flow and storage in grasslands. Nature Ecology and Evolution, 2020, 4, 393-405.	7.8	45
52	Plant species richness negatively affects root decomposition in grasslands. Journal of Ecology, 2017, 105, 209-218.	4.0	41
53	Genotypic variability enhances the reproducibility of an ecological study. Nature Ecology and Evolution, 2018, 2, 279-287.	7.8	41
54	Limited evidence for spatial resource partitioning across temperate grassland biodiversity experiments. Ecology, 2020, 101, e02905.	3.2	40

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55	Effects of Plant Diversity, Functional Group Composition, and Fertilization on Soil Microbial Properties in Experimental Grassland. <i>PLoS ONE</i> , 2015, 10, e0125678.	2.5	37
56	Long-term effects of plant diversity and composition on plant stoichiometry. <i>Oikos</i> , 2016, 125, 613-621.	2.7	33
57	Predicting stochastic community dynamics in grasslands under the assumption of competitive symmetry. <i>Journal of Theoretical Biology</i> , 2016, 399, 53-61.	1.7	31
58	Effect of plant diversity on the diversity of soil organic compounds. <i>PLoS ONE</i> , 2017, 12, e0170494.	2.5	31
59	Trait means, trait plasticity and trait differences to other species jointly explain species performances in grasslands of varying diversity. <i>Oikos</i> , 2018, 127, 865-865.	2.7	30
60	Impact of above- and below-ground invertebrates on temporal and spatial stability of grassland of different diversity. <i>Journal of Ecology</i> , 2011, 99, 572-582.	4.0	27
61	Fine root lignin content is well predictable with near-infrared spectroscopy. <i>Scientific Reports</i> , 2019, 9, 6396.	3.3	27
62	Mechanisms behind plant diversity effects on inorganic and organic N leaching from temperate grassland. <i>Biogeochemistry</i> , 2016, 131, 339-353.	3.5	25
63	Predicting species abundances in a grassland biodiversity experiment: Trade-offs between model complexity and generality. <i>Journal of Ecology</i> , 2020, 108, 774-787.	4.0	23
64	Amino acid fingerprint of a grassland soil reflects changes in plant species richness. <i>Plant and Soil</i> , 2010, 334, 353-363.	3.7	22
65	Drought-exposure history increases complementarity between plant species in response to a subsequent drought. <i>Nature Communications</i> , 2022, 13, .	12.8	19
66	Plant diversity enhances production and downward transport of biodegradable dissolved organic matter. <i>Journal of Ecology</i> , 2021, 109, 1284-1297.	4.0	17
67	Plant diversity influenced gross nitrogen mineralization, microbial ammonium consumption and gross inorganic N immobilization in a grassland experiment. <i>Oecologia</i> , 2020, 193, 731-748.	2.0	15
68	Connecting experimental biodiversity research to real-world grasslands. <i>Perspectives in Plant Ecology, Evolution and Systematics</i> , 2018, 33, 78-88.	2.7	15
69	Quantifying resource use complementarity in grassland species: A comparison of different nutrient tracers. <i>Pedobiologia</i> , 2014, 57, 251-256.	1.2	14
70	Interspecific trait differences rather than intraspecific trait variation increase the extent and filling of community trait space with increasing plant diversity in experimental grasslands. <i>Perspectives in Plant Ecology, Evolution and Systematics</i> , 2018, 33, 42-50.	2.7	14
71	Root chemistry and soil fauna, but not soil abiotic conditions explain the effects of plant diversity on root decomposition. <i>Oecologia</i> , 2017, 185, 499-511.	2.0	13
72	Origin context of trait data matters for predictions of community performance in a grassland biodiversity experiment. <i>Ecology</i> , 2018, 99, 1214-1226.	3.2	13

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73	rhizoTrak: a flexible open source Fiji plugin for user-friendly manual annotation of time-series images from minirhizotrons. <i>Plant and Soil</i> , 2019, 444, 519-534.	3.7	13
74	Above- and belowground overyielding are related at the community and species level in a grassland biodiversity experiment. <i>Advances in Ecological Research</i> , 2019, 61, 55-89.	2.7	12
75	msGBS: A new high-throughput approach to quantify the relative species abundance in root samples of multispecies plant communities. <i>Molecular Ecology Resources</i> , 2021, 21, 1021-1036.	4.8	12
76	Biodiversity facets affect community surface temperature via 3D canopy structure in grassland communities. <i>Journal of Ecology</i> , 2021, 109, 1969-1985.	4.0	11
77	Plant structural diversity alters sediment retention on and underneath herbaceous vegetation in a flume experiment. <i>PLoS ONE</i> , 2021, 16, e0248320.	2.5	9
78	Inferring competitive outcomes, ranks and intransitivity from empirical data: A comparison of different methods. <i>Methods in Ecology and Evolution</i> , 2020, 11, 117-128.	5.2	8
79	Leaf area and pubescence drive sedimentation on leaf surfaces during flooding. <i>Oecologia</i> , 2020, 193, 535-545.	2.0	8
80	The iDiv Ecotron – A flexible research platform for multitrophic biodiversity research. <i>Ecology and Evolution</i> , 2021, 11, 15174-15190.	1.9	8
81	Topographical factors related to flooding frequency promote ecosystem multifunctionality of riparian floodplains. <i>Ecological Indicators</i> , 2021, 132, 108312.	6.3	7
82	Ecologically diverse and distinct neighbourhoods trigger persistent phenotypic consequences, and amine metabolic profiling detects them. <i>Journal of Ecology</i> , 2016, 104, 125-137.	4.0	5
83	Ecosystem effects of environmental extremes. <i>Science</i> , 2021, 374, 1442-1443.	12.6	4
84	Management Intensity Modifies Plant Diversity Effects on N Yield and Mineral N in Soil. <i>Soil Science Society of America Journal</i> , 2015, 79, 559-568.	2.2	3
85	Effects of plant species identity override diversity effects in explaining sedimentation within vegetation in a flume experiment. <i>International Review of Hydrobiology</i> , 2022, 107, 108-116.	0.9	3
86	Incorporation of mineral nitrogen into the soil food web as affected by plant community composition. <i>Ecology and Evolution</i> , 2021, 11, 4295-4309.	1.9	2
87	Reply to: “Results from a biodiversity experiment fail to represent economic performance of semi-natural grasslands” <i>Nature Communications</i> , 2021, 12, 2124.	12.8	2
88	Diversity Effects on Canopy Structure Change throughout a Growing Season in Experimental Grassland Communities. <i>Remote Sensing</i> , 2022, 14, 1557.	4.0	2
89	On the hyperbolic competition model: reply. <i>Journal of Ecology</i> , 2007, 95, 601-602.	4.0	0
90	A New and Improved Online Catalogue of all Extant Vascular Plant Names Available. <i>Taxon</i> , 2021, 70, 223-223.	0.7	0