

# Katherine A Mcculloh

## List of Publications by Year in descending order

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Version: 2024-02-01

66  
papers

7,849  
citations

94433

37  
h-index

106344

65  
g-index

70  
all docs

70  
docs citations

70  
times ranked

8127  
citing authors

#	ARTICLE	IF	CITATIONS
1	Trends in wood density and structure are linked to prevention of xylem implosion by negative pressure. <i>Oecologia</i> , 2001, 126, 457-461.	2.0	1,257
2	TRY plant trait database “ enhanced coverage and open access. <i>Global Change Biology</i> , 2020, 26, 119-188.	9.5	1,038
3	Xylem hydraulic safety margins in woody plants: coordination of stomatal control of xylem tension with hydraulic capacitance. <i>Functional Ecology</i> , 2009, 23, 922-930.	3.6	485
4	Weak tradeoff between xylem safety and xylem-specific hydraulic efficiency across the world's woody plant species. <i>New Phytologist</i> , 2016, 209, 123-136.	7.3	466
5	Safety and efficiency conflicts in hydraulic architecture: scaling from tissues to trees. <i>Plant, Cell and Environment</i> , 2008, 31, 632-645.	5.7	383
6	Water transport in plants obeys Murray's law. <i>Nature</i> , 2003, 421, 939-942.	27.8	365
7	Cavitation Fatigue. Embolism and Refilling Cycles Can Weaken the Cavitation Resistance of Xylem. <i>Plant Physiology</i> , 2001, 125, 779-786.	4.8	293
8	Maximum height in a conifer is associated with conflicting requirements for xylem design. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 12069-12074.	7.1	204
9	Mapping “hydroscapes” along the iso- to anisohydric continuum of stomatal regulation of plant water status. <i>Ecology Letters</i> , 2016, 19, 1343-1352.	6.4	198
10	Hydraulic safety margins and embolism reversal in stems and leaves: Why are conifers and angiosperms so different?. <i>Plant Science</i> , 2012, 195, 48-53.	3.6	192
11	Traits, properties, and performance: how woody plants combine hydraulic and mechanical functions in a cell, tissue, or whole plant. <i>New Phytologist</i> , 2014, 204, 747-764.	7.3	154
12	Patterns in hydraulic architecture and their implications for transport efficiency. <i>Tree Physiology</i> , 2005, 25, 257-267.	3.1	151
13	Moving water well: comparing hydraulic efficiency in twigs and trunks of coniferous, ring-porous, and diffuse-porous saplings from temperate and tropical forests. <i>New Phytologist</i> , 2010, 186, 439-450.	7.3	143
14	The blind men and the elephant: the impact of context and scale in evaluating conflicts between plant hydraulic safety and efficiency. <i>Oecologia</i> , 2010, 164, 287-296.	2.0	137
15	A test of the hydraulic vulnerability segmentation hypothesis in angiosperm and conifer tree species. <i>Tree Physiology</i> , 2016, 36, 983-993.	3.1	137
16	The dynamic pipeline: hydraulic capacitance and xylem hydraulic safety in four tall conifer species. <i>Plant, Cell and Environment</i> , 2014, 37, 1171-1183.	5.7	135
17	Dynamics of leaf water relations components in co-occurring iso- and anisohydric conifer species. <i>Plant, Cell and Environment</i> , 2014, 37, 2577-2586.	5.7	135
18	BAAD: a Biomass And Allometry Database for woody plants. <i>Ecology</i> , 2015, 96, 1445-1445.	3.2	122

