Manuel T Lerdau

List of Publications by Year
in descending order

108 papers	11,303 citations	66343 42 h-index	38395 95 g-index
109 all docs	109 docs citations	109 times ranked	10943 citing authors

#	Article	IF	Citations
1	A global model of natural volatile organic compound emissions. Journal of Geophysical Research, 1995, 100, 8873.	3.3	3,610
2	A unified mechanism of action for volatile isoprenoids in plant abiotic stress. Nature Chemical Biology, 2009, 5, 283-291.	8.0	606
3	Biogenic Hydrocarbons in the Atmospheric Boundary Layer: A Review. Bulletin of the American Meteorological Society, 2000, 81, 1537-1575.	3.3	532
4	Responses of insect pests, pathogens, and invasive plant species to climate change in the forests of northeastern North America: What can we predict?This article is one of a selection of papers from NE Forests 2100: A Synthesis of Climate Change Impacts on Forests of the Northeastern US and Eastern Canada.. Canadian Journal of Forest Research, 2009, 39, 231-248.	1.7	393
5	The Evolution of Function in Plant Secondary Metabolites. International Journal of Plant Sciences, 2003, 164, S93-S102.	1.3	284
6	Isoprene Increases Thermotolerance of Isoprene-Emitting Species. Plant Physiology, 1997, 115, 1413-1420.	4.8	282
7	Response of isoprene emission and carbon metabolism to drought in white poplar (Populus alba) saplings. New Phytologist, 2007, 175, 244-254.	7.3	261
8	Decomposition in tropical forests: a panâ€tropical study of the effects of litter type, litter placement and mesofaunal exclusion across a precipitation gradient. Journal of Ecology, 2009, 97, 801-811.	4.0	256
9	Effects of Nitrogen Deposition on Insect Herbivory: Implications for Community and Ecosystem Processes. Ecosystems, 2004, 7, 109.	3.4	255
10	INVASIVE SPECIES ACCELERATE DECOMPOSITION AND LITTER NITROGEN LOSS IN A MIXED DECIDUOUS FOREST. , 2005, 15, 1263-1272.		232
11	Ecological and evolutionary aspects of isoprene emission from plants. Oecologia, 1999, 118, 109-123.	2.0	214
12	Jasmonic acid induces rapid changes in carbon transport and partitioning in Populus. New Phytologist, 2005, 167, 63-72.	7.3	191
13	Plant Production and Emission of Volatile Organic Compounds. BioScience, 1997, 47, 373-383.	4.9	173
14	Plant chemical defense: monoterpenes and the growth-differentiation balance hypothesis. Trends in Ecology and Evolution, 1994, 9, 58-61.	8.7	133
15	WEATHER EFFECTS ON ISOPRENE EMISSION CAPACITY AND APPLICATIONS IN EMISSIONS ALGORITHMS. , 1999, 9, 1132-1137.		131
16	Biological aspects of constructing volatile organic compound emission inventories. Atmospheric Environment, 1995, 29, 2989-3002.	4.1	128
17	The origin, diversification and adaptation of a major mangrove clade (Rhizophoreae) revealed by whole-genome sequencing. National Science Review, 2017, 4, 721-734.	9.5	118
18	Fine roots, arbuscular mycorrhizal hyphae and soil nutrients in four neotropical rain forests: patterns across large geographic distances. New Phytologist, 2005, 165, 913-921.	7.3	114

