Christophe Maurel

List of Publications by Year
in descending order

88 papers	12,718 citations	30070 54 h-index	51608 86 g-index
121 all docs	121 docs citations	121 times ranked	9135 citing authors

#	Article	IF	Citations
1	Approaches and determinants to sustainably improve crop production. Food and Energy Security, 2023, 12, .	4.3	12
2	Experimental and conceptual approaches to root water transport. Plant and Soil, 2022, 478, 349-370.	3.7	10
3	Hormonal and environmental signaling pathways target membrane water transport. Plant Physiology, 2021, 187, 2056-2070.	4.8	18
4	Non-invasive hydrodynamic imaging in plant roots at cellular resolution. Nature Communications, 2021, 12, 4682.	12.8	19
5	Physiological roles of Casparian strips and suberin in the transport of water and solutes. New Phytologist, 2021, 232, 2295-2307.	7.3	33
6	OUP accepted manuscript. Plant Physiology, 2021, , .	4.8	0
7	A Plasma Membrane Nanodomain Ensures Signal Specificity during Osmotic Signaling in Plants. Current Biology, 2020, 30, 4654-4664.e4.	3.9	40
8	Root architecture and hydraulics converge for acclimation to changing water availability. Nature Plants, 2020, 6, 744-749.	9.3	100
9	Oscillating Aquaporin Phosphorylation and 14-3-3 Proteins Mediate the Circadian Regulation of Leaf Hydraulics. Plant Cell, 2019, 31, 417-429.	6.6	47
10	Osmotic Stress Activates Two Reactive Oxygen Species Pathways with Distinct Effects on Protein Nanodomains and Diffusion. Plant Physiology, 2019, 179, 1581-1593.	4.8	62
11	Abscisic Acid Coordinates Dose-Dependent Developmental and Hydraulic Responses of Roots to Water Deficit. Plant Physiology, 2019, 180, 2198-2211.	4.8	54
12	Surveillance of cell wall diffusion barrier integrity modulates water and solute transport in plants. Scientific Reports, 2019, 9, 4227.	3.3	60
13	Regulation of a plant aquaporin by a Casparian strip membrane domain proteinâ€like. Plant, Cell and Environment, 2019, 42, 1788-1801.	5.7	18
14	Sub-cellular markers highlight intracellular dynamics of membrane proteins in response to abiotic treatments in rice. Rice, 2018, 11, 23.	4.0	10
15	Natural variation at XND1 impacts root hydraulics and trade-off for stress responses in Arabidopsis. Nature Communications, 2018, 9, 3884.	12.8	67
16	Plant Aquaporins. Advances in Botanical Research, 2018, 87, 25-56.	1.1	11
17	Aquaporins facilitate hydrogen peroxide entry into guard cells to mediate ABA- and pathogen-triggered stomatal closure. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 9200-9205.	7.1	281
18	Aquaporins and plant transpiration. Plant, Cell and Environment, 2016, 39, 2580-2587.	5.7	101

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19	A Potassium-Dependent Oxygen Sensing Pathway Regulates Plant Root Hydraulics. Cell, 2016, 167, 87-98.e14.	28.9	72
20	Novel Aquaporin Regulatory Mechanisms Revealed by Interactomics. Molecular and Cellular Proteomics, 2016, 15, 3473-3487.	3.8	80
21	Dual regulation of root hydraulic conductivity and plasma membrane aquaporins by plant nitrate accumulation and high-affinity nitrate transporter NRT2.1. Plant and Cell Physiology, 2016, 57, 733-742.	3.1	84
22	Super-Resolved and Dynamic Imaging of Membrane Proteins in Plant Cells Reveal Contrasting Kinetic Profiles and Multiple Confinement Mechanisms. Molecular Plant, 2015, 8, 339-342.	8.3	56
23	Subcellular Redistribution of Root Aquaporins Induced by Hydrogen Peroxide. Molecular Plant, 2015, 8, 1103-1114.	8.3	66
24	Aquaporins Contribute to ABA-Triggered Stomatal Closure through OST1-Mediated Phosphorylation. Plant Cell, 2015, 27, 1945-1954.	6.6	261
25	Aquaporins in Plants. Physiological Reviews, 2015, 95, 1321-1358.	28.8	658
26	Single-molecule fluorescence imaging to quantify membrane protein dynamics and oligomerization in living plant cells. Nature Protocols, 2015, 10, 2054-2063.	12.0	60
27	The calciumâ€dependent protein kinase <scp>CPK</scp>7 acts on root hydraulic conductivity. Plant, Cell and Environment, 2015, 38, 1312-1320.	5.7	34
28	A receptor-like kinase mutant with absent endodermal diffusion barrier displays selective nutrient homeostasis defects. ELife, 2014, 3, e03115.	6.0	203
29	Plant Aquaporins. , 2014, , 1-23.		1
30	Proposition d'un modÃ¨le de reprÃ©sentation et de mesure de la performance globale. Comptabilite Controle Audit, 2014, Tome 20, 73-99.	0.5	14
31	The Role of Plasma Membrane Aquaporins in Regulating the Bundle Sheath-Mesophyll Continuum and Leaf Hydraulics Â Â Â. Plant Physiology, 2014, 166, 1609-1620.	4.8	105
32	Plant aquaporins: Roles in plant physiology. Biochimica Et Biophysica Acta - General Subjects, 2014, 1840, 1574-1582.	2.4	243
33	Enhancement of root hydraulic conductivity by methyl jasmonate and the role of calcium and abscisic acid in this process. Plant, Cell and Environment, 2014, 37, 995-1008.	5.7	88
34	Phosphorylation dynamics of membrane proteins from <i>Arabidopsis</i> roots submitted to salt stress. Proteomics, 2014, 14, 1058-1070.	2.2	32
35	Plant aquaporins on the move: reversible phosphorylation, lateral motion and cycling. Current Opinion in Plant Biology, 2014, 22, 101-107.	7.1	45
36	Vegetative and Sperm Cell-Specific Aquaporins of Arabidopsis Highlight the Vacuolar Equipment of Pollen and Contribute to Plant Reproduction Â. Plant Physiology, 2014, 164, 1697-1706.	4.8	50

