Francisco M Canovas

List of Publications by Year
in descending order

124 papers	4,497 citations	81743 39 h-index	128067 60 g-index
128 all docs	128 docs citations	128 times ranked	4089 citing authors

#	Article	IF	Citations
1	Plant proteome analysis. Proteomics, 2004, 4, 285-298.	1.3	264
2	Expression of a conifer glutamine synthetase gene in transgenic poplar. Planta, 1999, 210, 19-26.	1.6	153
3	Ammonium assimilation and amino acid metabolism in conifers. Journal of Experimental Botany, 2007, 58, 2307-2318.	2.4	153
4	<i>De novo</i> assembly of maritime pine transcriptome: implications for forest breeding and biotechnology. Plant Biotechnology Journal, 2014, 12, 286-299.	4.1	115
5	Improved growth in a field trial of transgenic hybrid poplar overexpressing glutamine synthetase. New Phytologist, 2004, 164, 137-145.	3.5	114
6	Plastidic aspartate aminotransferases and the biosynthesis of essential amino acids in plants. Journal of Experimental Botany, 2014, 65, 5527-5534.	2.4	111
7	Molecular and enzymatic analysis of ammonium assimilation in woody plants. Journal of Experimental Botany, 2002, 53, 891-904.	2.4	105
8	Accumulation of glutamine synthetase during early development of maritime pine (Pinus pinaster) seedlings. Planta, 1991, 185, 372-378.	1.6	103
9	Biosynthesis and Metabolic Fate of Phenylalanine in Conifers. Frontiers in Plant Science, 2016, 7, 1030.	1.7	98
10	Molecular aspects of nitrogen mobilization and recycling in trees. Photosynthesis Research, 2005, 83, 265-278.	1.6	92
11	Towards decoding the conifer giga-genome. Plant Molecular Biology, 2012, 80, 555-569.	2.0	91
12	Functional interactions between a glutamine synthetase promoter and MYB proteins. Plant Journal, 2004, 39, 513-526.	2.8	80
13	Up-Regulation and Localization of Asparagine Synthetase in Tomato Leaves Infected by the Bacterial Pathogen Pseudomonas syringae. Plant and Cell Physiology, 2004, 45, 770-780.	1.5	77
14	Single-Copy Genes as Molecular Markers for Phylogenomic Studies in Seed Plants. Genome Biology and Evolution, 2017, 9, 1130-1147.	1.1	75
15	Cytosolic localization in tomato mesophyll cells of a novel glutamine synthetase induced in response to bacterial infection or phosphinothricin treatment. Planta, 1998, 206, 426-434.	1.6	65
16	A <scp>M</scp>yb transcription factor regulates genes of the phenylalanine pathway in maritime pine. Plant Journal, 2013, 74, 755-766.	2.8	64
17	The glutamine synthetase gene family in Populus. BMC Plant Biology, 2011, 11, 119.	1.6	63
18	Deciphering the Role of Aspartate and Prephenate Aminotransferase Activities in Plastid Nitrogen Metabolism. Plant Physiology, 2014, 164, 92-104.	2.3	60

