Alexander Schulz

List of Publications by Year
in descending order

116 papers	7,877 citations	61984 43 h-index	51608 86 g-index
124 all docs	124 docs citations	124 times ranked	8373 citing authors

#	Article	IF	Citations
1	Specific Aquaporins Facilitate the Diffusion of Hydrogen Peroxide across Membranes. Journal of Biological Chemistry, 2007, 282, 1183-1192.	3.4	1,086
2	Macromolecular Trafficking Indicated by Localization and Turnover of Sucrose Transporters in Enucleate Sieve Elements. Science, 1997, 275, 1298-1300.	12.6	443
3	Arabidopsis Protein Kinase PKS5 Inhibits the Plasma Membrane H+-ATPase by Preventing Interaction with 14-3-3 Protein. Plant Cell, 2007, 19, 1617-1634.	6.6	388
4	SUT2, a Putative Sucrose Sensor in Sieve Elements. Plant Cell, 2000, 12, 1153-1164.	6.6	303
5	Energization of Transport Processes in Plants. Roles of the Plasma Membrane H+-ATPase. Plant Physiology, 2004, 136, 2475-2482.	4.8	290
6	Distribution of Phytoplasmas in Infected Plants as Revealed by Real-Time PCR and Bioimaging. Molecular Plant-Microbe Interactions, 2004, 17, 1175-1184.	2.6	235
7	Protonâ€driven sucrose symport and antiport are provided by the vacuolar transporters SUC4 and TMT1/2. Plant Journal, 2011, 68, 129-136.	5.7	207
8	Phytoplasmas and their interactions with hosts. Trends in Plant Science, 2005, 10, 526-535.	8.8	190
9	Translocation of Structural P Proteins in the Phloem. Plant Cell, 1999, 11, 127-140.	6.6	177
10	Companion cell-specific inhibition of the potato sucrose transporter SUT1. Plant, Cell and Environment, 1996, 19, 1115-1123.	5.7	172
11	Long-Distance Phloem Transport of Glucosinolates in Arabidopsis. Plant Physiology, 2001, 127, 194-201.	4.8	153
12	The molecular deposition of transgenically modified starch in the starch granule as imaged by functional microscopy. Journal of Structural Biology, 2003, 143, 229-241.	2.8	151
13	Origin of a chloroplast protein importer. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 15831-15836.	7.1	146
14	Live imaging of intra- and extracellular pH in plants using pHusion, a novel genetically encoded biosensor. Journal of Experimental Botany, 2012, 63, 3207-3218.	4.8	143
15	Ca2+-mediated remote control of reversible sieve tube occlusion in Vicia faba. Journal of Experimental Botany, 2007, 58, 2827-2838.	4.8	141
16	Identification of the transporter responsible for sucrose accumulation in sugar beet taproots. Nature Plants, 2015, 1, 14001.	9.3	141
17	Proteinâ€"Protein Interactions between Sucrose Transporters of Different Affinities Colocalized in the Same Enucleate Sieve Element. Plant Cell, 2002, 14, 1567-1577.	6.6	140
18	The <i>Arabidopsis</i> P4-ATPase ALA3 Localizes to the Golgi and Requires a Î²-Subunit to Function in Lipid Translocation and Secretory Vesicle Formation. Plant Cell, 2008, 20, 658-676.	6.6	129

