N Michele Holbrook

List of Publications by Year
in descending order

129 papers	15,346 citations	18341 62 h-index	19069 119 g-index
155 all docs	155 docs citations	155 times ranked	12905 citing authors

#	Article	IF	Citations
1	Localized measurements of water potential reveal large loss of conductance in living tissues of maize leaves. Plant Physiology, 2024, 194, 2288-2300.	5.1	3
2	New approaches to dissect leaf hydraulics reveal large gradients in living tissues of tomato leaves. New Phytologist, 2024, 242, 453-465.	7.8	3
3	Stereoselective Synthesis of Î², Î³â€‹Fused Bicyclic Î³â€Ureasultams via an Intramolecular Mannich and azaâ€Michael Addition Cascade. Chemistry - A European Journal, 2024, 30, .	3.9	0
4	Elevated atmospheric CO2 has small, species-specific effects on pollen chemistry and plant growth across flowering plant species. Scientific Reports, 2024, 14, .	3.4	0
5	Xylem conduit deformation across vascular plants: anÂevolutionary spandrel or protective valve?. New Phytologist, 2023, 237, 1242-1255.	7.8	10
6	Plant carbohydrate storage: intraâ€•and interâ€specific tradeâ€offs reveal a major life history trait. New Phytologist, 2022, 235, 2211-2222.	7.8	35
7	Sieve tube structural variation in Austrobaileya scandens and its significance for lianescence. Plant, Cell and Environment, 2022, 45, 2460-2475.	6.0	2
8	A minimally disruptive method for measuring water potential in planta using hydrogel nanoreporters. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.6	27
9	A tale to astonish: Ant-Man at the plasmodesmal gates. Journal of Plant Physiology, 2021, 261, 153431.	3.8	0
10	Ecophysiological differentiation between life stages in filmy ferns (Hymenophyllaceae). Journal of Plant Research, 2021, 134, 971-988.	2.4	12
11	Raman spectroscopy reveals high phloem sugar content in leaves of canopy red oak trees. New Phytologist, 2021, 232, 418-424.	7.8	12
12	Changes in ploidy affect vascular allometry and hydraulic function in Mangifera indica trees. Plant Journal, 2021, 108, 541-554.	5.9	13
13	Idioblasts and peltate hairs as distribution networks for water absorbed by xerophilous leaves. Plant, Cell and Environment, 2021, 44, 1346-1360.	6.0	9
14	Wood day capacitance is related to water content, wood density, and anatomy across 30 temperate tree species. Plant, Cell and Environment, 2020, 43, 3048-3067.	6.0	26
15	Leaf Carbon Export and Nonstructural Carbohydrates in Relation to Diurnal Water Dynamics in Mature Oak Trees. Plant Physiology, 2020, 183, 1612-1621.	5.1	31
16	Ontogenetic scaling of phloem sieve tube anatomy and hydraulic resistance with tree height in Quercus rubra. American Journal of Botany, 2020, 107, 852-863.	1.9	18
17	Advanced vascular function discovered in a widespread moss. Nature Plants, 2020, 6, 273-279.	9.4	60
18	Combined influence of soil moisture and atmospheric evaporative demand is important for accurately predicting US maize yields. Nature Food, 2020, 1, 127-133.	10.0	135