#	ARTICLE	IF	CITATIONS
19	Ecological Controls over Monoterpene Emissions from Douglas-Fir (Pseudotsuga Menziesii). Ecology, 1995, 76, 2640-2647.	3.2	112
20	ATMOSPHERIC CHEMISTRY: Enhanced: The NO2 Flux Conundrum. Science, 2000, 289, 2291-2293.	12.6	111
21	Canopy and leaf level 2-methyl-3-buten-2-ol fluxes from a ponderosa pine plantation. Atmospheric Environment, 2000, 34, 3535-3544.	4.1	100
22	Controls on isoprene emission from trees in a subtropical dry forest. Plant, Cell and Environment, 1997, 20, 569-578.	5.7	98
23	Leaf uptake of nitrogen dioxide (NO2) in a tropical wet forest: implications for tropospheric chemistry. Oecologia, 2001, 127, 214-221.	2.0	98
24	Stress-induced changes in carbon sources for isoprene production in Populus deltoides. Plant, Cell and Environment, 2004, 27, 747-755.	5.7	96
25	Kinetics of leaf temperature fluctuation affect isoprene emission from red oak (Quercus rubra) leaves. Tree Physiology, 1999, 19, 917-924.	3.1	93
26	Overexpression of microRNA408 enhances photosynthesis, growth, and seed yield in diverse plants. Journal of Integrative Plant Biology, 2018, 60, 323-340.	8.5	87
27	Tolerance to herbivory, and not resistance, may explain differential success of invasive, naturalized, and native North American temperate vines. Diversity and Distributions, 2008, 14, 169-178.	4.1	83
28	Ecology and evolution of lightâ€dependent and lightâ€independent phytogenic volatile organic carbon. New Phytologist, 2003, 157, 199-211.	7.3	81
29	The Challenge of Attracting Pollinators While Evading FloralÂHerbivores: Patterns of Fragrance Emission in Cirsium arvense and Cirsium repandum (Asteraceae). International Journal of Plant Sciences, 2007, 168, 587-601.	1.3	81
30	Solarâ€induced chlorophyll fluorescence and shortâ€term photosynthetic response to drought. Ecological Applications, 2020, 30, e02101.	3.8	80
31	Benefits of the Carbon-Nutrient Balance Hypothesis. Oikos, 2002, 98, 534-536.	2.7	79
32	Isoprene emission from tropical forest canopy leaves. Global Biogeochemical Cycles, 1999, 13, 19-29.	4.9	76
33	Soil aggregates as biogeochemical reactors and implications for soilâ€“atmosphere exchange of greenhouse gasesâ€"A concept. Global Change Biology, 2019, 25, 373-385.	9.5	76
34	Kudzu (<i>Pueraria montana</i>) invasion doubles emissions of nitric oxide and increases ozone pollution. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 10115-10119.	7.1	73
35	Controls over monoterpene emissions from boreal forest conifers. Tree Physiology, 1997, 17, 563-569.	3.1	72
36	Effects of air pollution on biogenic volatiles and ecological interactions. Oecologia, 2009, 160, 411-420.	2.0	72

#	Article	IF	Citations
37	Forest Invasibility in Communities in Southeastern New York. Biological Invasions, 2004, 6, 393-410.	2.4	69
38	Monoterpene emission from ponderosa pine. Journal of Geophysical Research, 1994, 99, 16609.	3.3	64
39	Tropical deciduous forest: Death of a biome. Trends in Ecology and Evolution, 1991, 6, 201-202.	8.7	63
40	Coordinated resource allocation to plant growthâ€“defense tradeoffs. New Phytologist, 2022, 233, 1051-1066.	7.3	63
41	ECOLOGY: A Positive Feedback with Negative Consequences. Science, 2007, 316, 212-213.	12.6	62
42	Use of carbon-11 in Populus shows that exogenous jasmonic acid increases biosynthesis of isoprene from recently fixed carbon. Plant, Cell and Environment, 2005, 28, 591-602.	5.7	60
43	Trace gas emissions and species-dependent ecosystem services. Trends in Ecology and Evolution, 2002, 17, 309-312.	8.7	55
44	Catabolism of volatile organic compounds influences plant survival. Trends in Plant Science, 2013, 18, 695-703.	8.8	55
45	Plant physiological and environmental controls over the exchange of acetaldehyde between forest canopies and the atmosphere. Biogeosciences, 2008, 5, 1559-1572.	3.3	49
46	Variation in isoprene emission fromQuercus rubra: Sources, causes, and consequences for estimating fluxes. Journal of Geophysical Research, 2005, 110, .	3.3	44
47	Leaf traits and water relations of 12 evergreen species in Costa Rican wet and dry forests: patterns of intra-specific variation across forests and seasons. Plant Ecology, 2010, 211, 133-146.	1.6	44
48	ISOPRENE EMISSION AND PHOTOSYNTHESIS IN A TROPICAL FOREST CANOPY: IMPLICATIONS FOR MODEL DEVELOPMENT. , 1999, 9, 1109-1117.		43
49	DIURNAL VARIATION IN THE BASAL EMISSION RATE OF ISOPRENE. , 2003, 13, 269-278.		41
50	New Directions: VOCs and biosphereâ€“atmosphere feedbacks. Atmospheric Environment, 2001, 35, 189-191.	4.1	40
51	Widespread production of nonmicrobial greenhouse gases in soils. Global Change Biology, 2017, 23, 4472-4482.	9.5	40
52	Variable mating behaviors and the maintenance of tropical biodiversity. Frontiers in Genetics, 2015, 6, 183.	2.3	39
53	The effect of simulated warming on root dynamics and soil microbial community in an alpine meadow of the Qinghai-Tibet Plateau. Applied Soil Ecology, 2017, 116, 30-41.	4.3	38
54	Plant Function and Biogenic Terpene Emission. , 1991, , 121-134.		37