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19	Macromolecular trafficking in the phloem. Trends in Plant Science, 1999, 4, 354-360.	8.8	127
20	Monitoring reactive oxygen species formation and localisation in living cells by use of the fluorescent probe CMâ€H₂DCFDA and confocal laser microscopy. Physiologia Plantarum, 2009, 136, 369-383.	5.2	117
21	Regulation of ABCB1/PGP1-catalysed auxin transport by linker phosphorylation. EMBO Journal, 2012, 31, 2965-2980.	7.8	114
22	Plasmodesmal widening accompanies the short-term increase in symplasmic phloem unloading in pea root tips under osmotic stress. Protoplasma, 1995, 188, 22-37.	2.1	102
23	Tuber Physiology and Properties of Starch from Tubers of Transgenic Potato Plants with Altered Plastidic Adenylate Transporter Activity. Plant Physiology, 2001, 125, 1667-1678.	4.8	96
24	Pollen development and fertilization in Arabidopsis is dependent on the MALE GAMETOGENESIS IMPAIRED ANTHERS gene encoding a Type V P-type ATPase. Genes and Development, 2005, 19, 2757-2769.	5.9	86
25	Arabidopsis Chromatin-Associated HMGA and HMGB Use Different Nuclear Targeting Signals and Display Highly Dynamic Localization within the Nucleus. Plant Cell, 2006, 18, 2904-2918.	6.6	86
26	Expression of the phloem lectin is developmentally linked to vascular differentiation in cucurbits. Planta, 1997, 201, 405-414.	3.2	85
27	Universality of phloem transport in seed plants. Plant, Cell and Environment, 2012, 35, 1065-1076.	5.7	83
28	<i>Arabidopsis</i> TWISTED DWARF1 Functionally Interacts with Auxin Exporter ABCB1 on the Root Plasma Membrane Â. Plant Cell, 2013, 25, 202-214.	6.6	83
29	Evidence for graft transmission of structural phloem proteins or their precursors in heterografts of Cucurbitaceae. Planta, 1998, 206, 630-640.	3.2	80
30	Quantification of Plasmodesmatal Endoplasmic Reticulum Coupling between Sieve Elements and Companion Cells Using Fluorescence Redistribution after Photobleaching. Plant Physiology, 2006, 142, 471-480.	4.8	77
31	Overexpression of a protonâ€coupled vacuolar glucose exporter impairs freezing tolerance and seed germination. New Phytologist, 2014, 202, 188-197.	7.3	74
32	Localization of the glucosinolate biosynthetic enzymes reveals distinct spatial patterns for the biosynthesis of indole and aliphatic glucosinolates. Physiologia Plantarum, 2018, 163, 138-154.	5.2	69
33	Super-resolution imaging with Pontamine Fast Scarlet 4BS enables direct visualization of cellulose orientation and cell connection architecture in onion epidermis cells. BMC Plant Biology, 2013, 13, 226.	3.6	68
34	An Early Nodulin-Like Protein Accumulates in the Sieve Element Plasma Membrane of Arabidopsis. Plant Physiology, 2007, 143, 1576-1589.	4.8	65
35	Phloem. Structure Related to Function. Progress in Botany Fortschritte Der Botanik, 1998, , 429-475.	0.3	63
36	Phloem transport and differential unloading in pea seedlings after source and sink manipulations. Planta, 1994, 192, 239-248.	3.2	58

