J Allan Downie

List of Publications by Year
in descending order

111 papers	14,124 citations	20817 60 h-index	30087 103 g-index
123 all docs	123 docs citations	123 times ranked	8228 citing authors

#	Article	IF	Citations
1	Why Should Nodule Cysteine-Rich (NCR) Peptides Be Absent From Nodules of Some Groups of Legumes but Essential for Symbiotic N-Fixation in Others?. Frontiers in Agronomy, 2021, 3, .	3.3	13
2	CERBERUS is critical for stabilization of VAPYRIN during rhizobial infection in <i>Lotus japonicus</i>. New Phytologist, 2021, 229, 1684-1700.	7.3	15
3	Expression of the <i>Arabidopsis thaliana</i> immune receptor <i><scp>EFR</scp></i> in <i>Medicago truncatula</i> reduces infection by a root pathogenic bacterium, but not nitrogenâ€fixing rhizobial symbiosis. Plant Biotechnology Journal, 2019, 17, 569-579.	8.3	42
4	Atypical Receptor Kinase RINRK1 Required for Rhizobial Infection But Not Nodule Development in <i>Lotus japonicus</i>. Plant Physiology, 2019, 181, 804-816.	4.8	28
5	The ash dieback invasion of Europe was founded by two genetically divergent individuals. Nature Ecology and Evolution, 2018, 2, 1000-1008.	7.8	82
6	Bacterial Biosensors for in Vivo Spatiotemporal Mapping of Root Secretion. Plant Physiology, 2017, 174, 1289-1306.	4.8	78
7	The <i><scp>ERN</scp>1</i> transcription factor gene is a target of the <scp>CC</scp>a<scp>MK</scp>/<scp>CYCLOPS</scp> complex and controls rhizobial infection inÂ<i>Lotus japonicus</i>. New Phytologist, 2017, 215, 323-337.	7.3	92
8	Morphotype of bacteroids in different legumes correlates with the number and type of symbiotic NCR peptides. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 5041-5046.	7.1	126
9	Manganese transport is essential for N₂â€fixation by <i>Rhizobium leguminosarum</i> in bacteroids from galegoid but not phaseoloid nodules. Environmental Microbiology, 2017, 19, 2715-2726.	3.8	14
10	MtLAX2, a Functional Homologue of the Arabidopsis Auxin Influx Transporter AUX1, Is Required for Nodule Organogenesis. Plant Physiology, 2017, 174, 326-338.	4.8	56
11	Genome sequence and genetic diversity of European ash trees. Nature, 2017, 541, 212-216.	27.8	166
12	Ash dieback epidemic in Europe: How can molecular technologies help?. PLoS Pathogens, 2017, 13, e1006381.	4.7	5
13	Molecular markers for tolerance of European ash (Fraxinus excelsior) to dieback disease identified using Associative Transcriptomics. Scientific Reports, 2016, 6, 19335.	3.3	85
14	Bacterialâ€induced calcium oscillations are common to nitrogenâ€fixing associations of nodulating legumes and nonâ€legumes. New Phytologist, 2015, 207, 551-558.	7.3	89
15	MgtE From <i>Rhizobium leguminosarum</i> Is a Mg²⁺ Channel Essential for Growth at Low pH and N₂ Fixation on Specific Plants. Molecular Plant-Microbe Interactions, 2015, 28, 1281-1287.	2.6	12
16	SCARN a Novel Class of SCAR Protein That Is Required for Root-Hair Infection during Legume Nodulation. PLoS Genetics, 2015, 11, e1005623.	3.5	78
17	Plant cysteine-rich peptides that inhibit pathogen growth and control rhizobial differentiation in legume nodules. Current Opinion in Plant Biology, 2015, 26, 57-63.	7.1	92
18	Arabinose and protocatechuate catabolism genes are important for growth of Rhizobium leguminosarum biovar viciae in the pea rhizosphere. Plant and Soil, 2015, 390, 251-264.	3.7	20

