

Katherine A Mcculloh

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	Trends in wood density and structure are linked to prevention of xylem implosion by negative pressure. <i>Oecologia</i> , 2001 , 126, 457-461	2.9	1050
64	TRY plant trait database - enhanced coverage and open access. <i>Global Change Biology</i> , 2020 , 26, 119-188	11.4	399
63	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	5.6	378
62	Safety and efficiency conflicts in hydraulic architecture: scaling from tissues to trees. <i>Plant, Cell and Environment</i> , 2008 , 31, 632-45	8.4	316
61	Weak tradeoff between xylem safety and xylem-specific hydraulic efficiency across the world's woody plant species. <i>New Phytologist</i> , 2016 , 209, 123-36	9.8	307
60	Water transport in plants obeys Murray's law. <i>Nature</i> , 2003 , 421, 939-42	50.4	299
59	Cavitation fatigue. Embolism and refilling cycles can weaken the cavitation resistance of xylem. <i>Plant Physiology</i> , 2001 , 125, 779-86	6.6	264
58	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, 12069-74	11.5	174
57	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	5.3	148
56	Patterns in hydraulic architecture and their implications for transport efficiency. <i>Tree Physiology</i> , 2005 , 25, 257-67	4.2	133
55	Mapping hydroscales along the iso- to anisohydric continuum of stomatal regulation of plant water status. <i>Ecology Letters</i> , 2016 , 19, 1343-1352	10	121
54	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, 439-50	9.8	118
53	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, 747-64	9.8	116
52	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, 287-96	2.9	112
51	The dynamic pipeline: hydraulic capacitance and xylem hydraulic safety in four tall conifer species. <i>Plant, Cell and Environment</i> , 2014 , 37, 1171-83	8.4	104
50	Dynamics of leaf water relations components in co-occurring iso- and anisohydric conifer species. <i>Plant, Cell and Environment</i> , 2014 , 37, 2577-86	8.4	96
49	Impacts of tree height on leaf hydraulic architecture and stomatal control in Douglas-fir. <i>Plant, Cell and Environment</i> , 2007 , 30, 559-69	8.4	96

48	A test of the hydraulic vulnerability segmentation hypothesis in angiosperm and conifer tree species. <i>Tree Physiology</i> , 2016 , 36, 983-93	4.2	96
47	BAAD: a Biomass And Allometry Database for woody plants. <i>Ecology</i> , 2015 , 96, 1445-1445	4.6	89
46	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	8.4	79
45	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, 828-36	8.4	78
44	Comparative hydraulic architecture of tropical tree species representing a range of successional stages and wood density. <i>Oecologia</i> , 2011 , 167, 27-37	2.9	70
43	Xylem recovery from drought-induced embolism: where is the hydraulic point of no return?. <i>Tree Physiology</i> , 2013 , 33, 331-4	4.2	67
42	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, 643-54	8.4	63
41	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, 116-25	8.4	60
40	Evidence for xylem embolism as a primary factor in dehydration-induced declines in leaf hydraulic conductance. <i>Plant, Cell and Environment</i> , 2012 , 35, 760-9	8.4	56
39	Reliance on shallow soil water in a mixed-hardwood forest in central Pennsylvania. <i>Tree Physiology</i> , 2016 , 36, 444-58	4.2	55
38	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	8.4	49
37	An annual pattern of native embolism in upper branches of four tall conifer species. <i>American Journal of Botany</i> , 2011 , 98, 1007-15	2.7	45
36	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, 1355-60	4.2	45
35	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	9.8	44
34	Contrasting hydraulic strategies in two tropical lianas and their host trees. <i>American Journal of Botany</i> , 2013 , 100, 374-83	2.7	37
33	Expression of functional traits during seedling establishment in two populations of <i>Pinus ponderosa</i> from contrasting climates. <i>Tree Physiology</i> , 2015 , 35, 535-48	4.2	31
32	A dynamic yet vulnerable pipeline: Integration and coordination of hydraulic traits across whole plants. <i>Plant, Cell and Environment</i> , 2019 , 42, 2789-2807	8.4	31
31	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	9.8	30