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37	Symplasmic transport and phloem loading in gymnosperm leaves. Protoplasma, 2011, 248, 181-190.	2.1	57
38	A member of the mitogenâ€activated protein 3â€kinase family is involved in the regulation of plant vacuolar glucose uptake. Plant Journal, 2011, 68, 890-900.	5.7	56
39	Aquaporin-Based Biomimetic Polymeric Membranes: Approaches and Challenges. Membranes, 2015, 5, 307-351.	3.0	54
40	Slower phloem transport in gymnosperm trees can be attributed to higher sieve element resistance. Tree Physiology, 2015, 35, 376-386.	3.1	52
41	In Vivo Quantification of Cell Coupling in Plants with Different Phloem-Loading Strategies Â. Plant Physiology, 2012, 159, 355-365.	4.8	47
42	Galactosyltransferases from Arabidopsis thaliana in the biosynthesis of type II arabinogalactan: molecular interaction enhances enzyme activity. BMC Plant Biology, 2014, 14, 90.	3.6	47
43	Cell-to-cell transport through plasmodesmata in tree callus cultures. Tree Physiology, 2009, 29, 809-818.	3.1	46
44	Ultrastructural effects in potato leaves due to antisense-inhibition of the sucrose transporter indicate an apoplasmic mode of phloem loading. Planta, 1998, 206, 533-543.	3.2	44
45	Directionality of Plasmodesmata-Mediated Transport in Arabidopsis Leaves Supports Auxin Channeling. Current Biology, 2020, 30, 1970-1977.e4.	3.9	40
46	Living sieve cells of conifers as visualized by confocal, laser-scanning fluorescence microscopy. Protoplasma, 1992, 166, 153-164.	2.1	38
47	Diffusion or bulk flow: how plasmodesmata facilitate pre-phloem transport of assimilates. Journal of Plant Research, 2015, 128, 49-61.	2.4	38
48	Cucurbit phloem serpins are graft-transmissible and appear to be resistant to turnover in the sieve elementâ€“companion cell complex. Journal of Experimental Botany, 2005, 56, 3111-3120.	4.8	37
49	Imaging dynamics of CD11c+ cells and Foxp3+ cells in progressive autoimmune insulitis in the NOD mouse model of type 1 diabetes. Diabetologia, 2013, 56, 2669-2678.	6.3	37
50	Uptake of a Fluorescent Dye as a Swift and Simple Indicator of Organelle Intactness: Import-competent Chloroplasts from Soil-grown <i>Arabidopsis</i>. Journal of Histochemistry and Cytochemistry, 2004, 52, 701-704.	2.5	36
51	Recycling of Solanum Sucrose Transporters Expressed in Yeast, Tobacco, and in Mature Phloem Sieve Elements. Molecular Plant, 2010, 3, 1064-1074.	8.3	35
52	Modeling the parameters for plasmodesmal sugar filtering in active symplasmic phloem loaders. Frontiers in Plant Science, 2013, 4, 207.	3.6	35
53	The <scp>SNARE</scp> protein vti1a functions in denseâ€core vesicle biogenesis. EMBO Journal, 2014, 33, 1681-1697.	7.8	34
54	Post-translational Modification of Plant Plasma Membrane H+-ATPase as a Requirement for Functional Complementation of a Yeast Transport Mutant. Journal of Biological Chemistry, 2002, 277, 6353-6358.	3.4	32

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55	Sieve-element differentiation and fluoresceine translocation in wound-phloem of pea roots after complete severance of the stele. Planta, 1987, 170, 289-299.	3.2	31
56	An extra-plastidial Â-glucan, water dikinase from Arabidopsis phosphorylates amylopectin in vitro and is not necessary for transient starch degradation. Journal of Experimental Botany, 2007, 58, 3949-3960.	4.8	31
57	GTR-Mediated Radial Import Directs Accumulation of Defensive Glucosinolates toÂSulfur-Rich Cells in the Phloem Cap ofÂArabidopsis Inflorescence Stem. Molecular Plant, 2019, 12, 1474-1484.	8.3	30
58	Fine structure, pattern of division, and course of wound phloem in Coleus blumei. Planta, 1980, 150, 357-365.	3.2	29
59	Phloem Loading by the PmSUC2 Sucrose Carrier from Plantago major Occurs into Companion Cells. Plant Cell, 1995, 7, 1545.	6.6	29
60	Effects of Water and Nitrogen Supply on Water Use Efficiency and Carbon Isotope Discrimination in Edible Canna (Canna edulis Ker-Gawler). Plant Biology, 2001, 3, 326-334.	3.8	29
61	Syncytin-1 in differentiating human myoblasts: relationship to caveolin-3 and myogenin. Cell and Tissue Research, 2014, 357, 355-362.	2.9	29
62	Wound phloem in transition to bundle phloem in primary roots ofPisum sativum L.. Protoplasma, 1986, 130, 12-26.	2.1	28
63	Wound phloem in transition to bundle phloem in primary roots ofPisum sativum L.. Protoplasma, 1986, 130, 27-40.	2.1	28
64	Arabidopsis glucosinolate storage cells transform into phloem fibres at late stages of development. Journal of Experimental Botany, 2019, 70, 4305-4317.	4.8	28
65	SUT2, a Putative Sucrose Sensor in Sieve Elements. Plant Cell, 2000, 12, 1153.	6.6	27
66	Caged probes: a novel tool in studying symplasmic transport in plant tissues. Protoplasma, 2004, 223, 63-66.	2.1	27
67	Herbivore feeding preference corroborates optimal defense theory for specialized metabolites within plants. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	27
68	Development of Cuscuta species on a partially incompatible host: induction of xylem transfer cells. Protoplasma, 2003, 220, 131-142.	2.1	26
69	Scaling of phloem structure and optimality of photoassimilate transport in conifer needles. Proceedings of the Royal Society B: Biological Sciences, 2015, 282, 20141863.	2.6	26
70	A symplasmic flow of sucrose contributes to phloem loading in Ricinus cotyledons. Planta, 1998, 206, 108-116.	3.2	25
71	Perspectives for using genetically encoded fluorescent biosensors in plants. Frontiers in Plant Science, 2013, 4, 234.	3.6	23
72	Direct Comparison of Leaf Plasmodesma Structure and Function in Relation to Phloem-Loading Type. Plant Physiology, 2019, 179, 1768-1778.	4.8	23

