Uwe G Hacke

List of Publications by Year
in descending order

81 papers	14,414 citations	41323 49 h-index	66879 78 g-index
84 all docs	84 docs citations	84 times ranked	8936 citing authors

#	Article	IF	Citations
1	Solid mechanics of the torusâ€“margo in conifer intertracheid bordered pits. New Phytologist, 2021, 229, 1431-1439.	3.5	20
2	Seasonal patterns of callose deposition and xylem embolism in five boreal deciduous tree species. American Journal of Botany, 2021, 108, 1568-1575.	0.8	1
3	Xylem Anomalies as Indicators of Maladaptation to Climate in Forest Trees: Implications for Assisted Migration. Frontiers in Plant Science, 2020, 11, 208.	1.7	6
4	Computational models evaluating the impact of sieve plates and radial water exchange on phloem pressure gradients. Plant, Cell and Environment, 2019, 42, 466-479.	2.8	12
5	Adaptive limitations of white spruce populations to drought imply vulnerability to climate change in its western range. Evolutionary Applications, 2019, 12, 1850-1860.	1.5	25
6	Seasonal Vascular Tissue Formation in Four Boreal Tree Species With a Focus on Callose Deposition in the Phloem. Frontiers in Forests and Global Change, 2019, 2, .	1.0	7
7	Direct comparison of four methods to construct xylem vulnerability curves: Differences among techniques are linked to vessel network characteristics. Plant, Cell and Environment, 2019, 42, 2422-2436.	2.8	44
8	Defoliation constrains xylem and phloem functionality. Tree Physiology, 2019, 39, 1099-1108.	1.4	27
9	Large volume vessels are vulnerable to water-stress-induced embolism in stems of poplar. IAWA Journal, 2019, 40, 4-S4.	2.7	49
10	Survival, growth and cold hardiness tradeoffs in white spruce populations: Implications for assisted migration. Forest Ecology and Management, 2019, 433, 544-552.	1.4	28
11	Adaptations of white spruce to climate: strong intraspecific differences in cold hardiness linked to survival. Ecology and Evolution, 2018, 8, 1758-1768.	0.8	21
12	An ecophysiological and developmental perspective on variation in vessel diameter. Plant, Cell and Environment, 2017, 40, 831-845.	2.8	199
13	Are phloem sieve tubes leaky conduits supported by numerous aquaporins?. American Journal of Botany, 2017, 104, 719-732.	0.8	31
14	Plant xylem hydraulics: What we understand, current research, and future challenges. Journal of Integrative Plant Biology, 2017, 59, 356-389.	4.1	301
15	Contrasting Hydraulic Architectures of Scots Pine and Sessile Oak at Their Southernmost Distribution Limits. Frontiers in Plant Science, 2017, 8, 598.	1.7	17
16	A multi-species synthesis of physiological mechanisms in drought-induced tree mortality. Nature Ecology and Evolution, 2017, 1, 1285-1291.	3.4	739
17	Leaf size serves as a proxy for xylem vulnerability to cavitation in plantation trees. Plant, Cell and Environment, 2016, 39, 272-281.	2.8	24
18	Weak tradeoff between xylem safety and xylemâ€specific hydraulic efficiency across the world's woody plant species. New Phytologist, 2016, 209, 123-136.	3.5	466