#	Article	IF	Citations
55	Leaf- and shoot-level plasticity in response to different nutrient and water availabilities. Tree Physiology, 2007, 27, 1731-1739.	3.1	37
56	Biodiversity enhancement induced by environmental noise. Journal of Theoretical Biology, 2008, 255, 332-337.	1.7	37
57	Seasonal patterns of acid fluctuations and resource storage in the arborescent cactus Opuntia excelsa in relation to light availability and size. Oecologia, 1992, 92, 166-171.	2.0	35
58	Effects of experimental manipulation of light and nutrients on establishment of seedlings of native and invasive woody species in Long Island, NY forests. Biological Invasions, 2008, 10, 821-831.	2.4	35
59	Forests and ozone: productivity, carbon storage and feedbacks. Scientific Reports, 2016, 6, 22133.	3.3	35
60	INFLUENCES OF TEMPERATURE HISTORY, WATER STRESS, AND NEEDLE AGE ON METHYLBUTENOL EMISSIONS. Ecology, 2003, 84, 765-776.	3.2	34
61	A maximum hypothesis of transpiration. Journal of Geophysical Research, 2007, 112, .	3.3	33
62	Carbon isotope analysis of acetaldehyde emitted from leaves following mechanical stress and anoxia. Plant Biology, 2009, 11, 591-597.	3.8	33
63	Relationship between leaf nitrogen and photosynthetic rate for three NAD-ME and three NADP-ME C4 grasses. American Journal of Botany, 2000, 87, 412-417.	1.7	32
64	Plant and Soil Mediation of Elevated CO2 Impacts on Trace Metals. Ecosystems, 2009, 12, 715-727.	3.4	32
65	Effects of elevated carbon dioxide and nitrogen fertilization on nitrate reductase activity in sweetgum and loblolly pine trees in two temperate forests. Plant and Soil, 2009, 314, 197-210.	3.7	32
66	Allocation Theory and Chemical Defense. , 1997, , 265-277.		32
67	Observing Severe Drought Influences on Ozone Air Pollution in California. Environmental Science & Technology, 2019, 53, 4695-4706.	10.0	30
68	Leaf and root pectin methylesterase activity and ¹³C/¹²C stable isotopic ratio measurements of methanol emissions give insight into methanol production in <i>Lycopersicon esculentum</i>. New Phytologist, 2011, 191, 1031-1040.	7.3	28
69	Defoliation effects on isoprene emission from Populus deltoides. Oecologia, 1999, 118, 333-339.	2.0	26
70	Plantâ˜'Soil Distribution of Potentially Toxic Elements in Response to Elevated Atmospheric CO₂. Environmental Science & Technology, 2011, 45, 2570-2574.	10.0	26
71	The nativeâ€“invasive balance: implications for nutrient cycling in ecosystems. Oecologia, 2013, 173, 319-328.	2.0	26
72	Future Discounts and Resource Allocation in Plants. Functional Ecology, 1992, 6, 371.	3.6	25