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37	Vacuolar biogenesis and aquaporin expression at early germination of broad bean seeds. Plant Physiology and Biochemistry, 2014, 82, 123-132.	5.8	21
38	Probing plasma membrane dynamics at the single-molecule level. Trends in Plant Science, 2013, 18, 617-624.	8.8	39
39	Aquaporin Trafficking in Plant Cells: An Emerging Membraneâ€Protein Model. Traffic, 2013, 14, 629-635.	2.7	54
40	Coordinated Post-translational Responses of Aquaporins to Abiotic and Nutritional Stimuli in Arabidopsis Roots. Molecular and Cellular Proteomics, 2013, 12, 3886-3897.	3.8	73
41	Regulation of leaf hydraulics: from molecular to whole plant levels. Frontiers in Plant Science, 2013, 4, 255.	3.6	123
42	Regulation of <i>Arabidopsis</i> Leaf Hydraulics Involves Light-Dependent Phosphorylation of Aquaporins in Veins Â. Plant Cell, 2013, 25, 1029-1039.	6.6	158
43	Salt stress triggers enhanced cycling of Arabidopsis root plasma-membrane aquaporins. Plant Signaling and Behavior, 2012, 7, 529-532.	2.4	24
44	Auxin regulates aquaporin function to facilitate lateral root emergence. Nature Cell Biology, 2012, 14, 991-998.	10.3	323
45	Dynamic Behavior and Internalization of Aquaporins at the Surface of Plant Cells. , 2012, , 185-199.		1
46	Cell wall constrains lateral diffusion of plant plasma-membrane proteins. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 12805-12810.	7.1	224
47	Fluorescence recovery after photobleaching reveals high cycling dynamics of plasma membrane aquaporins in Arabidopsis roots under salt stress. Plant Journal, 2012, 69, 894-905.	5.7	108
48	Aquaporins: for more than water at the plantâ€"fungus interface?. New Phytologist, 2011, 190, 815-817.	7.3	37
49	Mechanisms and Effects of Retention of Overâ€Expressed Aquaporin AtPIP2;1 in the Endoplasmic Reticulum. Traffic, 2011, 12, 473-482.	2.7	63
50	Single-Molecule Analysis of PIP2;1 Dynamics and Partitioning Reveals Multiple Modes of <i>Arabidopsis</i> Plasma Membrane Aquaporin Regulation Â. Plant Cell, 2011, 23, 3780-3797.	6.6	229
51	Natural Variation of Root Hydraulics in Arabidopsis Grown in Normal and Salt-Stressed Conditions Â Â. Plant Physiology, 2011, 155, 1264-1276.	4.8	169
52	O-Carboxyl- and N-Methyltransferases Active on Plant Aquaporins. Plant and Cell Physiology, 2010, 51, 2092-2104.	3.1	19
53	The significance of roots as hydraulic rheostats. Journal of Experimental Botany, 2010, 61, 3191-3198.	4.8	128
54	A PIP1 Aquaporin Contributes to Hydrostatic Pressure-Induced Water Transport in Both the Root and Rosette of Arabidopsis. Plant Physiology, 2010, 152, 1418-1430.	4.8	220