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73	Dimerization and endocytosis of the sucrose transporter StSUT1 in mature sieve elements. Plant Signaling and Behavior, 2008, 3, 1136-1137.	2.4	21
74	Conifers. , 1990, , 63-88.		21
75	<scp>SVR4</scp> (suppressor of variegation 4) and <scp>SVR4</scp>â€like: two proteins with a role in proper organization of the chloroplast genetic machinery. Physiologia Plantarum, 2014, 150, 477-492.	5.2	20
76	Expression of <scp>TWISTED DWARF</scp>1 lacking its inâ€plane membrane anchor leads to increased cell elongation and hypermorphic growth. Plant Journal, 2014, 77, 108-118.	5.7	19
77	Long-Distance Trafficking: Lost in Transit or Stopped at the Gate?. Plant Cell, 2017, 29, 426-430.	6.6	19
78	The development of specific sieve-element plastids in wound phloem ofColeus blumei (S-type) andPisum sativum (P-type), regenerated from amyloplast-containing parenchyma cells. Protoplasma, 1983, 114-114, 125-132.	2.1	18
79	A phloem-specific, lectin-like protein is located in pine sieve-element plastids by immunocytochemistry. Planta, 1989, 179, 506-515.	3.2	18
80	Phloem transport and differential unloading in pea seedlings after source and sink manipulations. Planta, 1994, 192, 239.	3.2	18
81	Proximate composition, histochemical analysis and microstructural localisation of nutrients in immature and mature seeds of marama bean (Tylosema esculentum) â€“ An underutilised food legume. Food Chemistry, 2011, 127, 1555-1561.	8.2	18
82	Quantification of plant cell coupling with threeâ€dimensional photoactivation microscopy. Journal of Microscopy, 2012, 247, 2-9.	1.8	18
83	Diffusion and bulk flow in phloem loading: A theoretical analysis of the polymer trap mechanism for sugar transport in plants. Physical Review E, 2014, 90, 042704.	2.1	18
84	Phloem transport in gymnosperms: a question of pressure and resistance. Current Opinion in Plant Biology, 2018, 43, 36-42.	7.1	18
85	Vascular differentiation in the root cortex of peas: Premitotic stages of cytoplasmic reactivation. Protoplasma, 1988, 143, 176-187.	2.1	16
86	Novel approach to measure the size of plasmaâ€membrane nanodomains in single molecule localization microscopy. Cytometry Part A: the Journal of the International Society for Analytical Cytology, 2015, 87, 868-877.	1.5	12
87	Bundle sheath cells of small veins in maize leaves are the location of uptake from the xylem. Journal of Experimental Botany, 2001, 52, 709-714.	4.8	11
88	De novo indolâ€3â€ylmethyl glucosinolate biosynthesis, and not longâ€distance transport, contributes to defence of Arabidopsis against powdery mildew. Plant, Cell and Environment, 2020, 43, 1571-1583.	5.7	11
89	Arabidopsis PLDs with C2â€domain function distinctively in hypoxia. Physiologia Plantarum, 2019, 167, 90-110.	5.2	10
90	Regeneration of Sucrose Translocation in Wounded Roots of Pea Seedlings. Journal of Plant Physiology, 1990, 136, 599-605.	3.5	9

