

Miguel A Pieros

List of Publications by Citations

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56
papers

5,952
citations

30
h-index

61
g-index

61
ext. papers

6,868
ext. citations

7.7
avg, IF

5.64
L-index

#	Paper	IF	Citations
56	How do crop plants tolerate acid soils? Mechanisms of aluminum tolerance and phosphorous efficiency. <i>Annual Review of Plant Biology</i> , 2004 , 55, 459-93	30.7	1220
55	A gene in the multidrug and toxic compound extrusion (MATE) family confers aluminum tolerance in sorghum. <i>Nature Genetics</i> , 2007 , 39, 1156-61	36.3	561
54	The Physiology, Genetics and Molecular Biology of Plant Aluminum Resistance and Toxicity. <i>Plant and Soil</i> , 2005 , 274, 175-195	4.2	530
53	Plant Adaptation to Acid Soils: The Molecular Basis for Crop Aluminum Resistance. <i>Annual Review of Plant Biology</i> , 2015 , 66, 571-98	30.7	474
52	AtALMT1, which encodes a malate transporter, is identified as one of several genes critical for aluminum tolerance in Arabidopsis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006 , 103, 9738-43	11.5	420
51	Two functionally distinct members of the MATE (multi-drug and toxic compound extrusion) family of transporters potentially underlie two major aluminum tolerance QTLs in maize. <i>Plant Journal</i> , 2010 , 61, 728-40	6.9	222
50	Aluminum tolerance in maize is associated with higher MATE1 gene copy number. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 5241-6	11.5	199
49	The physiology and biophysics of an aluminum tolerance mechanism based on root citrate exudation in maize. <i>Plant Physiology</i> , 2002 , 129, 1194-206	6.6	170
48	A patch-clamp study on the physiology of aluminum toxicity and aluminum tolerance in maize. Identification and characterization of Al(3+)-induced anion channels. <i>Plant Physiology</i> , 2001 , 125, 292-305	6.6	158
47	Low pH, aluminum, and phosphorus coordinately regulate malate exudation through GmALMT1 to improve soybean adaptation to acid soils. <i>Plant Physiology</i> , 2013 , 161, 1347-61	6.6	153
46	OPT3 Is a Phloem-Specific Iron Transporter That Is Essential for Systemic Iron Signaling and Redistribution of Iron and Cadmium in Arabidopsis. <i>Plant Cell</i> , 2014 , 26, 2249-2264	11.6	152
45	Characterization of AtALMT1 expression in aluminum-inducible malate release and its role for rhizotoxic stress tolerance in Arabidopsis. <i>Plant Physiology</i> , 2007 , 145, 843-52	6.6	150
44	Aluminum resistance in maize cannot be solely explained by root organic acid exudation. A comparative physiological study. <i>Plant Physiology</i> , 2005 , 137, 231-41	6.6	127
43	The role of aluminum sensing and signaling in plant aluminum resistance. <i>Journal of Integrative Plant Biology</i> , 2014 , 56, 221-30	8.3	105
42	Phosphate transporters OsPHT1;9 and OsPHT1;10 are involved in phosphate uptake in rice. <i>Plant, Cell and Environment</i> , 2014 , 37, 1159-70	8.4	91
41	Novel properties of the wheat aluminum tolerance organic acid transporter (TaALMT1) revealed by electrophysiological characterization in <i>Xenopus Oocytes</i> : functional and structural implications. <i>Plant Physiology</i> , 2008 , 147, 2131-46	6.6	89
40	Not all ALMT1-type transporters mediate aluminum-activated organic acid responses: the case of ZmALMT1 - an anion-selective transporter. <i>Plant Journal</i> , 2008 , 53, 352-67	6.9	83

39	An Arabidopsis ABC Transporter Mediates Phosphate Deficiency-Induced Remodeling of Root Architecture by Modulating Iron Homeostasis in Roots. <i>Molecular Plant</i> , 2017 , 10, 244-259	14.4	79
38	A de novo synthesis citrate transporter, <i>Vigna umbellata</i> multidrug and toxic compound extrusion, implicates in Al-activated citrate efflux in rice bean (<i>Vigna umbellata</i>) root apex. <i>Plant, Cell and Environment</i> , 2011 , 34, 2138-48	8.4	74
37	Plant Cd ²⁺ and Zn ²⁺ status effects on root and shoot heavy metal accumulation in <i>Thlaspi caerulescens</i> . <i>New Phytologist</i> , 2007 , 175, 51-58	9.8	73
36	Characterization of a voltage-dependent Ca ²⁺ -selective channel from wheat roots. <i>Planta</i> , 1995 , 195, 478	4.7	71
35	The ALMT Family of Organic Acid Transporters in Plants and Their Involvement in Detoxification and Nutrient Security. <i>Frontiers in Plant Science</i> , 2016 , 7, 1488	6.2	65
34	Mechanisms of metal resistance in plants: aluminum and heavy metals. <i>Plant and Soil</i> , 2002 , 247, 109-119.	4.2	61
33	Maize ZmALMT2 is a root anion transporter that mediates constitutive root malate efflux. <i>Plant, Cell and Environment</i> , 2012 , 35, 1185-200	8.4	55
32	Phosphorylation at S384 regulates the activity of the TaALMT1 malate transporter that underlies aluminum resistance in wheat. <i>Plant Journal</i> , 2009 , 60, 411-23	6.9	46
31	Functional, structural and phylogenetic analysis of domains underlying the Al sensitivity of the aluminum-activated malate/anion transporter, TaALMT1. <i>Plant Journal</i> , 2013 , 76, 766-80	6.9	43
30	Two citrate transporters coordinately regulate citrate secretion from rice bean root tip under aluminum stress. <i>Plant, Cell and Environment</i> , 2018 , 41, 809-822	8.4	39
29	The Raf-like Kinase ILK1 and the High Affinity K ⁺ Transporter HAK5 Are Required for Innate Immunity and Abiotic Stress Response. <i>Plant Physiology</i> , 2016 , 171, 1470-84	6.6	38
28	Cryo-EM structure of OSCA1.2 from elucidates the mechanical basis of potential membrane hyperosmolality gating. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 14309-14318	11.5	33
27	Evolving technologies for growing, imaging and analyzing 3D root system architecture of crop plants. <i>Journal of Integrative Plant Biology</i> , 2016 , 58, 230-41	8.3	30
26	Loss-of-function mutation of the calcium sensor CBL1 increases aluminum sensitivity in Arabidopsis. <i>New Phytologist</i> , 2017 , 214, 830-841	9.8	28
25	Incomplete transfer of accessory loci influencing SbMATE expression underlies genetic background effects for aluminum tolerance in sorghum. <i>Plant Journal</i> , 2013 , 73, 276-88	6.9	27
24	Cation permeability and selectivity of a root plasma membrane calcium channel. <i>Journal of Membrane Biology</i> , 2000 , 174, 71-83	2.3	25
23	The physiology, genetics and molecular biology of plant aluminum resistance and toxicity. <i>Plant Ecophysiology</i> , 2005 , 175-195		24
22	Characterization of the high-affinity verapamil binding site in a plant plasma membrane Ca ²⁺ -selective channel. <i>Journal of Membrane Biology</i> , 1997 , 157, 139-45	2.3	23