#	Article	IF	Citations
19	Differential regulation of two glutamine synthetase genes by a single Dof transcription factor. Plant Journal, 2008, 56, 73-85.	2.8	59
20	EuroPineDB: a high-coverage web database for maritime pine transcriptome. BMC Genomics, 2011, 12, 366.	1.2	59
21	Expression analysis of a cytosolic glutamine synthetase gene in cotyledons of Scots pine seedlings: developmental, light regulation and spatial distribution of specific transcripts. Plant Molecular Biology, 1999, 40, 623-634.	2.0	58
22	Identification and functional analysis of a prokaryoticâ€type aspartate aminotransferase: implications for plant amino acid metabolism. Plant Journal, 2006, 46, 414-425.	2.8	58
23	ReprOlive: a database with linked data for the olive tree (Olea europaea L.) reproductive transcriptome. Frontiers in Plant Science, 2015, 6, 625.	1.7	58
24	Spatial and temporal expression of two cytosolic glutamine synthetase genes in Scots pine: functional implications on nitrogen metabolism during early stages of conifer development. Plant Journal, 2001, 25, 93-102.	2.8	57
25	High levels of asparagine synthetase in hypocotyls of pine seedlings suggest a role of the enzyme in re-allocation of seed-stored nitrogen. Planta, 2006, 224, 83-95.	1.6	55
26	Reprogramming of gene expression during compression wood formation in pine: Coordinated modulation of S-adenosylmethionine, lignin and lignan related genes. BMC Plant Biology, 2012, 12, 100.	1.6	55
27	Title is missing!. Euphytica, 2000, 116, 131-142.	0.6	54
28	The NAC transcription factor family in maritime pine (Pinus Pinaster): molecular regulation of two genes involved in stress responses. BMC Plant Biology, 2015, 15, 254.	1.6	54
29	Increased sucrose level and altered nitrogen metabolism in Arabidopsis thaliana transgenic plants expressing antisense chloroplastic fructose-1,6-bisphosphatase. Journal of Experimental Botany, 2004, 55, 2495-2503.	2.4	52
30	High-level expression ofPinus sylvestrisglutamine synthetase inEscherichia coli. FEBS Letters, 1996, 393, 205-210.	1.3	50
31	Novel Insights into Regulation of Asparagine Synthetase in Conifers. Frontiers in Plant Science, 2012, 3, 100.	1.7	50
32	Changes in NADP+-linked isocitrate dehydrogenase during tomato fruit ripening. Planta, 1995, 196, 148.	1.6	49
33	Developing SSCP markers in two Pinus species. Molecular Breeding, 1999, 5, 21-31.	1.0	49
34	Two different modes of early development and nitrogen assimilation in gymnosperm seedlingsâ€. Plant Journal, 1998, 13, 187-199.	2.8	45
35	Response of transgenic poplar overexpressing cytosolic glutamine synthetase to phosphinothricin. Phytochemistry, 2008, 69, 382-389.	1.4	45
36	Poplar trees for phytoremediation of high levels of nitrate and applications in bioenergy. Plant Biotechnology Journal, 2016, 14, 299-312.	4.1	45

#	Article	IF	Citations
37	Molecular fundamentals of nitrogen uptake and transport in trees. Journal of Experimental Botany, 2017, 68, 2489-2500.	2.4	44
38	Characterization of tomato leaf glutamine synthetase. Plant Science Letters, 1984, 37, 79-85.	1.9	42
39	Ammonium tolerance and the regulation of two cytosolic glutamine synthetases in the roots of sorghum. Functional Plant Biology, 2010, 37, 55.	1.1	42
40	Enhanced expression of glutamine synthetase (<i>GS1a</i>) confers altered fibre and wood chemistry in field grown hybrid poplar (<i>Populus tremula</i> X <i>alba</i>) (717â€•1B4). Plant Biotechnology Journal, 2012, 10, 883-889.	4.1	42
41	Molecular characterization of a cDNA clone encoding glutamine synthetase from a gymnosperm, Pinus sylvestris. Plant Molecular Biology, 1993, 22, 819-828.	2.0	41
42	The gene expression landscape of pine seedling tissues. Plant Journal, 2017, 91, 1064-1087.	2.8	41
43	Identification of olive-tree cultivars with SCAR markers. Euphytica, 2003, 129, 33-41.	0.6	40
44	Genetic modification of amino acid metabolism in woody plants. Plant Physiology and Biochemistry, 2003, 41, 587-594.	2.8	40
45	Nitrogen Metabolism and Biomass Production in Forest Trees. Frontiers in Plant Science, 2018, 9, 1449.	1.7	40
46	Glutamine synthetase of potato (Solanum tuberosum L. cv. Desiree) plants: cell- and organ-specific expression and differential developmental regulation reveal specific roles in nitrogen assimilation and mobilization. Journal of Experimental Botany, 2005, 56, 663-671.	2.4	39
47	Expression patterns of two glutamine synthetase genes in zygotic and somatic pine embryos support specific roles in nitrogen metabolism during embryogenesis. New Phytologist, 2006, 169, 35-44.	3.5	39
48	Transcriptome analysis in maritime pine using laser capture microdissection and 454 pyrosequencing. Tree Physiology, 2014, 34, 1278-1288.	1.4	38
49	Analysis of the WUSCHEL-RELATED HOMEOBOX gene family in Pinus pinaster : New insights into the gene family evolution. Plant Physiology and Biochemistry, 2018, 123, 304-318.	2.8	36
50	Understanding developmental and adaptive cues in pine through metabolite profiling and co-expression network analysis. Journal of Experimental Botany, 2015, 66, 3113-3127.	2.4	34
51	Identification of a small protein domain present in all plant lineages that confers high prephenate dehydratase activity. Plant Journal, 2016, 87, 215-229.	2.8	33
52	Two genes encoding distinct cytosolic glutamine synthetases are closely linked in the pine genome. FEBS Letters, 2000, 477, 237-243.	1.3	32
53	Molecular analysis of the 5'-upstream region of a gibberellin-inducible cytosolic glutamine synthetase gene (GS1b) expressed in pine vascular tissue. Planta, 2004, 218, 1036-1045.	1.6	32
54	Effects of phosphinotricin treatment on glutamine synthetase isoforms in Scots pine seedlings. Plant Physiology and Biochemistry, 1998, 36, 857-863.	2.8	31

