Liam Dolan

List of Publications by Citations

151 papers	12,520 citations	54 h-index	111 g-index
232 ext. papers	15,119 ext. citations	10.1 avg, IF	6.4 L-index

#	Paper	IF	Citations
151	Reactive oxygen species produced by NADPH oxidase regulate plant cell growth. *Nature*, **2003**, 422, 442-6	50.4	1745
150	Agriculture. Sustainable intensification in agriculture: premises and policies. *Science*, **2013**, 341, 33-4	33.3	957
149	Insights into Land Plant Evolution Garnered from the Marchantia polymorpha Genome. *Cell*, **2017**, 171, 287-304.e15	56.2	538
148	Local positive feedback regulation determines cell shape in root hair cells. *Science*, **2008**, 319, 1241-4	33.3	418
147	Control of plant development by reactive oxygen species. *Plant Physiology*, **2006**, 141, 341-5	6.6	389
146	Origin and diversification of basic-helix-loop-helix proteins in plants. *Molecular Biology and Evolution*, **2010**, 27, 862-74	8.3	347
145	An ancient mechanism controls the development of cells with a rooting function in land plants. *Science*, **2007**, 316, 1477-80	33.3	303
144	The Arabidopsis Athb-10 (GLABRA2) is an HD-Zip protein required for regulation of root hair development. *Plant Journal*, **1996**, 10, 393-402	6.9	285
143	A RhoGDP dissociation inhibitor spatially regulates growth in root hair cells. *Nature*, **2005**, 438, 1013-6	50.4	276
142	Ethylene is a positive regulator of root hair development in Arabidopsis thaliana. *Plant Journal*, **1995**, 8, 943-8	6.9	247
141	Oxylipins produced by the 9-lipoxygenase pathway in Arabidopsis regulate lateral root development and defense responses through a specific signaling cascade. *Plant Cell*, **2007**, 19, 831-46	11.6	244
140	TRH1 encodes a potassium transporter required for tip growth in Arabidopsis root hairs. *Plant Cell*, **2001**, 13, 139-51	11.6	242
139	The Chara Genome: Secondary Complexity and Implications for Plant Terrestrialization. *Cell*, **2018**, 174, 448-464.e24	56.2	213
138	A basic helix-loop-helix transcription factor controls cell growth and size in root hairs. *Nature Genetics*, **2010**, 42, 264-7	36.3	210
137	First plants cooled the Ordovician. *Nature Geoscience*, **2012**, 5, 86-89	18.3	200
136	Genetic interactions during root hair morphogenesis in Arabidopsis. *Plant Cell*, **2000**, 12, 1961-74	11.6	191
135	KOJAK encodes a cellulose synthase-like protein required for root hair cell morphogenesis in Arabidopsis. *Genes and Development*, **2001**, 15, 79-89	12.6	188

134	Ethylene modulates stem cell division in the Arabidopsis thaliana root. *Science*, **2007**, 317, 507-10	33.3	179
133	The role of reactive oxygen species in cell growth: lessons from root hairs. *Journal of Experimental Botany*, **2006**, 57, 1829-34	7	173
132	Potassium carrier TRH1 is required for auxin transport in Arabidopsis roots. *Plant Journal*, **2004**, 40, 523-35	6.9	155
131	Morphological evolution in land plants: new designs with old genes. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2012**, 367, 508-18	5.8	146
130	Positional information in root epidermis is defined during embryogenesis and acts in domains with strict boundaries. *Current Biology*, **1998**, 8, 421-30	6.3	146
129	The movement of coiled bodies visualized in living plant cells by the green fluorescent protein. *Molecular Biology of the Cell*, **1999**, 10, 2297-307	3.5	134
128	Galactose biosynthesis in Arabidopsis: genetic evidence for substrate channeling from UDP-D-galactose into cell wall polymers. *Current Biology*, **2002**, 12, 1840-5	6.3	129
127	Clonal analysis of the Arabidopsis root confirms that position, not lineage, determines cell fate. *Planta*, **2000**, 211, 191-9	4.7	128
126	Control of cell division in the root epidermis of Arabidopsis thaliana. *Developmental Biology*, **1998**, 194, 235-45	3.1	122
125	OsCSLD1, a cellulose synthase-like D1 gene, is required for root hair morphogenesis in rice. *Plant Physiology*, **2007**, 143, 1220-30	6.6	121
124	A Transcriptome Atlas of Physcomitrella patens Provides Insights into the Evolution and Development of Land Plants. *Molecular Plant*, **2016**, 9, 205-220	14.4	118
123	Building a hair: tip growth in Arabidopsis thaliana root hairs. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2002**, 357, 815-21	5.8	114
122	Stomata patterning on the hypocotyl of Arabidopsis thaliana is controlled by genes involved in the control of root epidermis patterning. *Developmental Biology*, **1998**, 194, 226-34	3.1	108
121	Cell expansion in roots. *Current Opinion in Plant Biology*, **2004**, 7, 33-9	9.9	107
120	Systematic spatial analysis of gene expression during wheat caryopsis development. *Plant Cell*, **2005**, 17, 2172-85	11.6	103
119	Root hairs: development, growth and evolution at the plant-soil interface. *Plant and Soil*, **2011**, 346, 1-14	4.2	98
118	Both chloronemal and caulonemal cells expand by tip growth in the moss Physcomitrella patens. *Journal of Experimental Botany*, **2007**, 58, 1843-9	7	96
117	Root development. *The Arabidopsis Book*, **2002**, 1, e0101	3	96