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19	Visualizing Embolism Propagation in Gas-Injected Leaves. Plant Physiology, 2019, 180, 874-881.	5.1	11
20	Scaling of phloem hydraulic resistance in stems and leaves of the understory angiosperm shrub Illicium parviflorum. American Journal of Botany, 2019, 106, 244-259.	1.9	8
21	Coordinated responses of plant hydraulic architecture with the reduction of stomatal conductance under elevated CO2 concentration. Tree Physiology, 2018, 38, 1041-1052.	3.2	26
22	Where does MÃ¼nch flow begin? Sucrose transport in the pre-phloem path. Current Opinion in Plant Biology, 2018, 43, 101-107.	7.4	14
23	Comparing different methods for determining forest evapotranspiration and its components at multiple temporal scales. Science of the Total Environment, 2018, 633, 12-29.	8.2	34
24	Iso/Anisohydry: A Plantâ€“Environment Interaction Rather Than a Simple Hydraulic Trait. Trends in Plant Science, 2018, 23, 112-120.	9.1	266
25	Comparing optimal and empirical stomatal conductance models for application in Earth system models. Global Change Biology, 2018, 24, 5708-5723.	9.7	80
26	Editorial overview: Physiology and metabolism: Phloem: a supracellular highway for the transport of sugars, signals, and pathogens. Current Opinion in Plant Biology, 2018, 43, iii-vii.	7.4	14
27	Indocyanine green fluorescence angiography during low anterior resection for low rectal cancer: results of a comparative cohort study. Techniques in Coloproctology, 2018, 22, 535-540.	2.0	49
28	Global Relationships between Cropland Intensification and Summer Temperature Extremes over the Last 50 Years. Journal of Climate, 2017, 30, 7505-7528.	4.2	45
29	Leaf Hydraulic Architecture and Stomatal Conductance: A Functional Perspective. Plant Physiology, 2017, 174, 1996-2007.	5.1	33
30	Divergences in hydraulic architecture form an important basis for niche differentiation between diploid and polyploid Betula species in NE China. Tree Physiology, 2017, 37, 604-616.	3.2	29
31	Maintenance of carbohydrate transport in tall trees. Nature Plants, 2017, 3, 965-972.	9.4	60
32	Stomatal Closure, Basal Leaf Embolism, and Shedding Protect the Hydraulic Integrity of Grape Stems. Plant Physiology, 2017, 174, 764-775.	5.1	169
33	Heterozygous carriers of succinylâ€CoA:3â€oxoacid CoA transferase deficiency can develop severe ketoacidosis. Journal of Inherited Metabolic Disease, 2017, 40, 845-852.	3.7	12
34	Testing the MÃ¼nch hypothesis of long distance phloem transport in plants. ELife, 2016, 5, .	5.9	139
35	Reversible Leaf Xylem Collapse: A Potential â€œCircuit Breakerâ€•against Cavitation Â. Plant Physiology, 2016, 172, 2261-2274.	5.1	85
36	The tomato plastidic fructokinase Sl<scp>FRK</scp>3 plays a role in xylem development. New Phytologist, 2016, 209, 1484-1495.	7.8	35

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37	Cooling of US Midwest summer temperature extremes from cropland intensification. Nature Climate Change, 2016, 6, 317-322.	14.3	205
38	Impacts of elevated atmospheric CO2 on nutrient content of important food crops. Scientific Data, 2015, 2, 150036.	5.4	69
39	Scaling of phloem structure and optimality of photoassimilate transport in conifer needles. Proceedings of the Royal Society B: Biological Sciences, 2015, 282, 20141863.	2.8	26
40	The making of giant pumpkins: how selective breeding changed the phloem of <scp>C</scp>ucurbita maxima from source to sink. Plant, Cell and Environment, 2015, 38, 1543-1554.	6.0	30
41	Easy Come, Easy Go: Capillary Forces Enable Rapid Refilling of Embolized Primary Xylem Vessels. Plant Physiology, 2015, 168, 1636-1647.	5.1	35
42	Water storage dynamics in the main stem of subtropical tree species differing in wood density, growth rate and life history traits. Tree Physiology, 2015, 35, 354-365.	3.2	101
43	Relationship between Hexokinase and the Aquaporin PIP1 in the Regulation of Photosynthesis and Plant Growth. PLoS ONE, 2014, 9, e87888.	2.5	36
44	Seasonal dynamics in photosynthesis of woody plants at the northern limit of Asian tropics: potential role of fog in maintaining tropical rainforests and agriculture in Southwest China. Tree Physiology, 2014, 34, 1069-1078.	3.2	19
45	Reversible Deformation of Transfusion Tracheids in Taxus baccata Is Associated with a Reversible Decrease in Leaf Hydraulic Conductance. Plant Physiology, 2014, 165, 1557-1565.	5.1	40
46	The stability of xylem water under tension: a long, slow spin proves illuminating. Plant, Cell and Environment, 2014, 37, 2652-2653.	6.0	9
47	Leaf hydraulics II: Vascularized tissues. Journal of Theoretical Biology, 2014, 340, 267-284.	1.7	10
48	Increasing CO2 threatens human nutrition. Nature, 2014, 510, 139-142.	36.2	1,099
49	Cavitation and Its Discontents: Opportunities for Resolving Current Controversies Â. Plant Physiology, 2014, 164, 1649-1660.	5.1	79
50	The Physicochemical Hydrodynamics of Vascular Plants. Annual Review of Fluid Mechanics, 2014, 46, 615-642.	25.4	167
51	Leaf hydraulics I: Scaling transport properties from single cells to tissues. Journal of Theoretical Biology, 2014, 340, 251-266.	1.7	17
52	The Competition between Liquid and Vapor Transport in Transpiring Leaves Â Â. Plant Physiology, 2014, 164, 1741-1758.	5.1	111
53	Cutting xylem under tension or supersaturated with gas can generate PLC and the appearance of rapid recovery from embolism. Plant, Cell and Environment, 2013, 36, 1938-1949.	6.0	356
54	Phloem Transport Velocity Varies over Time and among Vascular Bundles during Early Cucumber Seedling Development. Plant Physiology, 2013, 163, 1409-1418.	5.1	50