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19	Stomatal conductance scales with petiole xylem traits in Populus genotypes. Functional Plant Biology, 2016, 43, 553.	1.1	15
20	Xylem refilling â€“ a question of sugar transporters and pH?. Plant, Cell and Environment, 2016, 39, 2347-2349.	2.8	8
21	On research priorities to advance understanding of the safetyâ€“efficiency tradeoff in xylem. New Phytologist, 2016, 211, 1156-1158.	3.5	21
22	Droughtâ€induced xylem pit membrane damage in aspen and balsam poplar. Plant, Cell and Environment, 2016, 39, 2210-2220.	2.8	37
23	Variation of xylem vessel diameters across a climate gradient: insight from a reciprocal transplant experiment with a widespread boreal tree. Functional Ecology, 2015, 29, 1392-1401.	1.7	65
24	Pit membrane structure is highly variable and accounts for a major resistance to water flow through tracheid pits in stems and roots of two boreal conifer species. New Phytologist, 2015, 208, 102-113.	3.5	45
25	The Hydraulic Architecture of Conifers. , 2015, , 39-75.		29
26	The Hydraulic Architecture of Populus. , 2015, , 103-131.		11
27	The standard centrifuge method accurately measures vulnerability curves of longâ€vesselled olive stems. New Phytologist, 2015, 205, 116-127.	3.5	89
28	The Role of Water Channel Proteins in Facilitating Recovery of Leaf Hydraulic Conductance from Water Stress in Populus trichocarpa. PLoS ONE, 2014, 9, e111751.	1.1	42
29	Variable plant hydraulic conductance. Tree Physiology, 2014, 34, 105-108.	1.4	13
30	Uptake of Water via Branches Helps Timberline Conifers Refill Embolized Xylem in Late Winter Â Â Â. Plant Physiology, 2014, 164, 1731-1740.	2.3	142
31	Exploring <i><scp>P</scp>icea glauca</i> aquaporins in the context of needle water uptake and xylem refilling. New Phytologist, 2014, 203, 388-400.	3.5	104
32	Irradiance-induced changes in hydraulic architecture. Botany, 2014, 92, 437-442.	0.5	8
33	Gene expression patterns underlying changes in xylem structure and function in response to increased nitrogen availability in hybrid poplar. Plant, Cell and Environment, 2013, 36, 186-199.	2.8	98
34	Sixteen years of winter stress: an assessment of cold hardiness, growth performance and survival of hybrid poplar clones at a boreal planting site. Plant, Cell and Environment, 2013, 36, 419-428.	2.8	50
35	Drought's legacy: multiyear hydraulic deterioration underlies widespread aspen forest dieâ€off and portends increased future risk. Global Change Biology, 2013, 19, 1188-1196.	4.2	307
36	Transpirational demand affects aquaporin expression in poplar roots. Journal of Experimental Botany, 2013, 64, 2283-2293.	2.4	103

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37	Frost hardiness vs. growth performance in trembling aspen: an experimental test of assisted migration. Journal of Applied Ecology, 2013, 50, 939-949.	1.9	73
38	Nobodyâ€™s perfect: can irregularities in pit structure influence vulnerability to cavitation?. Frontiers in Plant Science, 2013, 4, 453.	1.7	40
39	Phenotypic and developmental plasticity of xylem in hybrid poplar saplings subjected to experimental drought, nitrogen fertilization, and shading. Journal of Experimental Botany, 2012, 63, 6481-6491.	2.4	101
40	Cellular localization of aquaporin mRNA in hybrid poplar stems. American Journal of Botany, 2012, 99, 1249-1254.	0.8	34
41	Global convergence in the vulnerability of forests to drought. Nature, 2012, 491, 752-755.	13.7	1,944
42	A global analysis of xylem vessel length in woody plants. American Journal of Botany, 2012, 99, 1583-1591.	0.8	109
43	Linking irradianceâ€induced changes in pit membrane ultrastructure with xylem vulnerability to cavitation. Plant, Cell and Environment, 2011, 34, 501-513.	2.8	57
44	Influence of evaporative demand on aquaporin expression and root hydraulics of hybrid poplar. Plant, Cell and Environment, 2011, 34, 1318-1331.	2.8	46
45	Genetic variation of hydraulic and wood anatomical traits in hybrid poplar and trembling aspen. New Phytologist, 2011, 190, 150-160.	3.5	58
46	Heterogeneous distribution of pectin epitopes and calcium in different pit types of four angiosperm species. New Phytologist, 2011, 192, 885-897.	3.5	50
47	Hydraulic acclimation to shading in boreal conifers of varying shade tolerance. Plant, Cell and Environment, 2010, 33, 382-393.	2.8	52
48	What happens when stems are embolized in a centrifuge? Testing the cavitron theory. Physiologia Plantarum, 2010, 140, 311-320.	2.6	17
49	Influence of nitrogen fertilization on xylem traits and aquaporin expression in stems of hybrid poplar. Tree Physiology, 2010, 30, 1016-1025.	1.4	145
50	Xylem function of aridâ€land shrubs from California, USA: an ecological and evolutionary analysis. Plant, Cell and Environment, 2009, 32, 1324-1333.	2.8	75
51	Embolism resistance of three boreal conifer species varies with pit structure. New Phytologist, 2009, 182, 675-686.	3.5	115
52	Evaluation of centrifugal methods for measuring xylem cavitation in conifers, diffuseâ€and ringâ€porous angiosperms. New Phytologist, 2008, 177, 558-568.	3.5	87
53	Hydraulic Consequences of Vessel Evolution in Angiosperms. International Journal of Plant Sciences, 2007, 168, 1127-1139.	0.6	106
54	Water Transport in Vesselless Angiosperms: Conducting Efficiency and Cavitation Safety. International Journal of Plant Sciences, 2007, 168, 1113-1126.	0.6	79

