Simon Gilroy

List of Publications by Year
in descending order

134 papers	19,957 citations	14644 66 h-index	15249 126 g-index
156 all docs	156 docs citations	156 times ranked	16252 citing authors

#	ARTICLE	IF	CITATIONS
1	THE ROLE OF ROOT EXUDATES IN RHIZOSPHERE INTERACTIONS WITH PLANTS AND OTHER ORGANISMS. Annual Review of Plant Biology, 2006, 57, 233-266.	8.6	3,654
2	Allelopathy and Exotic Plant Invasion: From Molecules and Genes to Species Interactions. Science, 2003, 301, 1377-1380.	6.0	914
3	Glutamate triggers long-distance, calcium-based plant defense signaling. Science, 2018, 361, 1112-1115.	6.0	624
4	Salt stress-induced Ca ²⁺ waves are associated with rapid, long-distance root-to-shoot signaling in plants. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 6497-6502.	3.3	558
5	Elevation of cytoplasmic calcium by caged calcium or caged inositol trisphosphate initiates stomatal closure. Nature, 1990, 346, 769-771.	13.7	531
6	A tidal wave of signals: calcium and ROS at the forefront of rapid systemic signaling. Trends in Plant Science, 2014, 19, 623-630.	4.3	478
7	Through form to function: root hair development and nutrient uptake. Trends in Plant Science, 2000, 5, 56-60.	4.3	458
8	ROS, Calcium, and Electric Signals: Key Mediators of Rapid Systemic Signaling in Plants. Plant Physiology, 2016, 171, 1606-1615.	2.3	455
9	Arabidopsis H+-PPase AVP1 Regulates Auxin-Mediated Organ Development. Science, 2005, 310, 121-125.	6.0	403
10	Oscillations in extracellular pH and reactive oxygen species modulate tip growth of <i>Arabidopsis</i> root hairs. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 20996-21001.	3.3	372
11	Sphingolipid signalling in Arabidopsis guard cells involves heterotrimeric G proteins. Nature, 2003, 423, 651-654.	13.7	343
12	Ca2+ Regulates Reactive Oxygen Species Production and pH during Mechanosensing in<i>Arabidopsis</i>Roots Â. Plant Cell, 2009, 21, 2341-2356.	3.1	337
13	Cytoplasmic free calcium distributions during the development of root hairs of Arabidopsis thaliana. Plant Journal, 1997, 12, 427-439.	2.8	321
14	Mapping the Functional Roles of Cap Cells in the Response of Arabidopsis Primary Roots to Gravity1. Plant Physiology, 1998, 116, 213-222.	2.3	321
15	A Rho family GTPase controls actin dynamics and tip growth via two counteracting downstream pathways in pollen tubes. Journal of Cell Biology, 2005, 169, 127-138.	2.3	314
16	Abscisic acid signal transduction in guard cells is mediated by phospholipase D activity. Proceedings of the National Academy of Sciences of the United States of America, 1999, 96, 12192-12197.	3.3	287
17	Microtubules regulate tip growth and orientation in root hairs ofArabidopsis thaliana. Plant Journal, 1999, 17, 657-665.	2.8	278
18	Rapid, Long-Distance Electrical and Calcium Signaling in Plants. Annual Review of Plant Biology, 2016, 67, 287-307.	8.6	277