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55	Polyploidy enhances the occupation of heterogeneous environments through hydraulic related tradeâ€offs inAtriplex canescens(Chenopodiaceae). New Phytologist, 2013, 197, 970-978.	7.8	147
56	Investigating xylem embolism formation, refilling and water storage in tree trunks using frequency domain reflectometry. Journal of Experimental Botany, 2013, 64, 2321-2332.	4.9	103
57	Optimal concentration for sugar transport in plants. Journal of the Royal Society Interface, 2013, 10, 20130055.	3.4	64
58	Modeling the Hydrodynamics of Phloem Sieve Plates. Frontiers in Plant Science, 2012, 3, 151.	3.8	83
59	Measurements of stem xylem hydraulic conductivity in the laboratory and field. Methods in Ecology and Evolution, 2012, 3, 685-694.	5.3	114
60	Hydraulic conductivity of red oak (Quercus rubra L.) leaf tissue does not respond to light. Plant, Cell and Environment, 2011, 34, 565-579.	6.0	31
61	Effects of the hydraulic coupling between xylem and phloem on diurnal phloem diameter variation. Plant, Cell and Environment, 2011, 34, 690-703.	6.0	133
62	Optimality of the MÃ¼nch mechanism for translocation of sugars in plants. Journal of the Royal Society Interface, 2011, 8, 1155-1165.	3.4	76
63	Ecology of hemiepiphytism in fig species is based on evolutionary correlation of hydraulics and carbon economy. Ecology, 2011, 92, 2117-2130.	3.5	54
64	Phenology, Lignotubers, and Water Relations of Cochlospermum vitifolium, a Pioneer Tropical Dry Forest Tree in Costa Rica. Biotropica, 2010, 42, 104-111.	1.6	21
65	Hydraulic properties of fern sporophytes: Consequences for ecological and evolutionary diversification. American Journal of Botany, 2010, 97, 2007-2019.	1.9	70
66	Confronting Maxwell's demon: biophysics of xylem embolism repair. Trends in Plant Science, 2009, 14, 530-534.	9.1	284
67	Tensioning the helix: a mechanism for force generation in twining plants. Proceedings of the Royal Society B: Biological Sciences, 2009, 276, 2643-2650.	2.8	43
68	Linking xylem diameter variations with sap flow measurements. Plant and Soil, 2008, 305, 77-90.	3.7	57
69	Leaf age and the timing of leaf abscission in two tropical dry forest trees. Trees - Structure and Function, 2008, 22, 393-401.	1.9	10
70	Modeling fluid flow in Medullosa, an anatomically unusual Carboniferous seed plant. Paleobiology, 2008, 34, 472-493.	2.7	52
71	Forced depression of leaf hydraulic conductance in situ: effects on the leaf gas exchange of forest trees. Functional Ecology, 2007, 21, 705-712.	3.6	28
72	The role of freezing in setting the latitudinal limits of mangrove forests. New Phytologist, 2007, 173, 576-583.	7.8	209