116	A distant coilin homologue is required for the formation of cajal bodies in Arabidopsis. *Molecular Biology of the Cell*, **2006**, 17, 2942-51	3.5	93
115	Recruitment and remodeling of an ancient gene regulatory network during land plant evolution. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 9571-6	11.5	88
114	The evolution of root hairs and rhizoids. *Annals of Botany*, **2012**, 110, 205-12	4.1	87
113	Identification of the Arabidopsis dry2/sqe1-5 mutant reveals a central role for sterols in drought tolerance and regulation of reactive oxygen species. *Plant Journal*, **2009**, 59, 63-76	6.9	87
112	Cell specification in theArabidopsisroot epidermis requires the activity ofECTOPIC ROOT HAIR 3 a katanin-p60 protein. *Development (Cambridge)*, **2002**, 129, 123-131	6.6	85
111	Secondary thickening in roots of Arabidopsis thaliana: anatomy and cell surface changes. *New Phytologist*, **1995**, 131, 121-128	9.8	80
110	A mechanistic framework for auxin dependent Arabidopsis root hair elongation to low external phosphate. *Nature Communications*, **2018**, 9, 1409	17.4	79
109	The COW1 locus of arabidopsis acts after RHD2, and in parallel with RHD3 and TIP1, to determine the shape, rate of elongation, and number of root hairs produced from each site of hair formation. *Plant Physiology*, **1997**, 115, 981-90	6.6	75
108	TIP1 is required for both tip growth and non-tip growth in Arabidopsis. *New Phytologist*, **1998**, 138, 49-58	9.8	73
107	A mutual support mechanism through intercellular movement of CAPRICE and GLABRA3 can pattern the Arabidopsis root epidermis. *PLoS Biology*, **2008**, 6, e235	9.7	72
106	Evolution and genetics of root hair stripes in the root epidermis. *Journal of Experimental Botany*, **2001**, 52, 413-7	7	72
105	RSL genes are sufficient for rhizoid system development in early diverging land plants. *Development (Cambridge)*, **2011**, 138, 2273-81	6.6	68
104	RSL Class I Genes Controlled the Development of Epidermal Structures in the Common Ancestor of Land Plants. *Current Biology*, **2016**, 26, 93-9	6.3	64
103	AKT1 and TRH1 are required during root hair elongation in Arabidopsis. *Journal of Experimental Botany*, **2003**, 54, 781-8	7	62
102	The Mechanism Forming the Cell Surface of Tip-Growing Rooting Cells Is Conserved among Land Plants. *Current Biology*, **2016**, 26, 3238-3244	6.3	61
101	The role of ethylene in root hair growth in Arabidopsis. *Journal of Plant Nutrition and Soil Science*, **2001**, 164, 141-145	2.3	61
100	Conserved regulatory mechanism controls the development of cells with rooting functions in land plants. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, E3959-68	11.5	56
99	Stepwise and independent origins of roots among land plants. *Nature*, **2018**, 561, 235-238	50.4	56

