Katherine A Mcculloh

List of Publications by Year in Descending Order

65 papers	5,637 citations	32 h-index	70 g-index
70 ext. papers	6,830 ext. citations	6.5 avg, IF	5.65 L-index

#	Paper	IF	Citations
65	Trehalose increases tomato drought tolerance, induces defenses, and increases resistance to bacterial wilt disease.. *PLoS ONE*, **2022**, 17, e0266254	3.7	2
64	Mesophyll photosynthetic sensitivity to leaf water potential in Eucalyptus: a new dimension of plant adaptation to native moisture supply. *New Phytologist*, **2021**, 230, 1844-1855	9.8	3
63	Tip-to-base xylem conduit widening as an adaptation: causes, consequences, and empirical priorities. *New Phytologist*, **2021**, 229, 1877-1893	9.8	25
62	Do invasive jumping worms impact sugar maple (Acer saccharum) water-use dynamics in a Central Hardwoods forest?. *Biological Invasions*, **2021**, 23, 129-141	2.7	1
61	Mistletoes and their eucalypt hosts differ in the response of leaf functional traits to climatic moisture supply. *Oecologia*, **2021**, 195, 759-771	2.9	7
60	Bridging the Flux Gap: Sap Flow Measurements Reveal Species-Specific Patterns of Water Use in a Tallgrass Prairie. *Journal of Geophysical Research G: Biogeosciences*, **2020**, 125, e2019JG005446	3.7	2
59	TRY plant trait database - enhanced coverage and open access. *Global Change Biology*, **2020**, 26, 119-188	11.4	399
58	Physiological responses of germinant Pinus palustris and P. taeda seedlings to water stress and the significance of the grass-stage. *Forest Ecology and Management*, **2020**, 458, 117647	3.9	4
57	Limited physiological acclimation to recurrent heatwaves in two boreal tree species. *Tree Physiology*, **2020**, 40, 1680-1696	4.2	2
56	A new protocol for psychrometric pressure-volume curves of fern gametophytes. *Applications in Plant Sciences*, **2019**, 7, e01248	2.3	1
55	Coordination and trade-offs between leaf and stem hydraulic traits and stomatal regulation along a spectrum of isohydry to anisohydry. *Plant, Cell and Environment*, **2019**, 42, 2245-2258	8.4	19
54	Plant water uptake along a diversity gradient provides evidence for complementarity in hydrological niches. *Oikos*, **2019**, 128, 1748-1760	4	6
53	A dynamic yet vulnerable pipeline: Integration and coordination of hydraulic traits across whole plants. *Plant, Cell and Environment*, **2019**, 42, 2789-2807	8.4	31
52	Water relations of Calycanthus flowers: Hydraulic conductance, capacitance, and embolism resistance. *Plant, Cell and Environment*, **2018**, 41, 2250-2262	8.4	23
51	Vessel scaling in evergreen angiosperm leaves conforms with Murray's law and area-filling assumptions: implications for plant size, leaf size and cold tolerance. *New Phytologist*, **2018**, 218, 1360-1370	9.8	30
50	Leaf hydraulic parameters are more plastic in species that experience a wider range of leaf water potentials. *Functional Ecology*, **2018**, 32, 894-903	5.6	27
49	Co-occurring woody species have diverse hydraulic strategies and mortality rates during an extreme drought. *Plant, Cell and Environment*, **2018**, 41, 576-588	8.4	79