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73	Diversity of hydraulic traits in nine Cordia species growing in tropical forests with contrasting precipitation. New Phytologist, 2007, 175, 686-698.	7.8	186
74	LEAF HYDRAULICS. Annual Review of Plant Biology, 2006, 57, 361-381.	19.0	835
75	Baobab trees (Adansonia) in Madagascar use stored water to flush new leaves but not to support stomatal opening before the rainy season. New Phytologist, 2006, 169, 549-559.	7.8	122
76	Hydraulic design of pine needles: one-dimensional optimization for single-vein leaves. Plant, Cell and Environment, 2006, 29, 803-809.	6.0	53
77	Water relations of baobab trees (Adansonia spp. L.) during the rainy season: does stem water buffer daily water deficits?. Plant, Cell and Environment, 2006, 29, 1021-1032.	6.0	73
78	Within-stem oxygen concentration and sap flow in four temperate tree species: does long-lived xylem parenchyma experience hypoxia?. Plant, Cell and Environment, 2005, 28, 192-201.	6.0	63
79	The spatial pattern of air seeding thresholds in mature sugar maple trees. Plant, Cell and Environment, 2005, 28, 1082-1089.	6.0	128
80	Leaf hydraulic capacity in ferns, conifers and angiosperms: impacts on photosynthetic maxima. New Phytologist, 2005, 165, 839-846.	7.8	336
81	Leaf physiology does not predict leaf habit; examples from tropical dry forest. Trees - Structure and Function, 2005, 19, 290-295.	1.9	46
82	Water Stress Deforms Tracheids Peripheral to the Leaf Vein of a Tropical Conifer. Plant Physiology, 2005, 137, 1139-1146.	5.1	161
83	The importance of frictional interactions in maintaining the stability of the twining habit. American Journal of Botany, 2005, 92, 1820-1826.	1.9	31
84	Hydraulic Analysis of Water Flow through Leaves of Sugar Maple and Red Oak. Plant Physiology, 2004, 134, 1824-1833.	5.1	176
85	A potential role for xylem-phloem interactions in the hydraulic architecture of trees: effects of phloem girdling on xylem hydraulic conductance. Tree Physiology, 2004, 24, 911-917.	3.2	119
86	Scaling phloem transport: information transmission. Plant, Cell and Environment, 2004, 27, 509-519.	6.0	80
87	Diurnal depression of leaf hydraulic conductance in a tropical tree species. Plant, Cell and Environment, 2004, 27, 820-827.	6.0	180
88	Water relations under root chilling in a sensitive and tolerant tomato species. Plant, Cell and Environment, 2004, 27, 971-979.	6.0	115
89	Stomatal protection against hydraulic failure: a comparison of coexisting ferns and angiosperms. New Phytologist, 2004, 162, 663-670.	7.8	216
90	Hydraulic limitations imposed by crown placement determine final size and shape of Quercus rubra L. leaves. Plant, Cell and Environment, 2004, 27, 357-365.	6.0	108

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91	The â€˜hydrologyâ€™ of leaves: co-ordination of structure and function in temperate woody species. Plant, Cell and Environment, 2003, 26, 1343-1356.	6.0	645
92	Relations between stomatal closure, leaf turgor and xylem vulnerability in eight tropical dry forest trees. Plant, Cell and Environment, 2003, 26, 443-450.	6.0	364
93	Water relations of tropical dry forest flowers: pathways for water entry and the role of extracellular polysaccharides. Plant, Cell and Environment, 2003, 26, 623-630.	6.0	62
94	Scaling phloem transport: water potential equilibrium and osmoregulatory flow. Plant, Cell and Environment, 2003, 26, 1561-1577.	6.0	123
95	Changes in leaf hydraulic conductance during leaf shedding in seasonally dry tropical forest. New Phytologist, 2003, 158, 295-303.	7.8	118
96	Pigment dynamics and autumn leaf senescence in a New England deciduous forest, eastern USA. Ecological Research, 2003, 18, 677-694.	1.3	201
97	Vulnerability of Xylem Vessels to Cavitation in Sugar Maple. Scaling from Individual Vessels to Whole Branches. Plant Physiology, 2003, 131, 1775-1780.	5.1	79
98	Stomatal Closure during Leaf Dehydration, Correlation with Other Leaf Physiological Traits. Plant Physiology, 2003, 132, 2166-2173.	5.1	592
99	The hydraulic conductance of the angiosperm leaf lamina: a comparison of three measurement methods. Journal of Experimental Botany, 2002, 53, 2177-2184.	4.9	241
100	The Dynamics of "Dead Wood": Maintenance of Water Transport Through Plant Stems. Integrative and Comparative Biology, 2002, 42, 492-496.	2.0	24
101	Understanding the Hydraulics of Porous Pipes: Tradeoffs Between Water Uptake and Root Length Utilization. Journal of Plant Growth Regulation, 2002, 21, 315-323.	5.0	100
102	Hydraulic architecture of leaf venation in Laurus nobilis L.. Plant, Cell and Environment, 2002, 25, 1445-1450.	6.0	116
103	Hydrogel Control of Xylem Hydraulic Resistance in Plants. Science, 2001, 291, 1059-1062.	20.9	490
104	Hydraulic properties of individual xylem vessels of Fraxinus americana. Journal of Experimental Botany, 2001, 52, 257-264.	4.9	2
105	Water relations of coastal and estuarine Rhizophora mangle: xylem pressure potential and dynamics of embolism formation and repair. Oecologia, 2001, 126, 182-192.	2.1	109
106	Temporal and spatial patterns of twining force and lignification in stems of Ipomoea purpurea. Planta, 2001, 213, 192-198.	3.3	24
107	Hydraulic properties and freezing-induced cavitation in sympatric evergreen and deciduous oaks with contrasting habitats. Plant, Cell and Environment, 2001, 24, 1243-1256.	6.0	139
108	In Vivo Observation of Cavitation and Embolism Repair Using Magnetic Resonance Imaging. Plant Physiology, 2001, 126, 27-31.	5.1	254