#	Article	IF	Citations
55	Differential expression of cell wall related genes in the seeds of soft- and hard-seeded pomegranate genotypes. Scientia Horticulturae, 2016, 205, 7-16.	1.7	31
56	The role of arginine metabolic pathway during embryogenesis and germination in maritime pine (Pinus) Tj ETQq0 0 0 rgBT /Overlock 10 T	1.4	31
57	Identification of genes regulated by ammonium availability in the roots of maritime pine trees. Amino Acids, 2010, 39, 991-1001.	1.2	30
58	Molecular physiology of glutamine and glutamate biosynthesis in developing seedlings of conifers. Physiologia Plantarum, 1998, 103, 287-294.	2.6	29
59	Functional Expression of Two Pine Glutamine Synthetase Genes in Bacteria Reveals that they Encode Cytosolic Holoenzymes with Different Molecular and Catalytic Properties. Plant and Cell Physiology, 2002, 43, 802-809.	1.5	29
60	Redundancy and metabolic function of the glutamine synthetase gene family in poplar. BMC Plant Biology, 2015, 15, 20.	1.6	29
61	<i>Pp<scp>NAC</scp>1</i>, a main regulator of phenylalanine biosynthesis and utilization in maritime pine. Plant Biotechnology Journal, 2018, 16, 1094-1104.	4.1	29
62	Rapid High Quality RNA Preparation from Pine Seedlings. Plant Molecular Biology Reporter, 1998, 16, 9-18.	1.0	27
63	Light-dependent changes of tomato glutamine synthetase in response to Pseudomonas syringae infection or phosphinothricin treatment. Physiologia Plantarum, 1998, 102, 377-384.	2.6	24
64	Molecular and Functional Analyses Support a Role of Ornithine-<i>Î´</i>-Aminotransferase in the Provision of Glutamate for Glutamine Biosynthesis during Pine Germination. Plant Physiology, 2008, 148, 77-88.	2.3	24
65	The Symbiosis Interactome: a computational approach reveals novel components, functional interactions and modules in Sinorhizobium meliloti. BMC Systems Biology, 2009, 3, 63.	3.0	24
66	Identification of genes differentially expressed during adventitious shoot induction in Pinus pinea cotyledons by subtractive hybridization and quantitative PCR. Tree Physiology, 2007, 27, 1721-1730.	1.4	23
67	Deciphering the molecular basis of ammonium uptake and transport in maritime pine. Plant, Cell and Environment, 2016, 39, 1669-1682.	2.8	23
68	Coordination of PsAS1 and PsASPG expression controls timing of re-allocated N utilization in hypocotyls of pine seedlings. Planta, 2007, 225, 1205-1219.	1.6	21
69	Characterization and developmental expression of a glutamate decarboxylase from maritime pine. Planta, 2010, 232, 1471-1483.	1.6	21
70	A maritime pine antimicrobial peptide involved in ammonium nutrition. Plant, Cell and Environment, 2011, 34, 1443-1453.	2.8	21
71	Gene expression profiling in the stem of young maritime pine trees: detection of ammonium stress-responsive genes in the apex. Trees - Structure and Function, 2012, 26, 609-619.	0.9	21
72	Plantation Forestry under Global Warming: Hybrid Poplars with Improved Thermotolerance Provide New Insights on the in Vivo Function of Small Heat Shock Protein Chaperones Â Â. Plant Physiology, 2014, 164, 978-991.	2.3	21