30	Murray's law, the Warrumbungle optimum, and the hydraulic architecture of compound leaves. <i>New Phytologist</i> , 2009 , 184, 234-244	9.8	30
29	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	30
28	Do ray cells provide a pathway for radial water movement in the stems of conifer trees?. <i>American Journal of Botany</i> , 2013 , 100, 322-31	2.7	28
27	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	5.6	27
26	Tip-to-base xylem conduit widening as an adaptation: causes, consequences, and empirical priorities. <i>New Phytologist</i> , 2021 , 229, 1877-1893	9.8	25
25	Water relations of Calycanthus flowers: Hydraulic conductance, capacitance, and embolism resistance. <i>Plant, Cell and Environment</i> , 2018 , 41, 2250-2262	8.4	23
24	The evaluation of Murray's law in Psilotum nudum (Psilotaceae), an analogue of ancestral vascular plants. <i>American Journal of Botany</i> , 2005 , 92, 985-9	2.7	21
23	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	8.4	19
22	Quantifying ecological thresholds from response surfaces. <i>Ecological Modelling</i> , 2011 , 222, 427-436	3	19
21	On research priorities to advance understanding of the safety-efficiency tradeoff in xylem: A response to Bittencourt et al.'s (2016) comment on xylem hydraulic efficiencies, wood space-use and the safety-efficiency tradeoff in this issue of New Phytologist, pp. 1152-1155. <i>New Phytologist</i> , 2016 , 211, 1156-8	9.8	16
20	Further evidence that some plants can lose and regain hydraulic function daily. <i>Tree Physiology</i> , 2015 , 35, 691-3	4.2	14
19	A comparison of hydraulic architecture in three similarly sized woody species differing in their maximum potential height. <i>Tree Physiology</i> , 2015 , 35, 723-31	4.2	14
18	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	11.4	14
17	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	2.5	11
16	Limited variation found among Norway spruce half-sib families in physiological response to drought and resistance to embolism. <i>Tree Physiology</i> , 2016 , 36, 252-66	4.2	10
15	Thermotolerance and heat stress responses of Douglas-fir and ponderosa pine seedling populations from contrasting climates. <i>Tree Physiology</i> , 2017 , 37, 301-315	4.2	9
14	Forest Canopy Hydraulics. <i>Advances in Photosynthesis and Respiration</i> , 2016 , 187-217	1.7	7
13	Mistletoes and their eucalypt hosts differ in the response of leaf functional traits to climatic moisture supply. <i>Oecologia</i> , 2021 , 195, 759-771	2.9	7

12	Plant water uptake along a diversity gradient provides evidence for complementarity in hydrological niches. <i>Oikos</i> , 2019 , 128, 1748-1760	4	6
11	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	3.9	4
10	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	2.7	4
9	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	9.8	3
8	Bridging the Flux Gap: Sap Flow Measurements Reveal Species-Specific Patterns of Water Use in a Tallgrass Prairie. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2020 , 125, e2019JG005446	3.7	2
7	Limited physiological acclimation to recurrent heatwaves in two boreal tree species. <i>Tree Physiology</i> , 2020 , 40, 1680-1696	4.2	2
6	Revisiting the source of wilt symptoms: X-ray microcomputed tomography provides direct evidence that <i>Ralstonia</i> biomass clogs xylem vessels		2
5	Trehalose increases tomato drought tolerance, induces defenses, and increases resistance to bacterial wilt disease.. <i>PLoS ONE</i> , 2022 , 17, e0266254	3.7	2
4	A new protocol for psychrometric pressure-volume curves of fern gametophytes. <i>Applications in Plant Sciences</i> , 2019 , 7, e01248	2.3	1
3			
2	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	2.7	1
1	Response to commentary by G. Petit and T. Anfodillo. <i>Oecologia</i> , 2011 , 165, 275-275	2.9	