48	Linking leaf hydraulic properties, photosynthetic rates, and leaf lifespan in xerophytic species: a test of global hypotheses. *American Journal of Botany*, **2018**, 105, 1858-1868	2.7	4
47	Stomatal kinetics and photosynthetic gas exchange along a continuum of isohydric to anisohydric regulation of plant water status. *Plant, Cell and Environment*, **2017**, 40, 1618-1628	8.4	49
46	Thermotolerance and heat stress responses of Douglas-fir and ponderosa pine seedling populations from contrasting climates. *Tree Physiology*, **2017**, 37, 301-315	4.2	9
45	On research priorities to advance understanding of the safety-efficiency tradeoff in xylem: A response to Bittencourt et al. (2016) comment On xylem hydraulic efficiencies, wood space-use and the safety-efficiency tradeoff in this issue of New Phytologist, pp. 1152-1155. *New Phytologist*, **2016**, 211, 1156-8	9.8	16
44	Mapping hydroscapes along the iso- to anisohydric continuum of stomatal regulation of plant water status. *Ecology Letters*, **2016**, 19, 1343-1352	10	121
43	Is it getting hot in here? Adjustment of hydraulic parameters in six boreal and temperate tree species after 5 years of warming. *Global Change Biology*, **2016**, 22, 4124-4133	11.4	14
42	Forest Canopy Hydraulics. *Advances in Photosynthesis and Respiration*, **2016**, 187-217	1.7	7
41	Limited variation found among Norway spruce half-sib families in physiological response to drought and resistance to embolism. *Tree Physiology*, **2016**, 36, 252-66	4.2	10
40	Weak tradeoff between xylem safety and xylem-specific hydraulic efficiency across the world's woody plant species. *New Phytologist*, **2016**, 209, 123-36	9.8	307
39	Reliance on shallow soil water in a mixed-hardwood forest in central Pennsylvania. *Tree Physiology*, **2016**, 36, 444-58	4.2	55
38	A test of the hydraulic vulnerability segmentation hypothesis in angiosperm and conifer tree species. *Tree Physiology*, **2016**, 36, 983-93	4.2	96
37	Expression of functional traits during seedling establishment in two populations of Pinus ponderosa from contrasting climates. *Tree Physiology*, **2015**, 35, 535-48	4.2	31
36	BAAD: a Biomass And Allometry Database for woody plants. *Ecology*, **2015**, 96, 1445-1445	4.6	89
35	Further evidence that some plants can lose and regain hydraulic function daily. *Tree Physiology*, **2015**, 35, 691-3	4.2	14
34	A comparison of hydraulic architecture in three similarly sized woody species differing in their maximum potential height. *Tree Physiology*, **2015**, 35, 723-31	4.2	14
33	Anatomical differences in the structural elements of fluid passage of Scots pine sapwood with contrasting treatability. *Wood Science and Technology*, **2014**, 48, 435-447	2.5	11
32	Dynamics of leaf water relations components in co-occurring iso- and anisohydric conifer species. *Plant, Cell and Environment*, **2014**, 37, 2577-86	8.4	96
31	Traits, properties, and performance: how woody plants combine hydraulic and mechanical functions in a cell, tissue, or whole plant. *New Phytologist*, **2014**, 204, 747-64	9.8	116