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55	FROST DROUGHT IN CONIFERS AT THE ALPINE TIMBERLINE: XYLEM DYSFUNCTION AND ADAPTATIONS. Ecology, 2006, 87, 3175-3185.	1.5	130
56	Mechanical reinforcement of tracheids compromises the hydraulic efficiency of conifer xylem. Plant, Cell and Environment, 2006, 29, 1618-1628.	2.8	218
57	Adjustments in hydraulic architecture of Pinus palustris maintain similar stomatal conductance in xeric and mesic habitats. Plant, Cell and Environment, 2006, 29, 535-545.	2.8	150
58	Size and function in conifer tracheids and angiosperm vessels. American Journal of Botany, 2006, 93, 1490-1500.	0.8	524
59	Scaling of angiosperm xylem structure with safety and efficiency. Tree Physiology, 2006, 26, 689-701.	1.4	575
60	Interâ€tracheid pitting and the hydraulic efficiency of conifer wood: the role of tracheid allometry and cavitation protection. American Journal of Botany, 2006, 93, 1265-1273.	0.8	162
61	Comparative analysis of end wall resistivity in xylem conduits. Plant, Cell and Environment, 2005, 28, 456-465.	2.8	227
62	Inter-vessel pitting and cavitation in woody Rosaceae and other vesselled plants: a basis for a safety versus efficiency trade-off in xylem transport. Plant, Cell and Environment, 2005, 28, 800-812.	2.8	505
63	Efficiency Versus Safety Tradeoffs for Water Conduction in Angiosperm Vessels Versus Gymnosperm Tracheids. , 2005, , 333-353.		42
64	Torus-Margo Pits Help Conifers Compete with Angiosperms. Science, 2005, 310, 1924-1924.	6.0	165
65	Analysis of circular bordered pit function I. Angiosperm vessels with homogenous pit membranes. American Journal of Botany, 2004, 91, 369-385.	0.8	201
66	Analysis of circular bordered pit function II. Gymnosperm tracheids with torusâ€margo pit membranes. American Journal of Botany, 2004, 91, 386-400.	0.8	210
67	The Cohesionâ€Tension Theory. New Phytologist, 2004, 163, 451-452.	3.5	68
68	Limits to xylem refilling under negative pressure in Laurus nobilis and Acer negundo. Plant, Cell and Environment, 2003, 26, 303-311.	2.8	176
69	Xylem Hydraulics and the Soilâ€"Plantâ€"Atmosphere Continuum: Opportunities and Unresolved Issues. Agronomy Journal, 2003, 95, 1362-1370.	0.9	130
70	Soil Water Uptake and Water Transport Through Root Systems. , 2002, , 663-681.		5
71	Water deficits and hydraulic limits to leaf water supply. Plant, Cell and Environment, 2002, 25, 251-263.	2.8	707
72	Desert shrub water relations with respect to soil characteristics and plant functional type. Functional Ecology, 2002, 16, 367-378.	1.7	262

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73	Functional and ecological xylem anatomy. Perspectives in Plant Ecology, Evolution and Systematics, 2001, 4, 97-115.	1.1	624
74	Cavitation Fatigue. Embolism and Refilling Cycles Can Weaken the Cavitation Resistance of Xylem. Plant Physiology, 2001, 125, 779-786.	2.3	293
75	Trends in wood density and structure are linked to prevention of xylem implosion by negative pressure. Oecologia, 2001, 126, 457-461.	0.9	1,257
76	Drought experience and cavitation resistance in six shrubs from the Great Basin, Utah. Basic and Applied Ecology, 2000, 1, 31-41.	1.2	276
77	Influence of soil porosity on water use in Pinus taeda. Oecologia, 2000, 124, 495-505.	0.9	270
78	The relationship between xylem conduit diameter and cavitation caused by freezing. American Journal of Botany, 1999, 86, 1367-1372.	0.8	398
79	Xylem dysfunction during winter and recovery of hydraulic conductivity in diffuse-porous and ring-porous trees. Oecologia, 1996, 105, 435-439.	0.9	180
80	Drought-Induced Xylem Dysfunction in Petioles, Branches, and Roots of Populus balsamifera L. and Alnus glutinosa (L.) Gaertn. Plant Physiology, 1996, 111, 413-417.	2.3	124
81	Vulnerability of xylem to embolism in relation to leaf water potential and stomatal conductance inFagus sylvaticaf.purpureaandPopulus balsamifera. Journal of Experimental Botany, 1995, 46, 1177-1183.	2.4	97