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19	Lipopolysaccharide O-Chain Core Region Required for Cellular Cohesion and Compaction ofIn Vitroand Root Biofilms Developed by Rhizobium leguminosarum. Applied and Environmental Microbiology, 2015, 81, 1013-1023.	3.1	22
20	Lessons from Fraxinus, a crowd-sourced citizen science game in genomics. ELife, 2015, 4, e07460.	6.0	21
21	The Root Hair â€œInfectomeâ€•of <i>Medicago truncatula</i> Uncovers Changes in Cell Cycle Genes and Reveals a Requirement for Auxin Signaling in Rhizobial Infection. Plant Cell, 2014, 26, 4680-4701.	6.6	313
22	Calcium signals in plant immunity: a spiky issue. New Phytologist, 2014, 204, 733-735.	7.3	21
23	Legume nodulation. Current Biology, 2014, 24, R184-R190.	3.9	155
24	Mutation of <scp><i>praR</i></scp> in <scp><i>R</i></scp><i>hizobium leguminosarum</i> enhances root biofilms, improving nodulation competitiveness by increased expression of attachment proteins. Molecular Microbiology, 2014, 93, 464-478.	2.5	49
25	A H+-ATPase That Energizes Nutrient Uptake during Mycorrhizal Symbioses in Rice and <i>Medicago truncatula</i> Â Â Â. Plant Cell, 2014, 26, 1818-1830.	6.6	131
26	A Nod of recognition: How the ups and downs of Ca2+ lead to nodule development during the initiation of rhizobial-legume symbioses. Biochemist, 2014, 36, 4-7.	0.5	0
27	Crowdsourcing genomic analyses of ash and ash dieback â€" power to the people. GigaScience, 2013, 2, 2.	6.4	29
28	Hostâ€specific <scp>N</scp>odâ€factors associated with <i><scp>M</scp>edicago truncatula</i> nodule infection differentially induce calcium influx and calcium spiking in root hairs. New Phytologist, 2013, 200, 656-662.	7.3	42
29	Rhizobial and Mycorrhizal Symbioses in Lotus japonicus Require Lectin Nucleotide Phosphohydrolase, Which Acts Upstream of Calcium Signaling Â Â Â. Plant Physiology, 2012, 161, 556-567.	4.8	51
30	Buffering Capacity Explains Signal Variation in Symbiotic Calcium Oscillations Â Â Â. Plant Physiology, 2012, 160, 2300-2310.	4.8	39
31	A Plant Arabinogalactan-Like Glycoprotein Promotes a Novel Type of Polar Surface Attachment by <i>Rhizobium leguminosarum</i>. Molecular Plant-Microbe Interactions, 2012, 25, 250-258.	2.6	47
32	Legume pectate lyase required for root infection by rhizobia. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 633-638.	7.1	225
33	The Rules of Engagement in the Legume-Rhizobial Symbiosis. Annual Review of Genetics, 2011, 45, 119-144.	7.6	1,008
34	Quorum Sensing. Advances in Microbial Physiology, 2011, 58, 23-80.	2.4	61
35	Adaptation of Rhizobium leguminosarum to pea, alfalfa and sugar beet rhizospheres investigated by comparative transcriptomics. Genome Biology, 2011, 12, R106.	9.6	167
36	A Eulogy to Adam Kondorosi. Molecular Plant-Microbe Interactions, 2011, 24, 1272-1275.	2.6	0