30	Deviation from symmetrically self-similar branching in trees predicts altered hydraulics, mechanics, light interception and metabolic scaling. *New Phytologist*, **2014**, 201, 217-229	9.8	44
29	The dynamic pipeline: hydraulic capacitance and xylem hydraulic safety in four tall conifer species. *Plant, Cell and Environment*, **2014**, 37, 1171-83	8.4	104
28	Contrasting hydraulic strategies in two tropical lianas and their host trees. *American Journal of Botany*, **2013**, 100, 374-83	2.7	37
27	Do ray cells provide a pathway for radial water movement in the stems of conifer trees?. *American Journal of Botany*, **2013**, 100, 322-31	2.7	28
26	Xylem recovery from drought-induced embolism: where is the hydraulic point of no return?. *Tree Physiology*, **2013**, 33, 331-4	4.2	67
25	Hydraulic architecture of two species differing in wood density: opposing strategies in co-occurring tropical pioneer trees. *Plant, Cell and Environment*, **2012**, 35, 116-25	8.4	60
24	Hydraulic safety margins and embolism reversal in stems and leaves: why are conifers and angiosperms so different?. *Plant Science*, **2012**, 195, 48-53	5.3	148
23	Evidence for xylem embolism as a primary factor in dehydration-induced declines in leaf hydraulic conductance. *Plant, Cell and Environment*, **2012**, 35, 760-9	8.4	56
22	Climate-related trends in sapwood biophysical properties in two conifers: avoidance of hydraulic dysfunction through coordinated adjustments in xylem efficiency, safety and capacitance. *Plant, Cell and Environment*, **2011**, 34, 643-54	8.4	63
21	Quantifying ecological thresholds from response surfaces. *Ecological Modelling*, **2011**, 222, 427-436	3	19
20	Response to commentary by G. Petit and T. Anfodillo. *Oecologia*, **2011**, 165, 275-275	2.9	
19	Comparative hydraulic architecture of tropical tree species representing a range of successional stages and wood density. *Oecologia*, **2011**, 167, 27-37	2.9	70
18	An annual pattern of native embolism in upper branches of four tall conifer species. *American Journal of Botany*, **2011**, 98, 1007-15	2.7	45
17	Moving water well: comparing hydraulic efficiency in twigs and trunks of coniferous, ring-porous, and diffuse-porous saplings from temperate and tropical forests. *New Phytologist*, **2010**, 186, 439-50	9.8	118
16	The blind men and the elephant: the impact of context and scale in evaluating conflicts between plant hydraulic safety and efficiency. *Oecologia*, **2010**, 164, 287-96	2.9	112
15	Leaf xylem embolism, detected acoustically and by cryo-SEM, corresponds to decreases in leaf hydraulic conductance in four evergreen species. *Plant, Cell and Environment*, **2009**, 32, 828-36	8.4	78
14	Xylem hydraulic safety margins in woody plants: coordination of stomatal control of xylem tension with hydraulic capacitance. *Functional Ecology*, **2009**, 23, 922-930	5.6	378
13	Murrayís law, the lYarrumÙptimum, and the hydraulic architecture of compound leaves. *New Phytologist*, **2009**, 184, 234-244	9.8	30

List of Publications

12	Safety and efficiency conflicts in hydraulic architecture: scaling from tissues to trees. *Plant, Cell and Environment*, **2008**, 31, 632-45	8.4	316
11	Maximum height in a conifer is associated with conflicting requirements for xylem design. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 12069-74	11.5	174
10	Impacts of tree height on leaf hydraulic architecture and stomatal control in Douglas-fir. *Plant, Cell and Environment*, **2007**, 30, 559-69	8.4	96
9	A comparison of daily water use estimates derived from constant-heat sap-flow probe values and gravimetric measurements in pot-grown saplings. *Tree Physiology*, **2007**, 27, 1355-60	4.2	45
8	Patterns in hydraulic architecture and their implications for transport efficiency. *Tree Physiology*, **2005**, 25, 257-67	4.2	133
7	The evaluation of Murrayís law in Psilotum nudum (Psilotaceae), an analogue of ancestral vascular plants. *American Journal of Botany*, **2005**, 92, 985-9	2.7	21
6	Water transport in plants obeys Murrayís law. *Nature*, **2003**, 421, 939-42	50.4	299
5	Trends in wood density and structure are linked to prevention of xylem implosion by negative pressure. *Oecologia*, **2001**, 126, 457-461	2.9	1050
4	Cavitation fatigue. Embolism and refilling cycles can weaken the cavitation resistance of xylem. *Plant Physiology*, **2001**, 125, 779-86	6.6	264
3	Application of the HagenPoiseuille Equation to Fluid Feeding through Short Tubes. *Annals of the Entomological Society of America*, **1999**, 92, 153-158	2	30
2			
1	Revisiting the source of wilt symptoms: X-ray microcomputed tomography provides direct evidence that Ralstonia biomass clogs xylem vessels		2