Giai Petit

List of Publications by Year
in descending order

40 papers	1,961 citations	257450 24 h-index	289244 40 g-index
42 all docs	42 docs citations	42 times ranked	2314 citing authors

#	Article	IF	Citations
1	Universal hydraulics of the flowering plants: vessel diameter scales with stem length across angiosperm lineages, habits and climates. Ecology Letters, 2014, 17, 988-997.	6.4	220
2	Distilling allometric and environmental information from time series of conduit size: the standardization issue and its relationship to tree hydraulic architecture. Tree Physiology, 2015, 35, 27-33.	3.1	137
3	Axial conduit widening in woody species: a still neglected anatomical pattern. IAWA Journal, 2013, 34, 352-364.	2.7	131
4	Widening of xylem conduits in a conifer tree depends on the longer time of cell expansion downwards along the stem. Journal of Experimental Botany, 2012, 63, 837-845.	4.8	107
5	Sanioâ€™s laws revisited. Sizeâ€dependent changes in the xylem architecture of trees. Ecology Letters, 2007, 10, 1084-1093.	6.4	92
6	Hydraulic constraints limit height growth in trees at high altitude. New Phytologist, 2011, 189, 241-252.	7.3	89
7	Plant physiology in theory and practice: An analysis of the WBE model for vascular plants. Journal of Theoretical Biology, 2009, 259, 1-4.	1.7	85
8	Tapering of xylem conduits and hydraulic limitations in sycamore (<i>Acer pseudoplatanus</i>) trees. New Phytologist, 2008, 177, 653-664.	7.3	81
9	The challenge of tree height in <i>Eucalyptus regnans</i>: when xylem tapering overcomes hydraulic resistance. New Phytologist, 2010, 187, 1146-1153.	7.3	79
10	Plant respiration: Controlled by photosynthesis or biomass?. Global Change Biology, 2020, 26, 1739-1753.	9.5	66
11	Osmolality and Non-Structural Carbohydrate Composition in the Secondary Phloem of Trees across a Latitudinal Gradient in Europe. Frontiers in Plant Science, 2016, 7, 726.	3.6	60
12	Xâ€ray microtomography observations of xylem embolism in stems of <i>Laurus nobilis</i> are consistent with hydraulic measurements of percentage loss of conductance. New Phytologist, 2017, 213, 1068-1075.	7.3	60
13	Divergent climate response on hydraulic-related xylem anatomical traits of<i>Picea abies</i>along a 900-m altitudinal gradient. Tree Physiology, 2015, 35, 1378-1387.	3.1	58
14	New research perspectives from a novel approach to quantify tracheid wall thickness. Tree Physiology, 2017, 37, 976-983.	3.1	56
15	Comparative axial widening of phloem and xylem conduits in small woody plants. Trees - Structure and Function, 2014, 28, 915-921.	1.9	55
16	Retrospective Analysis of Wood Anatomical Traits Reveals a Recent Extension in Tree Cambial Activity in Two High-Elevation Conifers. Frontiers in Plant Science, 2017, 8, 737.	3.6	54
17	Xylem anatomical adjustments prioritize hydraulic efficiency over safety as Norway spruce trees grow taller. Tree Physiology, 2018, 38, 1088-1097.	3.1	49
18	Hydraulic recovery from xylem embolism in excised branches of twelve woody species: Relationships with parenchyma cells and non-structural carbohydrates. Plant Physiology and Biochemistry, 2019, 139, 513-520.	5.8	48

#	Article	IF	Citations
19	Vulnerability to xylem embolism correlates to wood parenchyma fraction in angiosperms but not in gymnosperms. Tree Physiology, 2019, 39, 1675-1684.	3.1	38
20	Testing the equi-resistance principle of the xylem transport system in a small ash tree: empirical support from anatomical analyses. Tree Physiology, 2012, 32, 171-177.	3.1	36
21	Degree of tapering of xylem conduits in stems and roots of small <i>Pinus cembra</i> and <i>Larix decidua</i> trees. Botany, 2009, 87, 501-508.	1.0	34
22	Interplay of growth rate and xylem plasticity for optimal coordination of carbon and hydraulic economies in<i>Fraxinus ornus</i>trees. Tree Physiology, 2016, 36, 1310-1319.	3.1	33
23	A standardization method to disentangle environmental information from axial trends of xylem anatomical traits. Tree Physiology, 2019, 39, 495-502.	3.1	30
24	Axial xylem architecture of Larix decidua exposed to CO 2 enrichment and soil warming at the tree line. Functional Ecology, 2018, 32, 273-287.	3.6	27
25	Allometric Trajectories and â€œStressâ€: A Quantitative Approach. Frontiers in Plant Science, 2016, 7, 1681.	3.6	24
26	The total path length hydraulic resistance according to known anatomical patterns: What is the shape of the root-to-leaf tension gradient along the plant longitudinal axis?. Journal of Theoretical Biology, 2020, 502, 110369.	1.7	21
27	Structural and anatomical responses of Pinus sylvestris and Tilia platyphyllos seedlings exposed to water shortage. Trees - Structure and Function, 2018, 32, 1211-1218.	1.9	20
28	Xylem anatomical responses to climate variability in Himalayan birch trees at one of the worldâ€™s highest forest limit. Perspectives in Plant Ecology, Evolution and Systematics, 2018, 33, 34-41.	2.7	20
29	Similarities and differences in the balances between leaf, xylem and phloem structures in <i>Fraxinus ornus</i> along an environmental gradient. Tree Physiology, 2019, 39, 234-242.	3.1	19
30	The potential of Mid-Infrared spectroscopy for prediction of wood density and vulnerability to embolism in woody angiosperms. Tree Physiology, 2019, 39, 503-510.	3.1	19
31	Tree differences in primary and secondary growth drive convergent scaling in leaf area to sapwood area across Europe. New Phytologist, 2018, 218, 1383-1392.	7.3	18
32	Scots pine trees react to drought by increasing xylem and phloem conductivities. Tree Physiology, 2020, 40, 774-781.	3.1	18
33	Susceptibility to <i>Xylella fastidiosa</i> and functional xylem anatomy in <i>Olea europaea</i>: revisiting a tale of plantâ€“pathogen interaction. AoB PLANTS, 2021, 13, plab027.	2.3	14
34	Axial vessel widening in arborescent monocots. Tree Physiology, 2014, 34, 137-145.	3.1	13
35	Comment on â€œThe blind men and the elephant: the impact of context and scale in evaluating conflicts between plant hydraulic safety and efficiencyâ€•by Meinzer et al. (2010). Oecologia, 2011, 165, 271-274.	2.0	11
36	Effects of climate change on treeline trees in Sagarmatha (Mt. Everest, Central Himalaya). Journal of Vegetation Science, 2020, 31, 1144-1153.	2.2	10

#	Article	IF	Citations
37	Within-ring variability of wood structure and its relationship to drought sensitivity in Norway spruce trunks. IAWA Journal, 2019, 40, 288-310.	2.7	7
38	New developments in understanding plant water transport under drought stress. New Phytologist, 2020, 227, 1025-1027.	7.3	6
39	No xylem phenotypic plasticity in mature <i>Picea abies</i> and <i>Fagus sylvatica</i> trees after 5â€‰years of throughfall precipitation exclusion. Global Change Biology, 2022, 28, 4668-4683.	9.5	6
40	Does elevated air humidity modify hydraulically relevant anatomical traits of wood in Betula pendula?. Trees - Structure and Function, 2019, 33, 1361-1371.	1.9	5