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37	Coâ€ordination of quorumâ€sensing regulation in <i>Rhizobium leguminosarum</i> by induction of an antiâ€repressor. Molecular Microbiology, 2011, 81, 994-1007.	2.5	25
38	The superoxide dismutase SodA is targeted to the periplasm in a SecAâ€dependent manner by a novel mechanism. Molecular Microbiology, 2011, 82, 164-179.	2.5	34
39	Natural Variation in Host-Specific Nodulation of Pea Is Associated with a Haplotype of the SYM37 LysM-Type Receptor-Like Kinase. Molecular Plant-Microbe Interactions, 2011, 24, 1396-1403.	2.6	24
40	Nuclear membranes control symbiotic calcium signaling of legumes. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 14348-14353.	7.1	191
41	Conservation in Function of a SCAR/WAVE Component During Infection Thread and Root Hair Growth in <i>Medicago truncatula</i>. Molecular Plant-Microbe Interactions, 2010, 23, 1553-1562.	2.6	69
42	The roles of extracellular proteins, polysaccharides and signals in the interactions of rhizobia with legume roots. FEMS Microbiology Reviews, 2010, 34, 150-170.	8.6	344
43	The<i>cin</i>and<i>rai</i>Quorum-Sensing Regulatory Systems in<i>Rhizobium leguminosarum</i>Are Coordinated by ExpR and CinS, a Small Regulatory Protein Coexpressed with CinI. Journal of Bacteriology, 2009, 191, 3059-3067.	2.2	50
44	LIN, a Novel Type of U-Box/WD40 Protein, Controls Early Infection by Rhizobia in Legumes Â Â Â. Plant Physiology, 2009, 151, 1239-1249.	4.8	84
45	GRAS Proteins Form a DNA Binding Complex to Induce Gene Expression during Nodulation Signaling in <i>Medicago truncatula</i> Â. Plant Cell, 2009, 21, 545-557.	6.6	342
46	Rearrangement of Actin Cytoskeleton Mediates Invasion of<i>Lotus japonicus</i>Roots by<i>Mesorhizobium loti</i>Â Â. Plant Cell, 2009, 21, 267-284.	6.6	149
47	Nonlinear Time Series Analysis of Nodulation Factor Induced Calcium Oscillations: Evidence for Deterministic Chaos?. PLoS ONE, 2009, 4, e6637.	2.5	18
48	Annexins - calcium- and membrane-binding proteins in the plant kingdom: potential role in nodulation and mycorrhization in Medicago truncatula.. Acta Biochimica Polonica, 2009, 56, .	0.5	35
49	Characterization of Ã¢Â€Âƒthe quaternary amine transporters ofRhizobium leguminosarumbv.viciae3841. FEMS Microbiology Letters, 2008, 287, 212-220.	1.8	11
50	Identification of protein secretion systems and novel secreted proteins in Rhizobium leguminosarum bv. viciae. BMC Genomics, 2008, 9, 55.	2.8	74
51	Coordinating Nodule Morphogenesis with Rhizobial Infection in Legumes. Annual Review of Plant Biology, 2008, 59, 519-546.	18.7	942
52	Glucomannan-Mediated Attachment of<i>Rhizobium leguminosarum</i>to Pea Root Hairs Is Required for Competitive Nodule Infection. Journal of Bacteriology, 2008, 190, 4706-4715.	2.2	120
53	Differential and chaotic calcium signatures in the symbiosis signaling pathway of legumes. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 9823-9828.	7.1	262
54	A Common Genomic Framework for a Diverse Assembly of Plasmids in the Symbiotic Nitrogen Fixing Bacteria. PLoS ONE, 2008, 3, e2567.	2.5	69

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55	Mastoparan Activates Calcium Spiking Analogous to Nod Factor-Induced Responses in Medicago truncatula Root Hair Cells. Plant Physiology, 2007, 144, 695-702.	4.8	46
56	The <i>Medicago truncatula</i> DMI1 Protein Modulates Cytosolic Calcium Signaling. Plant Physiology, 2007, 145, 192-203.	4.8	99
57	PLANT SCIENCE: Infectious Heresy. Science, 2007, 316, 1296-1297.	12.6	7
58	NUCLEOPORIN85 Is Required for Calcium Spiking, Fungal and Bacterial Symbioses, and Seed Production in Lotus japonicus. Plant Cell, 2007, 19, 610-624.	6.6	309
59	Quorum-sensing regulation in rhizobia and its role in symbiotic interactions with legumes. Philosophical Transactions of the Royal Society B: Biological Sciences, 2007, 362, 1149-1163.	4.0	153
60	Quorum-sensing-regulated transcriptional initiation of plasmid transfer and replication genes in Rhizobium leguminosarum biovar viciae. Microbiology (United Kingdom), 2007, 153, 2074-2082.	1.8	52
61	Structural Implications of Mutations in the Pea <i>SYM8</i> Symbiosis Gene, the <i>DMI1</i> Ortholog, Encoding a Predicted Ion Channel. Molecular Plant-Microbe Interactions, 2007, 20, 1183-1191.	2.6	55
62	Identification of Symbiotically Defective Mutants of Lotus japonicus Affected in Infection Thread Growth. Molecular Plant-Microbe Interactions, 2006, 19, 1444-1450.	2.6	33
63	Analysis of calcium spiking using a cameleon calcium sensor reveals that nodulation gene expression is regulated by calcium spike number and the developmental status of the cell. Plant Journal, 2006, 48, 883-894.	5.7	150
64	Deregulation of a Ca2+/calmodulin-dependent kinase leads to spontaneous nodule development. Nature, 2006, 441, 1153-1156.	27.8	400
65	Nuclear calcium changes at the core of symbiosis signalling. Current Opinion in Plant Biology, 2006, 9, 351-357.	7.1	228
66	From The Cover: A nucleoporin is required for induction of Ca2+ spiking in legume nodule development and essential for rhizobial and fungal symbiosis. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 359-364.	7.1	361
67	Positional Cloning Identifies Lotus japonicus NSP2, A Putative Transcription Factor of the GRAS Family, Required for NIN and ENOD40 Gene Expression in Nodule Initiation. DNA Research, 2006, 13, 255-265.	3.4	129
68	Lotus japonicus Nodulation Requires Two GRAS Domain Regulators, One of Which Is Functionally Conserved in a Non-Legume. Plant Physiology, 2006, 142, 1739-1750.	4.8	250
69	Proteins Exported via the PrsD-PrsE Type I Secretion System and the Acidic Exopolysaccharide Are Involved in Biofilm Formation by Rhizobium leguminosarum. Journal of Bacteriology, 2006, 188, 4474-4486.	2.2	110
70	Analysis of Nod-Factor-Induced Calcium Signaling in Root Hairs of Symbiotically Defective Mutants of Lotus japonicus. Molecular Plant-Microbe Interactions, 2006, 19, 914-923.	2.6	164
71	Plastid proteins crucial for symbiotic fungal and bacterial entry into plant roots. Nature, 2005, 433, 527-531.	27.8	391
72	Legume Haemoglobins: Symbiotic Nitrogen Fixation Needs Bloody Nodules. Current Biology, 2005, 15, R196-R198.	3.9	76