#	ARTICLE	IF	CITATIONS
19	Changes in Root Cap pH Are Required for the Gravity Response of the Arabidopsis Root. Plant Cell, 2001, 13, 907-921.	3.1	253
20	Orchestrating rapid longâ€distance signaling in plants with Ca²⁺, <scp>ROS</scp> and electrical signals. Plant Journal, 2017, 90, 698-707.	2.8	250
21	Spatial coordination of aluminium uptake, production of reactive oxygen species, callose production and wall rigidification in maize roots. Plant, Cell and Environment, 2006, 29, 1309-1318.	2.8	237
22	A ROS-Assisted Calcium Wave Dependent on the AtRBOHD NADPH Oxidase and TPC1 Cation Channel Propagates the Systemic Response to Salt Stress. Plant Physiology, 2016, 171, 1771-1784.	2.3	231
23	Root hair growth in Arabidopsis thaliana is directed by calcium and an endogenous polarity. Planta, 1997, 203, 495-505.	1.6	227
24	A 90-kD Phospholipase D from Tobacco Binds to Microtubules and the Plasma Membrane. Plant Cell, 2001, 13, 2143-2158.	3.1	225
25	Dynamics of auxinâ€dependent Ca²⁺ and pH signaling in root growth revealed by integrating highâ€resolution imaging with automated computer visionâ€based analysis. Plant Journal, 2011, 65, 309-318.	2.8	225
26	Imaging of the Yellow Cameleon 3.6 Indicator Reveals That Elevations in Cytosolic Ca2+ Follow Oscillating Increases in Growth in Root Hairs of Arabidopsis Â Â. Plant Physiology, 2008, 147, 1690-1698.	2.3	212
27	Cytoplasmic Free Ca2+ in Arabidopsis Roots Changes in Response to Touch but Not Gravity. Plant Physiology, 1997, 114, 789-800.	2.3	205
28	Touch modulates gravity sensing to regulate the growth of primary roots ofArabidopsis thaliana. Plant Journal, 2003, 33, 435-445.	2.8	202
29	Petunia Phospholipase C1 Is Involved in Pollen Tube Growth. Plant Cell, 2006, 18, 1438-1453.	3.1	199
30	A Sec14p-nodulin domain phosphatidylinositol transfer protein polarizes membrane growth of Arabidopsis thaliana root hairs. Journal of Cell Biology, 2005, 168, 801-812.	2.3	195
31	Gibberellic acid and abscisic acid coordinately regulate cytoplasmic calcium and secretory activity in barley aleurone protoplasts.. Proceedings of the National Academy of Sciences of the United States of America, 1992, 89, 3591-3595.	3.3	194
32	ROS in plant development. Physiologia Plantarum, 2010, 138, 384-392.	2.6	188
33	Abscisic acid signal transduction in the barley aleurone is mediated by phospholipase D activity. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 2697-2702.	3.3	187
34	Fundamental Biological Features of Spaceflight: Advancing the Field to Enable Deep-Space Exploration. Cell, 2020, 183, 1162-1184.	13.5	185
35	Alterations in the Cytoskeleton Accompany Aluminum-Induced Growth Inhibition and Morphological Changes in Primary Roots of Maize1. Plant Physiology, 1998, 118, 159-172.	2.3	181
36	Extracellular ATP signaling in plants. Trends in Cell Biology, 2010, 20, 601-608.	3.6	180

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37	ALTERED RESPONSE TO GRAVITY Is a Peripheral Membrane Protein That Modulates Gravity-Induced Cytoplasmic Alkalinization and Lateral Auxin Transport in Plant Statocytes. Plant Cell, 2003, 15, 2612-2625.	3.1	169
38	Interplay of Plasma Membrane and Vacuolar Ion Channels, Together with BAK1, Elicits Rapid Cytosolic Calcium Elevations in Arabidopsis during Aphid Feeding. Plant Cell, 2017, 29, 1460-1479.	3.1	169
39	A 90-kD Phospholipase D from Tobacco Binds to Microtubules and the Plasma Membrane. Plant Cell, 2001, 13, 2143-2158.	3.1	168
40	In Vivo Imaging of Ca²⁺, pH, and Reactive Oxygen Species Using Fluorescent Probes in Plants. Annual Review of Plant Biology, 2011, 62, 273-297.	8.6	156
41	Ionic Signaling in Plant Responses to Gravity and Touch. Journal of Plant Growth Regulation, 2002, 21, 71-88.	2.8	151
42	Feeling green: mechanosensing in plants. Trends in Cell Biology, 2009, 19, 228-235.	3.6	150
43	Arabidopsis Sphingosine Kinase and the Effects of Phytosphingosine-1-Phosphate on Stomatal Aperture. Plant Physiology, 2005, 137, 724-737.	2.3	147
44	Calcium-Dependent Protein Kinase Isoforms in Petunia Have Distinct Functions in Pollen Tube Growth, Including Regulating Polarity. Plant Cell, 2006, 18, 867-878.	3.1	131
45	Mechanical Stimuli Modulate Lateral Root Organogenesis. Plant Physiology, 2009, 151, 1855-1866.	2.3	130
46	Effect of aluminum on cytoplasmic Ca 2+ homeostasis in root hairs of Arabidopsis thaliana (L.). Planta, 1998, 206, 378-387.	1.6	123
47	Extracellular Nucleotides Elicit Cytosolic Free Calcium Oscillations in Arabidopsis Â Â. Plant Physiology, 2010, 154, 705-719.	2.3	121
48	Mutual interplay of Ca2+ and ROS signaling in plant immune response. Plant Science, 2019, 283, 343-354.	1.7	121
49	The promotion of gravitropism inArabidopsisroots upon actin disruption is coupled with the extended alkalinization of the columella cytoplasm and a persistent lateral auxin gradient. Plant Journal, 2004, 39, 113-125.	2.8	118
50	Calcium homeostasis in plants. Journal of Cell Science, 1993, 106, 453-462.	1.2	117
51	Signal processing and transduction in plant cells: the end of the beginning?. Nature Reviews Molecular Cell Biology, 2001, 2, 307-314.	16.1	116
52	Using intrinsically fluorescent proteins for plant cell imaging. Plant Journal, 2006, 45, 599-615.	2.8	110
53	Touch induces ATP release in Arabidopsis roots that is modulated by the heterotrimeric Gâ€protein complex. FEBS Letters, 2009, 583, 2521-2526.	1.3	104
54	Gravitropism and mechanical signaling in plants. American Journal of Botany, 2013, 100, 111-125.	0.8	103