#	Article	IF	Citations
73	Pollination in the Anthropocene: a Moth Can Learn Ozone-Altered Floral Blends. Journal of Chemical Ecology, 2020, 46, 987-996.	1.8	25
74	Influence of nutrient availability, stand age, and canopy structure on isoprene flux in aEucalyptus salignaexperimental forest. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	24
75	Thermal history regulates methylbutenol basal emission rate in Pinus ponderosa. Plant, Cell and Environment, 2006, 29, 1298-1308.	5.7	22
76	Sources of Variability in Isoprene Emission and Photosynthesis in Two Species of Tropical Wet Forest Trees1. Biotropica, 2000, 32, 670.	1.6	21
77	The influence of light environment on photosynthesis and basal methylbutenol emission from Pinus ponderosa. Plant, Cell and Environment, 2005, 28, 1463-1474.	5.7	21
78	An individual-based model of forest volatile organic compound emissionsâ€"UVAFME-VOC v1.0. Ecological Modelling, 2017, 350, 69-78.	2.5	20
79	Correlating species and spectral diversities using hyperspectral remote sensing in earlyâ€successional fields. Ecology and Evolution, 2017, 7, 3475-3488.	1.9	17
80	Increased mercury in forest soils under elevated carbon dioxide. Oecologia, 2008, 158, 343-354.	2.0	16
81	Biodiversity matters in feedbacks between climate change and air quality: a study using an individualâ€based model. Ecological Applications, 2018, 28, 1223-1231.	3.8	16
82	High Heterogeneity in Canopy Temperature Among Coâ€occurring Tree Species in a Temperate Forest. Journal of Geophysical Research G: Biogeosciences, 2020, 125, e2020JG005892.	3.0	16
83	Soil bacterial communities in grasslands revegetated using <i>ElymusÂnutans</i> are largely influenced by soil pH and total phosphorus across restoration time. Land Degradation and Development, 2019, 30, 2243-2256.	3.9	15
84	Non-natives: four risk factors. Nature, 2011, 475, 36-37.	27.8	13
85	Sensitivity of global greenhouse gas budgets to tropospheric ozone pollution mediated by the biosphere. Environmental Research Letters, 2017, 12, 084001.	5.2	13
86	Gap models across micro- to mega-scales of time and space: examples of Tansleyâ€™s ecosystem concept. Forest Ecosystems, 2020, 7, .	3.1	12
87	Short term changes in methanol emission and pectin methylesterase activity are not directly affected by light in <i>Lycopersicon esculentum</i>. Biogeosciences, 2011, 8, 1023-1030.	3.3	10
88	Building bottomâ€up aggregateâ€based models (ABMs) in soil systems with a view of aggregates as biogeochemical reactors. Global Change Biology, 2019, 25, e6-e8.	9.5	10
89	Demography and destiny: The syngameon in hyperdiverse systems. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 8105-8105.	7.1	10
90	Measurement report: Variability in the composition of biogenic volatile organic compounds in a Southeastern US forest and their role in atmospheric reactivity. Atmospheric Chemistry and Physics, 2021, 21, 15755-15770.	4.9	10

#	Article	IF	Citations
91	Biogeochemical impacts of the northward expansion of kudzu under climate change: the importance of ecological context. Ecosphere, 2013, 4, 1-15.	2.2	9
92	Complexities between plants and the atmosphere. Nature Geoscience, 2019, 12, 693-694.	12.9	9
93	Insects and ecosystem function. Trends in Ecology and Evolution, 1996, 11, 151.	8.7	7
94	Plants Talk--But Can They Listen?. Science, 2002, 298, 361b-363.	12.6	7
95	Photosynthesis in Forest Canopies. , 2004, , 335-358.		6
96	The Utility of Standardized Tests. Science, 2007, 316, 1694b-1697b.	12.6	5
97	Trade-offs Among Resilience, Robustness, Stability, and Performance and How We Might Study Them. Integrative and Comparative Biology, 2021, , .	2.0	3
98	Response of Seedlings of Tropical Trees to Cool Temperatures Predicted by â€˜Nuclear Winterâ€™ Scenarios. Environmental Conservation, 1990, 17, 337-340.	1.3	2
99	Plant growth and defense: reply to Herms and Mattson. Trends in Ecology and Evolution, 1995, 10, 39.	8.7	2
100	Sources of Variability in Isoprene Emission and Photosynthesis in Two Species of Tropical Wet Forest Trees¹. Biotropica, 2000, 32, 670-676.	1.6	2
101	Atmospheric Chemistry and Hydrocarbon Emissions from Plants. , 1999, 9, 1107-1108.		1
102	INFLUENCES OF TEMPERATURE HISTORY, WATER STRESS, AND NEEDLE AGE ON METHYLBUTENOL EMISSIONS. , 2003, 84, 765.		1
103	Weather Effects on Isoprene Emission Capacity and Applications in Emissions Algorithms. , 1999, 9, 1132.		1
104	The Significance of Aggregation Methods in Functional Group Modeling. Forests, 2021, 12, 1560.	2.1	1
105	Asking half the question in explaining tropical diversity. Trends in Ecology and Evolution, 2022, , .	8.7	1
106	Reply to Gupta and Igamberdiev: Mechanisms and feedbacks in N fixation and NO production. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, E154-E154.	7.1	0
107	Minding (and bridging) the gap between evolutionary ecology and atmospheric biogeochemistry in a study of plant pollinator behaviour. New Phytologist, 2016, 209, 11-12.	7.3	0
108	The complicated legacy of E. O. Wilson with respect to genetics and human behavior. BioEssays, 2022, , 2200034.	2.5	0