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73	Nodulation Signaling in Legumes Requires NSP2, a Member of the GRAS Family of Transcriptional Regulators. Science, 2005, 308, 1786-1789.	12.6	525
74	From The Cover: A Ca2+/calmodulin-dependent protein kinase required for symbiotic nodule development: Gene identification by transcript-based cloning. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 4701-4705.	7.1	433
75	Calcium, kinases and nodulation signalling in legumes. Nature Reviews Molecular Cell Biology, 2004, 5, 566-576.	37.0	312
76	Recipientâ€induced transfer of the symbiotic plasmid pRL1JI in <i>Rhizobium leguminosarum</i> bv. <i>viciae</i> is regulated by a quorumâ€sensing relay. Molecular Microbiology, 2003, 50, 511-525.	2.5	108
77	Locks, keys and symbioses. Nature, 2003, 425, 569-570.	27.8	74
78	Competitive Nodulation Blocking of cv. Afghanistan Pea Is Related to High Levels of Nodulation Factors Made by Some Strains of Rhizobium leguminosarum bv. viciae. Molecular Plant-Microbe Interactions, 2002, 15, 60-68.	2.6	52
79	Quorum-sensing in Rhizobium. Antonie Van Leeuwenhoek, 2002, 81, 397-407.	1.7	100
80	Quorum sensing as a population-density-dependent determinant of bacterial physiology. Advances in Microbial Physiology, 2001, 45, 199-270.	2.4	239
81	Enhanced Symbiotic Performance by Rhizobium tropici Glycogen Synthase Mutants. Journal of Bacteriology, 2001, 183, 854-864.	2.2	74
82	The ABC of symbiosis. Nature, 2001, 412, 597-598.	27.8	40
83	What Makes the Rhizobia-Legume Symbiosis So Special?. Plant Physiology, 2001, 127, 1484-1492.	4.8	214
84	What Makes the Rhizobia-Legume Symbiosis So Special?. Plant Physiology, 2001, 127, 1484-1492.	4.8	19
85	Entry of Rhizobium leguminosarum bv. viciae into Root Hairs Requires Minimal Nod Factor Specificity, but Subsequent Infection Thread Growth Requires nodO or nodE. Molecular Plant-Microbe Interactions, 2000, 13, 754-762.	2.6	89
86	The regulatory locus <i>cinRI</i> in <i>Rhizobium leguminosarum</i> controls a network of quorumâ€sensing loci. Molecular Microbiology, 2000, 37, 81-97.	2.5	209
87	Extracellular Glycanases of Rhizobium leguminosarum Are Activated on the Cell Surface by an Exopolysaccharide-Related Component. Journal of Bacteriology, 2000, 182, 1304-1312.	2.2	40
88	The biocontrol strain Pseudomonas fluorescens F113 produces the Rhizobium small bacteriocin, N-(3-hydroxy-7-cis-tetradecenoyl)homoserine lactone, via HdtS, a putative novel N-acylhomoserine lactone synthase The GenBank accession number for the sequence determined in this work is AF286536.. Microbiology (United Kingdom), 2000, 146, 2469-2480.	1.8	185
89	Analysis of Quorum-Sensing-Dependent Control of Rhizosphere-Expressed (<i>rhi</i>) Genes in <i>Rhizobium leguminosarum</i> bv. viciae. Journal of Bacteriology, 1999, 181, 3816-3823.	2.2	134
90	News & Notes: Primary Structure of the DNA Polymerase I Gene of an Î±-Proteobacterium, Rhizobium leguminosarum, and Comparison with Other Family A DNA Polymerases. Current Microbiology, 1999, 38, 355-359.	2.2	3