21	Selectivity of Liquid Membrane Cadmium Microelectrodes Based on the Ionophore N,N,N',N'-Tetrabutyl-3,6-dioxaoctanedithioamide. <i>Electroanalysis</i> , 1998 , 10, 937-941	3	21
20	Differences in whole-cell and single-channel ion currents across the plasma membrane of mesophyll cells from two closely related <i>Thlaspi</i> species. <i>Plant Physiology</i> , 2003 , 131, 583-94	6.6	21
19	Apple ALMT9 Requires a Conserved C-Terminal Domain for Malate Transport Underlying Fruit Acidity. <i>Plant Physiology</i> , 2020 , 182, 992-1006	6.6	20
18	A Sugar Transporter Takes Up both Hexose and Sucrose for Sorbitol-Modulated In Vitro Pollen Tube Growth in Apple. <i>Plant Cell</i> , 2020 , 32, 449-469	11.6	20
17	Functional characterization and discovery of modulators of SbMATE, the agronomically important aluminium tolerance transporter from <i>Sorghum bicolor</i> . <i>Scientific Reports</i> , 2017 , 7, 17996	4.9	17
16	Emerging Pleiotropic Mechanisms Underlying Aluminum Resistance and Phosphorus Acquisition on Acidic Soils. <i>Frontiers in Plant Science</i> , 2018 , 9, 1420	6.2	16
15	Signal coordination before, during and after stomatal closure in response to drought stress. <i>New Phytologist</i> , 2019 , 224, 675-688	9.8	15
14	() contributes to natural variation in aluminum resistance in diverse genetic backgrounds of rice (). <i>Plant Direct</i> , 2017 , 1, e00014	3.3	14
13	Physiological and molecular analysis of aluminum tolerance in selected Kenyan maize lines. <i>Plant and Soil</i> , 2014 , 377, 357-367	4.2	13
12	Indole-3-glycerolphosphate synthase, a branchpoint for the biosynthesis of tryptophan, indole, and benzoxazinoids in maize. <i>Plant Journal</i> , 2021 , 106, 245-257	6.9	10
11	Plant HKT Channels: An Updated View on Structure, Function and Gene Regulation. <i>International Journal of Molecular Sciences</i> , 2021 , 22,	6.3	10
10	YSL3-mediated copper distribution is required for fertility, seed size and protein accumulation in <i>Brachypodium</i> . <i>Plant Physiology</i> , 2021 , 186, 655-676	6.6	8
9	An extracellular cation coordination site influences ion conduction of OsHKT2;2. <i>BMC Plant Biology</i> , 2019 , 19, 316	5.3	7
8	Cell-Free Synthesis of a Transmembrane Mechanosensitive Channel Protein into a Hybrid-Supported Lipid Bilayer.. <i>ACS Applied Bio Materials</i> , 2021 , 4, 3101-3112	4.1	7
7	Low Additive Genetic Variation in a Trait Under Selection in Domesticated Rice. <i>G3: Genes, Genomes, Genetics</i> , 2020 , 10, 2435-2443	3.2	5
6	Calcium inhibits dihydropyridine-stimulated increases in opening and unitary conductance of a plant Ca ²⁺ channel. <i>Journal of Membrane Biology</i> , 2011 , 240, 13-20	2.3	3
5	Redefining stress resistance genes and why it matters. <i>Journal of Experimental Botany</i> , 2016 , 67, 5588-5591	3	3
4	Maize Al Tolerance 2009 , 367-380		2

3	Aluminum Tolerance in Sorghum and Maize 2013 , 83-98		1
2	Grain mineral nutrient profiling and iron bioavailability of an ancient crop tef (<i>Eragrostis tef</i>). <i>Australian Journal of Crop Science</i> , 2021 , 1314-1324	0.5	1
1	Molecular and physiological mechanisms of plant tolerance to toxic metals 2014 , 179-201		0