98	Intensity of a pulse of RSL4 transcription factor synthesis determines Arabidopsis root hair cell size. *Nature Plants*, **2015**, 1, 15138	11.5	56
97	The role of ethylene in the development of plant form. *Journal of Experimental Botany*, **1997**, 48, 201-210	7	54
96	Identification of vacuolar phosphate efflux transporters in land plants. *Nature Plants*, **2019**, 5, 84-94	11.5	53
95	History and contemporary significance of the Rhynie cherts-our earliest preserved terrestrial ecosystem. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2018**, 373,	5.8	50
94	The ROOT HAIRLESS 1 gene encodes a nuclear protein required for root hair initiation in Arabidopsis. *Genes and Development*, **1998**, 12, 2013-21	12.6	50
93	Differential ethylene sensitivity of epidermal cells is involved in the establishment of cell pattern in the Arabidopsis root. *Physiologia Plantarum*, **1999**, 106, 311-7	4.6	48
92	Diversification of a Transcription Factor Family Led to the Evolution of Antagonistically Acting Genetic Regulators of Root Hair Growth. *Current Biology*, **2016**, 26, 1622-1628	6.3	47
91	Auxin promotes the transition from chloronema to caulonema in moss protonema by positively regulating PpRSL1and PpRSL2 in Physcomitrella patens. *New Phytologist*, **2011**, 192, 319-27	9.8	46
90	Root Hairs as a Model System for Studying Plant Cell Growth. *Annals of Botany*, **2001**, 88, 1-7	4.1	46
89	An AGP epitope distinguishes a central metaxylem initial from other vascular initials in theArabidopsis root. *Protoplasma*, **1995**, 189, 149-155	3.4	46
88	The Stepwise Increase in the Number of Transcription Factor Families in the Precambrian Predated the Diversification of Plants On Land. *Molecular Biology and Evolution*, **2016**, 33, 2815-2819	8.3	46
87	ROOT HAIR DEFECTIVE SIX-LIKE4 (RSL4) promotes root hair elongation by transcriptionally regulating the expression of genes required for cell growth. *New Phytologist*, **2016**, 212, 944-953	9.8	45
86	Cell biology and genetics of root hair formation in Arabidopsis thaliana. *Protoplasma*, **2001**, 215, 140-9	3.4	43
85	Developmental regulation of pectic polysaccharides in the root meristem of Arabidopsis. *Journal of Experimental Botany*, **1997**, 48, 713-720	7	41
84	SCHIZORIZA controls an asymmetric cell division and restricts epidermal identity in the Arabidopsis root. *Development (Cambridge)*, **2002**, 129, 4327-4334	6.6	41
83	Transcriptional profiling of Arabidopsis root hairs and pollen defines an apical cell growth signature. *BMC Plant Biology*, **2014**, 14, 197	5.3	40
82	Positional information and mobile transcriptional regulators determine cell pattern in the Arabidopsis root epidermis. *Journal of Experimental Botany*, **2006**, 57, 51-4	7	40
81	Identification of reference genes for real-time quantitative PCR experiments in the liverwort Marchantia polymorpha. *PLoS ONE*, **2015**, 10, e0118678	3.7	40

80	Networks of highly branched stigmarian rootlets developed on the first giant trees. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 6695-700	11.5	39
79	The Naming of Names: Guidelines for Gene Nomenclature in Marchantia. *Plant and Cell Physiology*, **2016**, 57, 257-61	4.9	38
78	SCHIZORIZA controls tissue system complexity in plants. *Current Biology*, **2010**, 20, 818-23	6.3	38
77	How and where to build a root hair. *Current Opinion in Plant Biology*, **2001**, 4, 550-4	9.9	37
76	Root hair development involves asymmetric cell division in Brachypodium distachyon and symmetric division in Oryza sativa. *New Phytologist*, **2011**, 192, 601-10	9.8	35
75	The evolution of lycopsid rooting structures: conservatism and disparity. *New Phytologist*, **2017**, 215, 538-544	9.8	33
74	Body building on land: morphological evolution of land plants. *Current Opinion in Plant Biology*, **2009**, 12, 4-8	9.9	33
73	Early evolution of bHLH proteins in plants. *Plant Signaling and Behavior*, **2010**, 5, 911-2	2.5	33
72	Do longer root hairs improve phosphorus uptake? Testing the hypothesis with transgenic Brachypodium distachyon lines overexpressing endogenous RSL genes. *New Phytologist*, **2018**, 217, 1654-1666	9.8	30
71	NADPH oxidase involvement in cellular integrity. *Planta*, **2008**, 227, 1415-8	4.7	30
70	ROOT HAIR DEFECTIVE SIX-LIKE Class I Genes Promote Root Hair Development in the Grass Brachypodium distachyon. *PLoS Genetics*, **2016**, 12, e1006211	6	30
69	A model system to study the effects of elevated CO2 on the developmental physiology of roots: the use of Arabidopsis thaliana. *Journal of Experimental Botany*, **1998**, 49, 593-597	7	29
68	Evolution and genetics of root hair stripes in the root epidermis. *Journal of Experimental Botany*, **2001**, 52, 413-417	7	29
67	Epidermal patterning genes are active during embryogenesis in Arabidopsis. *Development (Cambridge)*, **2003**, 130, 2893-901	6.6	28
66	Endodermal cell-cell contact is required for the spatial control of Casparian band development in Arabidopsis thaliana. *Annals of Botany*, **2012**, 110, 361-71	4.1	26
65	Pointing roots in the right direction: the role of auxin transport in response to gravity. *Genes and Development*, **1998**, 12, 2091-5	12.6	24
64	Multiple Metabolic Innovations and Losses Are Associated with Major Transitions in Land Plant Evolution. *Current Biology*, **2020**, 30, 1783-1800.e11	6.3	23
63	Plant development: pulled up by the roots. *Current Opinion in Genetics and Development*, **1995**, 5, 432-8	4.9	22