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91	Plant responses to nodulation factors. Current Opinion in Plant Biology, 1999, 2, 483-489.	7.1	131
92	Plant-Microorganism Symbiosis. , 1999, , 211-230.		1
93	Functions of Rhizobial Nodulation Genes. , 1998, , 387-402.		57
94	Conservation of nolR in the Sinorhizobium and Rhizobium Genera of the Rhizobiaceae Family. Molecular Plant-Microbe Interactions, 1998, 11, 1186-1195.	2.6	36
95	Exopolysaccharide II Production Is Regulated by Salt in the Halotolerant Strain <i>Rhizobium meliloti</i> EFB1. Applied and Environmental Microbiology, 1998, 64, 1024-1028.	3.1	64
96	Characterization of <i>Rhizobium leguminosarum</i> Exopolysaccharide Glycanases That Are Secreted via a Type I Exporter and Have a Novel Heptapeptide Repeat Motif. Journal of Bacteriology, 1998, 180, 1691-1699.	2.2	64
97	The Rhizobium leguminosarum prsDE genes are required for secretion of several proteins, some of which influence nodulation, symbiotic nitrogen fixation and exopolysaccharide modification. Molecular Microbiology, 1997, 25, 135-146.	2.5	81
98	The Câ€terminal domain of the Rhizobium leguminosarum chitin synthase NodC is important for function and determines the orientation of the Nâ€terminal region in the inner membrane. Molecular Microbiology, 1996, 19, 443-453.	2.5	40
99	Crystallization and preliminary diffraction studies of NodL, a rhizobial <i>O</i>â€acetylâ€transferase involved in the hostâ€specific nodulation of legume roots. Protein Science, 1996, 5, 538-541.	7.6	8
100	Isolation of a DNA polymerase I (polA) mutant of Rhizobium leguminosarum that has significantly reduced levels of an IncQ-group plasmid. Molecular Genetics and Genomics, 1994, 243, 119-123.	2.4	6
101	Signalling strategies for nodulation of legumes by rhizobia. Trends in Microbiology, 1994, 2, 318-324.	7.7	74
102	A family of related ATP-binding subunits coupled to many distinct biological processes in bacteria. Nature, 1986, 323, 448-450.	27.8	757
103	Nitrogen fixation symposium: Molecular genetics: out of the laboratory into the field. Nature, 1983, 306, 639-639.	27.8	0
104	Cloned nodulation genes of Rhizobium leguminosarum determine host-range specificity. Molecular Genetics and Genomics, 1983, 190, 359-365.	2.4	153
105	Genetics of the Adenosine Triphosphatase Complex of Escherichia coli. , 1982, , 453-457.		0
106	Subunits of the Adenosine Triphosphatase Complex Translated In Vitro from the <i>Escherichia coli unc</i> Operon. Journal of Bacteriology, 1980, 143, 8-17.	2.2	134
107	Membrane Adenosine Triphosphatases of Prokaryotic Cells. Annual Review of Biochemistry, 1979, 48, 103-131.	11.1	245
108	Energy Supply for Active Transport in Anaerobically Grown Escherichia coli. Journal of Bacteriology, 1978, 136, 844-853.	2.2	25

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109	The reconstitution of functional respiratory chains in membranes from electron-transport-deficient mutants of Escherichia coli as demonstrated by quenching of atebrin fluorescence. Biochemical Journal, 1974, 142, 703-706.	3.7	46
110	Cell-to-Cell Communication in Rhizobia: Quorum Sensing and Plant Signaling. , 0, , 213-232.		7
111	Quorum-Sensing Regulation in <i>Rhizobium leguminosarum</i> biovar <i>viciae</i>. Agronomy, 0, , 223-232.	0.2	0