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19	Co-occurring woody species have diverse hydraulic strategies and mortality rates during an extreme drought. <i>Plant, Cell and Environment</i> , 2018, 41, 576-588.	5.7	118
20	Impacts of tree height on leaf hydraulic architecture and stomatal control in Douglas-fir. <i>Plant, Cell and Environment</i> , 2007, 30, 559-569.	5.7	102
21	Xylem recovery from drought-induced embolism: where is the hydraulic point of no return?. <i>Tree Physiology</i> , 2013, 33, 331-334.	3.1	99
22	Leaf xylem embolism, detected acoustically and by cryo-SEM, corresponds to decreases in leaf hydraulic conductance in four evergreen species. <i>Plant, Cell and Environment</i> , 2009, 32, 828-836.	5.7	89
23	Comparative hydraulic architecture of tropical tree species representing a range of successional stages and wood density. <i>Oecologia</i> , 2011, 167, 27-37.	2.0	84
24	Stomatal kinetics and photosynthetic gas exchange along a continuum of isohydric to anisohydric regulation of plant water status. <i>Plant, Cell and Environment</i> , 2017, 40, 1618-1628.	5.7	79
25	Reliance on shallow soil water in a mixed-hardwood forest in central Pennsylvania. <i>Tree Physiology</i> , 2016, 36, 444-458.	3.1	74
26	Hydraulic architecture of two species differing in wood density: opposing strategies in co-occurring tropical pioneer trees. <i>Plant, Cell and Environment</i> , 2012, 35, 116-125.	5.7	72
27	Tip-to-base xylem conduit widening as an adaptation: causes, consequences, and empirical priorities. <i>New Phytologist</i> , 2021, 229, 1877-1893.	7.3	72
28	Climate-related trends in sapwood biophysical properties in two conifers: avoidance of hydraulic dysfunction through coordinated adjustments in xylem efficiency, safety and capacitance. <i>Plant, Cell and Environment</i> , 2011, 34, 643-654.	5.7	71
29	A dynamic yet vulnerable pipeline: Integration and coordination of hydraulic traits across whole plants. <i>Plant, Cell and Environment</i> , 2019, 42, 2789-2807.	5.7	68
30	Evidence for xylem embolism as a primary factor in dehydration-induced declines in leaf hydraulic conductance. <i>Plant, Cell and Environment</i> , 2012, 35, 760-769.	5.7	61
31	An annual pattern of native embolism in upper branches of four tall conifer species. <i>American Journal of Botany</i> , 2011, 98, 1007-1015.	1.7	55
32	Deviation from symmetrically self-similar branching in trees predicts altered hydraulics, mechanics, light interception and metabolic scaling. <i>New Phytologist</i> , 2014, 201, 217-229.	7.3	55
33	A comparison of daily water use estimates derived from constant-heat sap-flow probe values and gravimetric measurements in pot-grown saplings. <i>Tree Physiology</i> , 2007, 27, 1355-1360.	3.1	54
34	Leaf hydraulic parameters are more plastic in species that experience a wider range of leaf water potentials. <i>Functional Ecology</i> , 2018, 32, 894-903.	3.6	52
35	Vessel scaling in evergreen angiosperm leaves conforms with Murray's law and area-filling assumptions: implications for plant size, leaf size and cold tolerance. <i>New Phytologist</i> , 2018, 218, 1360-1370.	7.3	50
36	Contrasting hydraulic strategies in two tropical lianas and their host trees. <i>American Journal of Botany</i> , 2013, 100, 374-383.	1.7	44