#	Article	IF	Citations
73	Overexpression of a pine Dof transcription factor in hybrid poplars: A comparative study in trees growing under controlled and natural conditions. PLoS ONE, 2017, 12, e0174748.	1.1	21
74	Light-independent synthesis of LHC IIb polypeptides and assembly of the major pigmented complexes during the initial stages of Pinus palustris seedling development. Photosynthesis Research, 1993, 38, 89-97.	1.6	20
75	Molecular Modeling and Site-Directed Mutagenesis Reveal Essential Residues for Catalysis in a Prokaryote-Type Aspartate Aminotransferase Â Â. Plant Physiology, 2009, 149, 1648-1660.	2.3	20
76	Transcriptome-wide analysis supports environmental adaptations of two Pinus pinaster populations from contrasting habitats. BMC Genomics, 2015, 16, 909.	1.2	20
77	Transcript profiling for early stages during embryo development in Scots pine. BMC Plant Biology, 2016, 16, 255.	1.6	19
78	Root growth of somatic plants of hybrid Pinus strobus (L.) and P. wallichiana (A. B. Jacks.) is affected by the nitrogen composition of the somatic embryo germination medium. Trees - Structure and Function, 2018, 32, 371-381.	0.9	19
79	Effect of light-dark transition on glutamine synthetase activity in tomato leaves. Physiologia Plantarum, 1986, 66, 648-652.	2.6	18
80	Identification of genes differentially expressed in ectomycorrhizal roots during the Pinus pinasterâ€"Laccaria bicolor interaction. Planta, 2013, 237, 1637-1650.	1.6	18
81	The overexpression of the pine transcription factor <scp>PpDof</scp>5 in <i>Arabidopsis</i> leads to increased lignin content and affects carbon and nitrogen metabolism. Physiologia Plantarum, 2015, 155, 369-383.	2.6	18
82	Selection and testing of reference genes for accurate RT-qPCR in adult needles and seedlings of maritime pine. Tree Genetics and Genomes, 2016, 12, 1.	0.6	18
83	Spatial distribution of cytosolic NADP+-isocitrate dehydrogenase in pine embryos and seedlings. Tree Physiology, 2008, 28, 1773-1782.	1.4	16
84	The aspartate aminotransferase family in conifers: biochemical analysis of a prokaryotic-type enzyme from maritime pine. Tree Physiology, 2007, 27, 1283-1291.	1.4	15
85	Toward a Pinus pinaster bacterial artificial chromosome library. Annals of Forest Science, 2007, 64, 855-864.	0.8	15
86	Nitrogen Economy and Nitrogen Environmental Interactions in Conifers. Agronomy, 2016, 6, 26.	1.3	15
87	Resources for conifer functional genomics at the omics era. Advances in Botanical Research, 2019, 89, 39-76.	0.5	15
88	PpRab1, a Rab GTPase from maritime pine is differentially expressed during embryogenesis. Molecular Genetics and Genomics, 2007, 278, 273-282.	1.0	13
89	RNA isolation from plant tissues: a practical experience for biological undergraduates. Biochemical Education, 1999, 27, 110-113.	0.1	12
90	Enzymes Involved in the Biosynthesis of Arginine from Ornithine in Maritime Pine (Pinus pinaster Ait.). Plants, 2020, 9, 1271.	1.6	12