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109	Why Leaves Turn Red in Autumn. The Role of Anthocyanins in Senescing Leaves of Red-Osier Dogwood. Plant Physiology, 2001, 127, 566-574.	5.1	511
110	United Kingdoms. Plant Physiology, 2001, 126, 952-955.	5.1	2
111	Why Leaves Turn Red in Autumn. The Role of Anthocyanins in Senescing Leaves of Red-Osier Dogwood. Plant Physiology, 2001, 127, 566-574.	5.1	46
112	Xylem sap flow and stem hydraulics of the vesselless angiospermDrimys granadensis(Winteraceae) in a Costa Rican elfin forest. Plant, Cell and Environment, 2000, 23, 1067-1077.	6.0	54
113	Bordered Pit Structure and Vessel Wall Surface Properties. Implications for Embolism Repair. Plant Physiology, 2000, 123, 1015-1020.	5.1	122
114	Embolism Repair and Xylem Tension: Do We Need a Miracle?1. Plant Physiology, 1999, 120, 7-10.	5.1	306
115	Stem water storage and diurnal patterns of water use in tropical forest canopy trees. Plant, Cell and Environment, 1998, 21, 397-406.	6.0	453
116	Diurnal variation in xylem hydraulic conductivity in white ash (Fraxinus americana L.), red maple (Acer) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	6.0	170
117	Physiology of Tropical Vines and Hemiepiphytes: Plants that Climb Up and Plants that Climb Down. , 1996, , 363-394.		56
118	Water relations of epiphytic and terrestrially-rooted strangler figs in a Venezuelan palm savanna. Oecologia, 1996, 106, 424-431.	2.1	47
119	From epiphyte to tree: differences in leaf structure and leaf water relations associated with the transition in growth form in eight species of hemiepiphytes. Plant, Cell and Environment, 1996, 19, 631-642.	6.0	92
120	Stem Water Storage. , 1995, , 151-174.		114
121	Comparative Phenology of Epiphytic and Tree-Phase Strangler Figs in a Venezuelan Palm Savanna. Biotropica, 1995, 27, 183.	1.6	37
122	Biomechanical studies of vines. , 1992, , 73-98.		59
123	Water balance in the arborescent palm, Sabal palmetto. I. Stem structure, tissue water release properties and leaf epidermal conductance. Plant, Cell and Environment, 1992, 15, 393-399.	6.0	45
124	Water balance in the arborescent palm, Sabal palmetto. II. Transpiration and stem water storage. Plant, Cell and Environment, 1992, 15, 401-409.	6.0	96
125	STRANGLER FIG ROOTING HABITS AND NUTRIENT RELATIONS IN THE LLANOS OF VENEZUELA. American Journal of Botany, 1989, 76, 781-788.	1.9	75
126	INFLUENCE OF NEIGHBORS ON TREE FORM: EFFECTS OF LATERAL SHADE AND PREVENTION OF SWAY ON THE ALLOMETRY OF LIQUIDAMBAR STYRACIFLUA (SWEET GUM). American Journal of Botany, 1989, 76, 1740-1749.	1.9	138

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127	Influence of Neighbors on Tree Form: Effects of Lateral Shade and Prevention of Sway on the Allometry of Liquidambar styraciflua (Sweet Gum). American Journal of Botany, 1989, 76, 1740.	1.9	77
128	Spring Filling of Xylem Vessels in Wild Grapevine. Plant Physiology, 1987, 83, 414-417.	5.1	295
129	Phosotynthesis in hemiepiphytic species of Clusia and Ficus. Oecologia, 1987, 74, 339-346.	2.1	61