62	Mapping of quantitative trait loci for root hair length in wheat identifies loci that co-locate with loci for yield components. *Journal of Experimental Botany*, **2016**, 67, 4535-43	7	22
61	Unique Cellular Organization in the Oldest Root Meristem. *Current Biology*, **2016**, 26, 1629-1633	6.3	21
60	RSL class I genes positively regulate root hair development in Oryza sativa. *New Phytologist*, **2017**, 213, 314-323	9.8	21
59	Development of the root pole and cell patterning in Arabidopsis roots. *Current Opinion in Genetics and Development*, **2000**, 10, 405-9	4.9	21
58	PtdIns(3,5)P mediates root hair shank hardening in Arabidopsis. *Nature Plants*, **2018**, 4, 888-897	11.5	20
57	The nucleus: a highly organized but dynamic structure. *Journal of Microscopy*, **2000**, 198, 199-207	1.9	19
56	A streamlined method for systematic, high resolution in situ analysis of mRNA distribution in plants. *Plant Methods*, **2005**, 1, 8	5.8	18
55	Immunolabelling of cell surfaces of Arabidopsis thaliana roots following infection by Meloidogyne incognita (Nematoda). *Journal of Experimental Botany*, **1995**, 46, 1711-1720	7	18
54	Import of precursor proteins into Vicia faba mitochondria. *FEBS Letters*, **1988**, 236, 217-220	3.8	18
53	Three-dimensional modelling of wheat endosperm development. *New Phytologist*, **2005**, 168, 253-62	9.8	17
52	The Okra leaf shape mutation in cotton is active in all cell layers of the leaf. *American Journal of Botany*, **1998**, 85, 322-327	2.7	17
51	A conserved regulatory mechanism mediates the convergent evolution of plant shoot lateral organs. *PLoS Biology*, **2019**, 17, e3000560	9.7	17
50	Bilaterally symmetric axes with rhizoids composed the rooting structure of the common ancestor of vascular plants. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2018**, 373,	5.8	16
49	Growth regulation in tip-growing cells that develop on the epidermis. *Current Opinion in Plant Biology*, **2016**, 34, 77-83	9.9	16
48	Scarecrow: Specifying asymmetric cell divisions throughout development. *Trends in Plant Science*, **1997**, 2, 1-2	13.1	16
47	Mp regulates air pore complex development in the liverwort. *Development (Cambridge)*, **2017**, 144, 1472-1476	6.6	15
46	Pointing PINs in the right directions: a potassium transporter is required for the polar localization of auxin efflux carriers. *New Phytologist*, **2013**, 197, 1027-1028	9.8	15
45	Rhynie chert fossils demonstrate the independent origin and gradual evolution of lycophyte roots. *Current Opinion in Plant Biology*, **2019**, 47, 119-126	9.9	15