#	Article	IF	Citations
91	The family of Dof transcription factors in pine. Trees - Structure and Function, 2013, 27, 1547-1557.	0.9	11
92	Glutamate synthases from conifers: gene structure and phylogenetic studies. BMC Genomics, 2018, 19, 65.	1.2	11
93	Ammonium regulates the development of pine roots through hormonal crosstalk and differential expression of transcription factors in the apex. Plant, Cell and Environment, 2022, 45, 915-935.	2.8	11
94	Molecular characterization of a receptor-like protein kinase gene from pine (Pinus sylvestris L.). Planta, 2006, 224, 12-19.	1.6	10
95	Establishing gene models from the Pinus pinaster genome using gene capture and BAC sequencing. BMC Genomics, 2016, 17, 148.	1.2	10
96	The arogenate dehydratase ADT2 is essential for seed development in Arabidopsis. Plant and Cell Physiology, 2018, 59, 2409-2420.	1.5	10
97	Transcriptional analysis of arogenate dehydratase genes identifies a link between phenylalanine biosynthesis and lignin biosynthesis. Journal of Experimental Botany, 2020, 71, 3080-3093.	2.4	10
98	Inorganic Nitrogen Form Determines Nutrient Allocation and Metabolic Responses in Maritime Pine Seedlings. Plants, 2020, 9, 481.	1.6	10
99	A revised view on the evolution of glutamine synthetase isoenzymes in plants. Plant Journal, 2022, 110, 946-960.	2.8	10
100	The promoter of a cytosolic glutamine synthetase gene from the conifer Pinus sylvestris is active in cotyledons of germinating seeds and light-regulated in transgenic Arabidopsis thaliana. Physiologia Plantarum, 2001, 112, 388-396.	2.6	9
101	Genomic evidence for a repetitive nature of the RAPD polymorphisms in Olea europaea (olive-tree). Euphytica, 2003, 130, 185-190.	0.6	9
102	Deregulation of phenylalanine biosynthesis evolved with the emergence of vascular plants. Plant Physiology, 2022, 188, 134-150.	2.3	9
103	A macromolecular inhibitor of glutamine synthetase activity in tomato root extracts. Phytochemistry, 1992, 31, 2267-2271.	1.4	8
104	Isolation of bacterial artificial chromosome DNA by means of improved alkaline lysis and double potassium acetate precipitation. Plant Molecular Biology Reporter, 2004, 22, 419-425.	1.0	8
105	Overexpression of a cytosolic NADP+-isocitrate dehydrogenase causes alterations in the vascular development of hybrid poplars. Tree Physiology, 2018, 38, 992-1005.	1.4	8
106	Identification of Metabolic Pathways Differentially Regulated in Somatic and Zygotic Embryos of Maritime Pine. Frontiers in Plant Science, 2022, 13, .	1.7	8
107	Spatial and temporal expression of two cytosolic glutamine synthetase genes in Scots pine: functional implications on nitrogen metabolism during early stages of conifer development. Plant Journal, 2001, 25, 93-102.	2.8	7
108	Immunolocalization of FsPK1 correlates this abscisic acid-induced protein kinase with germination arrest in Fagus sylvatica L. seeds. Journal of Experimental Botany, 2006, 57, 923-929.	2.4	7

#	Article	IF	Citations
109	Immunochemical Comparison of Glutamine Synthetases from Some Solanaceae Plants. Plant Physiology, 1986, 82, 585-587.	2.3	6
110	Interaction of cis-acting elements in the expression of a gene encoding cytosolic glutamine synthetase in pine seedlings. Physiologia Plantarum, 2004, 121, 537-545.	2.6	5
111	Transgenic Approaches to Engineer Nitrogen Metabolism. , 2006, , 157-178.		5
112	Evidence for an operative glutamine translocator in chloroplasts from maritime pine (Pinus pinaster) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	1.8	5
113	Structural and Functional Characteristics of Two Molecular Variants of the Nitrogen Sensor PII in Maritime Pine. Frontiers in Plant Science, 2020, 11, 823.	1.7	4
114	Maritime Pine Genomics in Focus. Compendium of Plant Genomes, 2022, , 67-123.	0.3	4
115	NAC Transcription Factors in Woody Plants. Progress in Botany Fortschritte Der Botanik, 2018, , 195-222.	0.1	3
116	Functional Genomics of Mediterranean Pines. Compendium of Plant Genomes, 2022, , 193-218.	0.3	3
117	Characterization of Three L-Asparaginases from Maritime Pine (Pinus pinaster Ait.). Frontiers in Plant Science, 2017, 8, 1075.	1.7	2
118	Understanding plant nitrogen nutrition through a laboratory experiment. Biochemistry and Molecular Biology Education, 2019, 47, 450-458.	0.5	2
119	Getting more bark for your buck: nitrogen economy of deciduous forest trees. Journal of Experimental Botany, 2020, 71, 4369-4372.	2.4	2
120	The amino acid permease PpAAP1 mediates arginine transport in maritime pine. Tree Physiology, 2021, , .	1.4	2
121	Molecular Analysis of Pine Ferredoxin-Dependent Glutamate Synthase. Forestry Sciences, 1996, , 189-195.	0.4	1
122	Apparent coordination of isocitrate dehydrogenase and glutamate decarboxylase expression in early stages of tree development. BMC Proceedings, 2011, 5, P66.	1.8	0
123	GENote v.Î²: A Web Tool Prototype for Annotation of Unfinished Sequences in Non-model Eukaryotes. Lecture Notes in Computer Science, 2012, , 66-71.	1.0	0
124	Role of Light in the Symptom Development of Bacterial Speck in Tomato. Developments in Plant Pathology, 1997, , 236-241.	0.1	0