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91	Symplasmic Transport in Phloem Loading and Unloading. , 2013, , 133-163.		9
92	The mechanism of sugar export from long conifer needles. New Phytologist, 2021, 230, 1911-1924.	7.3	9
93	Identification of a bio-signature for barley resistance against Pyrenophora teres infection based on physiological, molecular and sensor-based phenotyping. Plant Science, 2021, 313, 111072.	3.6	9
94	Wound-Sieve Elements. , 1990, , 199-217.		9
95	Occupational irritant contact dermatitis in a carpenter exposed to wood from Brazilian rainforest tree <i>Manilkara bidentata</i>. Contact Dermatitis, 2009, 60, 240-241.	1.4	8
96	Inhibition of cytoplasmic streaming by cytochalasin D is superior to paraformaldehyde fixation for measuring FRET between fluorescent proteinâ€tagged Golgi components. Cytometry Part A: the Journal of the International Society for Analytical Cytology, 2013, 83, 830-838.	1.5	8
97	Phospholipases <i>AtPLDÎ¶1</i> and <i>AtPLDÎ¶2</i> function differently in hypoxia. Physiologia Plantarum, 2018, 162, 98-108.	5.2	8
98	Dynamic transitions in the translocated phloem filament protein. Functional Plant Biology, 2000, 27, 733.	2.1	8
99	Transmission Electron Microscopy of the Phloem with Minimal Artifacts. Methods in Molecular Biology, 2019, 2014, 17-27.	0.9	7
100	Sink strength: The importance of the distance between phloem and receiver cells. Plant, Cell and Environment, 1993, 16, 1031-1032.	5.7	6
101	Non-invasive method for in vivo detection of chlorophyll precursors. Photochemical and Photobiological Sciences, 2009, 8, 279-286.	2.9	6
102	Improving analytical methods for protein-protein interaction through implementation of chemically inducible dimerization. Scientific Reports, 2016, 6, 27766.	3.3	6
103	Environmental conditions, not sugar export efficiency, limit the length of conifer leaves. Tree Physiology, 2019, 39, 312-319.	3.1	6
104	Stationary sieve element proteins. Journal of Plant Physiology, 2021, 266, 153511.	3.5	4
105	Translocation of Structural P Proteins in the Phloem. Plant Cell, 1999, 11, 127.	6.6	3
106	Live Imaging of Phosphate Levels in Arabidopsis Root Cells Expressing a FRET-Based Phosphate Sensor. Plants, 2020, 9, 1310.	3.5	3
107	Quantification of Plant Cell Coupling with Live-Cell Microscopy. Methods in Molecular Biology, 2015, 1217, 137-148.	0.9	3
108	Exploitation of GFP-Technology with Filamentous Fungi. Mycology, 2003, , .	0.5	3

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109	Identification of new proteins in mature sieve elements. Physiologia Plantarum, 2022, 174, e13634.	5.2	3
110	In Arabidopsis thaliana Substrate Recognition and Tissue- as Well as Plastid Type-Specific Expression Define the Roles of Distinct Small Subunits of Isopropylmalate Isomerase. Frontiers in Plant Science, 2020, 11, 808.	3.6	2
111	Characterization of methylsulfinylalkyl glucosinolate specific polyclonal antibodies. Journal of Plant Biochemistry and Biotechnology, 2016, 25, 433-436.	1.7	1
112	Water Motion and Sugar Translocation in Leaves. , 2018, , 351-374.		1
113	OUP accepted manuscript. Tree Physiology, 2021, , .	3.1	1
114	New mosaic fragments toward reconstructing the elusive phloem system. Journal of Plant Physiology, 2022, 275, 153754.	3.5	1
115	Super-Resolution Microscopy of Phloem Proteins. Methods in Molecular Biology, 2019, 2014, 83-94.	0.9	0
116	Phloem Regeneration. , 1993, , 63-78.		0