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55	Aquaporin-Mediated Reduction in Maize Root Hydraulic Conductivity Impacts Cell Turgor and Leaf Elongation Even without Changing Transpiration Â. Plant Physiology, 2009, 150, 1093-1104.	4.8	165
56	The cellular dynamics of plant aquaporin expression and functions. Current Opinion in Plant Biology, 2009, 12, 690-698.	7.1	136
57	A look inside: localization patterns and functions of intracellular plant aquaporins. New Phytologist, 2009, 184, 289-302.	7.3	143
58	Changes in plasma membrane lipids, aquaporins and proton pump of broccoli roots, as an adaptation mechanism to salinity. Phytochemistry, 2009, 70, 492-500.	2.9	182
59	Two different effects of calcium on aquaporins in salinity-stressed pepper plants. Planta, 2008, 228, 15-25.	3.2	38
60	Plant Aquaporins: Membrane Channels with Multiple Integrated Functions. Annual Review of Plant Biology, 2008, 59, 595-624.	18.7	1,071
61	Stimulusâ€induced downregulation of root water transport involves reactive oxygen speciesâ€activated cell signalling and plasma membrane intrinsic protein internalization. Plant Journal, 2008, 56, 207-218.	5.7	222
62	The response of Arabidopsis root water transport to a challenging environment implicates reactive oxygen species- and phosphorylation-dependent internalization of aquaporins. Plant Signaling and Behavior, 2008, 3, 1096-1098.	2.4	53
63	Multiple Phosphorylations in the C-terminal Tail of Plant Plasma Membrane Aquaporins. Molecular and Cellular Proteomics, 2008, 7, 1019-1030.	3.8	210
64	Dolichol Biosynthesis and Its Effects on the Unfolded Protein Response and Abiotic Stress Resistance in <i>Arabidopsis</i> Â Â. Plant Cell, 2008, 20, 1879-1898.	6.6	102
65	Structureâ€“function analysis of plant aquaporin <i>At</i>PIP2;1 gating by divalent cations and protons. Biochemical Journal, 2008, 415, 409-416.	3.7	148
66	Plant aquaporins: Novel functions and regulation properties. FEBS Letters, 2007, 581, 2227-2236.	2.8	288
67	Methylation of aquaporins in plant plasma membrane. Biochemical Journal, 2006, 400, 189-197.	3.7	76
68	Plasma membrane of Beta vulgaris storage root shows high water channel activity regulated by cytoplasmic pH and a dual range of calcium concentrations. Journal of Experimental Botany, 2006, 57, 609-621.	4.8	149
69	Expression and Inhibition of Aquaporins in Germinating Arabidopsis Seeds. Plant and Cell Physiology, 2006, 47, 1241-1250.	3.1	99
70	Aquaporins in a challenging environment: molecular gears for adjusting plant water status. Plant, Cell and Environment, 2005, 28, 85-96.	5.7	318
71	Early Effects of Salinity on Water Transport in Arabidopsis Roots. Molecular and Cellular Features of Aquaporin Expression. Plant Physiology, 2005, 139, 790-805.	4.8	498
72	Cytosolic pH regulates root water transport during anoxic stress through gating of aquaporins. Nature, 2003, 425, 393-397.	27.8	601

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73	Role of a Single Aquaporin Isoform in Root Water Uptake. Plant Cell, 2003, 15, 509-522.	6.6	331
74	A proteomic study reveals novel insights into the diversity of aquaporin forms expressed in the plasma membrane of plant roots. Biochemical Journal, 2003, 373, 289-296.	3.7	128
75	The Role of Aquaporins in Root Water Uptake. Annals of Botany, 2002, 90, 301-313.	2.9	531
76	Vacuolar membrane localization of theArabidopsisâ€˜twoâ€poreâ€™ K+channel KCO1. Plant Journal, 2002, 29, 809-820.	5.7	113
77	The water permeability of Arabidopsis plasma membrane is regulated by divalent cations and pH. Plant Journal, 2002, 30, 71-81.	5.7	209
78	Aquaporins. A Molecular Entry into Plant Water Relations. Plant Physiology, 2001, 125, 135-138.	4.8	238
79	An abundant TIP expressed in mature highly vacuolated cells. Plant Journal, 2000, 21, 83-90.	5.7	43
80	Disruption of putative anion channel gene AtCLC-a in Arabidopsis suggests a role in the regulation of nitrate content. Plant Journal, 2000, 21, 259-267.	5.7	151
81	The high diversity of aquaporins reveals novel facets of plant membrane functions. Current Opinion in Plant Biology, 2000, 3, 476-481.	7.1	55
82	Aquaporin Nt-TIPa can account for the high permeability of tobacco cell vacuolar membrane to small neutral solutes. Plant Journal, 1999, 18, 577-587.	5.7	203
83	Evidence for the Presence of Aquaporin-3 in Human Red Blood Cells. Journal of Biological Chemistry, 1998, 273, 8407-8412.	3.4	124
84	AQUAPORINS AND WATER PERMEABILITY OF PLANT MEMBRANES. Annual Review of Plant Biology, 1997, 48, 399-429.	14.3	503
85	Perception of the auxin signal at the plasma membrane of tobacco mesophyll protoplasts. Plant Journal, 1991, 1, 83-93.	5.7	199
86	Single <i>rol</i> Genes from the <i>Agrobacterium rhizogenes</i> T_L-DNA Alter Some of the Cellular Responses to Auxin in <i>Nicotiana tabacum</i>. Plant Physiology, 1991, 97, 212-216.	4.8	151
87	Auxin regulates the promoter of the root-inducing rolB gene of Agrobacterium rhizogenes in transgenic tobacco. Molecular Genetics and Genomics, 1990, 223, 58-64.	2.4	75
88	Phenotyping and modeling of root hydraulic architecture reveal critical determinants of axial water transport. Plant Physiology, 0, , .	4.8	12