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37	Coordination and trade-offs between leaf and stem hydraulic traits and stomatal regulation along a spectrum of isohydry to anisohydry. <i>Plant, Cell and Environment</i> , 2019, 42, 2245-2258.	5.7	41
38	Application of the Hagen-Poiseuille Equation to Fluid Feeding through Short Tubes. <i>Annals of the Entomological Society of America</i> , 1999, 92, 153-158.	2.5	40
39	Expression of functional traits during seedling establishment in two populations of <i>Pinus ponderosa</i> from contrasting climates. <i>Tree Physiology</i> , 2015, 35, 535-548.	3.1	40
40	Water relations of <i>Calycanthus</i> flowers: Hydraulic conductance, capacitance, and embolism resistance. <i>Plant, Cell and Environment</i> , 2018, 41, 2250-2262.	5.7	39
41	Murray's law, the Yarrum™ optimum, and the hydraulic architecture of compound leaves. <i>New Phytologist</i> , 2009, 184, 234-244.	7.3	37
42	Do ray cells provide a pathway for radial water movement in the stems of conifer trees?. <i>American Journal of Botany</i> , 2013, 100, 322-331.	1.7	31
43	The evaluation of Murray's law in <i>Psilotum nudum</i> (Psilotaceae), an analogue of ancestral vascular plants. <i>American Journal of Botany</i> , 2005, 92, 985-989.	1.7	24
44	Quantifying ecological thresholds from response surfaces. <i>Ecological Modelling</i> , 2011, 222, 427-436.	2.5	24
45	Trehalose increases tomato drought tolerance, induces defenses, and increases resistance to bacterial wilt disease. <i>PLoS ONE</i> , 2022, 17, e0266254.	2.5	24
46	Thermotolerance and heat stress responses of Douglas-fir and ponderosa pine seedling populations from contrasting climates. <i>Tree Physiology</i> , 2016, 37, 301-315.	3.1	23
47	On research priorities to advance understanding of the safety-efficiency tradeoff in xylem. <i>New Phytologist</i> , 2016, 211, 1156-1158.	7.3	21
48	A comparison of hydraulic architecture in three similarly sized woody species differing in their maximum potential height. <i>Tree Physiology</i> , 2015, 35, 723-731.	3.1	20
49	Plant water uptake along a diversity gradient provides evidence for complementarity in hydrological niches. <i>Oikos</i> , 2019, 128, 1748-1760.	2.7	18
50	Is it getting hot in here? Adjustment of hydraulic parameters in six boreal and temperate tree species after 5 years of warming. <i>Global Change Biology</i> , 2016, 22, 4124-4133.	9.5	17
51	Further evidence that some plants can lose and regain hydraulic function daily. <i>Tree Physiology</i> , 2015, 35, 691-693.	3.1	15
52	Limited physiological acclimation to recurrent heatwaves in two boreal tree species. <i>Tree Physiology</i> , 2020, 40, 1680-1696.	3.1	14
53	Anatomical differences in the structural elements of fluid passage of Scots pine sapwood with contrasting treatability. <i>Wood Science and Technology</i> , 2014, 48, 435-447.	3.2	12
54	Limited variation found among Norway spruce half-sib families in physiological response to drought and resistance to embolism. <i>Tree Physiology</i> , 2016, 36, tpv141.	3.1	11

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55	Bridging the Flux Gap: Sap Flow Measurements Reveal Species-Specific Patterns of Water Use in a Tallgrass Prairie. <i>Journal of Geophysical Research C: Biogeosciences</i> , 2020, 125, e2019JG005446.	3.0	11
56	Physiological responses of germinant <i>Pinus palustris</i> and <i>P. taeda</i> seedlings to water stress and the significance of the grass-stage. <i>Forest Ecology and Management</i> , 2020, 458, 117647.	3.2	10
57	Mistletoes and their eucalypt hosts differ in the response of leaf functional traits to climatic moisture supply. <i>Oecologia</i> , 2021, 195, 759-771.	2.0	10
58	Mesophyll photosynthetic sensitivity to leaf water potential in <i>Eucalyptus</i> : a new dimension of plant adaptation to native moisture supply. <i>New Phytologist</i> , 2021, 230, 1844-1855.	7.3	9
59	Hydrosapes, hydroscape plasticity and relationships to functional traits and mesophyll photosynthetic sensitivity to leaf water potential in <i>Eucalyptus</i> species. <i>Plant, Cell and Environment</i> , 2022, 45, 2573-2588.	5.7	8
60	Forest Canopy Hydraulics. <i>Advances in Photosynthesis and Respiration</i> , 2016, , 187-217.	1.0	7
61	Linking leaf hydraulic properties, photosynthetic rates, and leaf lifespan in xerophytic species: a test of global hypotheses. <i>American Journal of Botany</i> , 2018, 105, 1858-1868.	1.7	7
62	A new protocol for psychrometric pressure-volume curves of fern gametophytes. <i>Applications in Plant Sciences</i> , 2019, 7, e01248.	2.1	1
63	Do invasive jumping worms impact sugar maple ( <i>Acer saccharum</i> ) water-use dynamics in a Central Hardwoods forest?. <i>Biological Invasions</i> , 2021, 23, 129-141.	2.4	1
64	Water transport in plants obeys Murray's law. , 0, .		1
65	Short-distance gene flow and morphological divergence in <i>Eschscholzia parishii</i> (Papaveraceae): implications for speciation in desert winter annuals. <i>Botanical Journal of the Linnean Society</i> , 2022, 200, 255-269.	1.6	1
66	Response to commentary by G. Petit and T. Anfodillo. <i>Oecologia</i> , 2011, 165, 275-275.	2.0	0