44	Root pattern: shooting in the dark?. *Seminars in Cell and Developmental Biology*, **1998**, 9, 201-6	7.5	14
43	Effects of elevated CO2 on cellular mechanisms, growth and development of trees with particular reference to hybrid poplar. *Forestry*, **1995**, 68, 379-390	2.2	13
42	Functional PTB phosphate transporters are present in streptophyte algae and early diverging land plants. *New Phytologist*, **2017**, 214, 1158-1171	9.8	12
41	An Evolutionarily Conserved Receptor-like Kinases Signaling Module Controls Cell Wall Integrity During Tip Growth. *Current Biology*, **2019**, 29, 3899-3908.e3	6.3	12
40	Root hair development in grasses and cereals (Poaceae). *Current Opinion in Genetics and Development*, **2017**, 45, 76-81	4.9	11
39	Two ways to skin a plant: The analysis of root and shoot epidermal development in Arabidopsis. *BioEssays*, **1995**, 17, 865-872	4.1	10
38	Negative regulation of conserved class I bHLH transcription factors evolved independently among land plants. *ELife*, **2018**, 7,	8.9	10
37	Reactive Oxygen Species in Growth and Development. *Signaling and Communication in Plants*, **2009**, 43-53	[illegible]	10
36	Neofunctionalisation of basic helix-loop-helix proteins occurred when embryophytes colonised the land. *New Phytologist*, **2019**, 223, 993-1008	9.8	9
35	Plant science. SCARECROWs at the border. *Science*, **2007**, 316, 377-8	33.3	9
34	Pattern in the Root Epidermis: An Interplay of Diffusible Signals and Cellular Geometry		9
33	Signalling in cell type specification. *Seminars in Cell and Developmental Biology*, **1999**, 10, 149-56	7.5	8
32	Chromatin and Arabidopsis root development. *Seminars in Cell and Developmental Biology*, **2008**, 19, 580-5	7.5	7
31	Proximal-distal patterns of transcription factor gene expression during Arabidopsis root development. *Journal of Experimental Botany*, **2008**, 59, 235-45	7	7
30	Loss of two families of SPX domain-containing proteins required for vacuolar polyphosphate accumulation coincides with the transition to phosphate storage in green plants. *Molecular Plant*, **2021**, 14, 838-846	14.4	7
29	Multiple origins of dichotomous and lateral branching during root evolution. *Nature Plants*, **2020**, 6, 454-459	[illegible]	6
28	Evolution: Diversification of Angiosperm Rooting Systems in the Early Cretaceous. *Current Biology*, **2019**, 29, R1081-R1083	6.3	6
27	Meristems: the root of stem cell regulation. *Current Biology*, **2009**, 19, R459-60	6.3	6

26	MpFEW RHIZOIDS1 miRNA-Mediated Lateral Inhibition Controls Rhizoid Cell Patterning in Marchantia polymorpha. *Current Biology*, **2020**, 30, 1905-1915.e4	6.3	5
25	An evidence-based 3D reconstruction of , the most complex plant preserved from the Rhynie chert. *ELife*, **2021**, 10,	8.9	5
24	Evolutionary and Functional Analysis of a Plasma Membrane H-ATPase. *Frontiers in Plant Science*, **2019**, 10, 1707	6.2	4
23	In situ analysis of gene expression in plants. *Methods in Molecular Biology*, **2009**, 513, 229-42	1.4	4
22	Plant evolution: TALES of development. *Cell*, **2008**, 133, 771-3	56.2	4
21	Root patterning: SHORT ROOT on the move. *Current Biology*, **2001**, 11, R983-5	6.3	4
20	Extensive N4 Cytosine Methylation is Essential for Marchantia Sperm Function		4
19	Genetic Interactions during Root Hair Morphogenesis in Arabidopsis. *Plant Cell*, **2000**, 12, 1961	11.6	2
18	Gene expression data support the hypothesis that Isoetes rootlets are true roots and not modified leaves. *Scientific Reports*, **2020**, 10, 21547	4.9	2
17	Plant Evolution: An Ancient Mechanism Protects Plants and Algae from Heat Stress. *Current Biology* , **2020**, 30, R277-R278	6.3	1
16	Symmetric development: transcriptional regulation of symmetry transition in plants. *Current Biology*, **2014**, 24, R1172-4	6.3	1
15	Root Epidermal Development in Arabidopsis64-82		1
14	Plant development: the benefits of a change of scene. *Current Biology*, **2001**, 11, R702-4	6.3	1
13	Gene expression data support the hypothesis that Isoetes rootlets are true roots and not modified leaves		1
12	Microtubule associated protein WAVE DAMPENED2-LIKE (WDL) controls microtubule bundling and the stability of the site of tip-growth in Marchantia polymorpha rhizoids. *PLoS Genetics*, **2021**, 17, e1009533	6	1
11	Fifteen compelling open questions in plant cell biology. *Plant Cell*, **2021**,	11.6	1
10	The Development of Cell Pattern in the Arabidopsis Root Epidermis **2003**, 129-137		
9	Root Development in Arabidopsis **1999**, 133-144		

8 Root Epidermal Development in Arabidopsis **2018**, 64-82

7 Patterns in Vegetative Development **2018**, 278-314

6 A conserved regulatory mechanism mediates the convergent evolution of plant shoot lateral organs **2019**, 17, e3000560

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