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55	Aluminum Induces a Decrease in Cytosolic Calcium Concentration in BY-2 Tobacco Cell Cultures1. Plant Physiology, 1998, 116, 81-89.	2.3	101
56	Abscisic Acid Stimulation of Phospholipase D in the Barley Aleurone Is G-Protein-Mediated and Localized to the Plasma Membrane. Plant Physiology, 2000, 124, 693-702.	2.3	90
57	NaRALF, a peptide signal essential for the regulation of root hair tip apoplastic pH in <i>Nicotiana attenuata</i>, is required for root hair development and plant growth in native soils. Plant Journal, 2007, 52, 877-890.	2.8	87
58	Gibberellins: regulating genes and germination. New Phytologist, 1998, 140, 363-383.	3.5	86
59	PRK1, a receptor-like kinase of Petunia inflata, is essential for postmeiotic development of pollen. Plant Journal, 1996, 9, 613-624.	2.8	84
60	A Cytoplasmic Ca²⁺ Functional Assay for Identifying and Purifying Endogenous Cell Signaling Peptides in <i>Arabidopsis</i> Seedlings: Identification of AtRALF1 Peptide. Biochemistry, 2008, 47, 6311-6321.	1.2	84
61	Root Hair Development. Journal of Plant Growth Regulation, 2002, 21, 383-415.	2.8	80
62	Highâ€resolution imaging of Ca²⁺, redox status, ROS and pH using GFP biosensors. Plant Journal, 2012, 70, 118-128.	2.8	79
63	Systemic signaling in response to wounding and pathogens. Current Opinion in Plant Biology, 2018, 43, 57-62.	3.5	78
64	A Comparison between Quin-2 and Aequorin as Indicators of Cytoplasmic Calcium Levels in Higher Plant Cell Protoplasts. Plant Physiology, 1989, 90, 482-491.	2.3	77
65	Signal Transduction in Barley Aleurone Protoplasts Is Calcium Dependent and Independent.. Plant Cell, 1996, 8, 2193-2209.	3.1	77
66	Role of Calcium in Signal Transduction of Commelina Guard Cells. Plant Cell, 1991, 3, 333.	3.1	76
67	Gibberellins: regulating genes and germination. New Phytologist, 1998, 140, 363-383.	3.5	66
68	Physiology of the aleurone layer and starchy endosperm during grain development and early seedling growth: new insights from cell and molecular biology. Seed Science Research, 2000, 10, 193-212.	0.8	63
69	Tonoplast-localized Ca ²⁺ pumps regulate Ca ²⁺ signals during pattern-triggered immunity in <i>Arabidopsis thaliana</i>. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 18849-18857.	3.3	62
70	The calcium-dependent protein kinase HvCDPK1 mediates the gibberellic acid response of the barley aleurone through regulation of vacuolar function. Plant Journal, 2004, 39, 206-218.	2.8	61
71	Calcium-Dependent Protein Phosphorylation May Mediate the Gibberellic Acid Response in Barley Aleurone1. Plant Physiology, 1998, 116, 765-776.	2.3	60
72	A decade of plant signals. BioEssays, 1994, 16, 677-682.	1.2	59

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73	Sense and sensibility: the use of fluorescent protein-based genetically encoded biosensors in plants. Current Opinion in Plant Biology, 2018, 46, 32-38.	3.5	59
74	FLUORESCENCE MICROSCOPY OF LIVING PLANT CELLS. Annual Review of Plant Biology, 1997, 48, 165-190.	14.2	58
75	Variation in the transcriptome of different ecotypes of <i>Arabidopsis thaliana</i> reveals signatures of oxidative stress in plant responses to spaceflight. American Journal of Botany, 2019, 106, 123-136.	0.8	57
76	Sodium chloride reduces growth and cytosolic calcium, but does not affect cytosolic pH, in root hairs of Arabidopsis thaliana L.. Journal of Experimental Botany, 2003, 54, 1269-1280.	2.4	56
77	Adenosine Kinase Modulates Root Gravitropism and Cap Morphogenesis in Arabidopsis. Plant Physiology, 2006, 142, 564-573.	2.3	56
78	Plant tropisms. Current Biology, 2008, 18, R275-R277.	1.8	56
79	The exploring rootâ€"root growth responses to local environmental conditions. Current Opinion in Plant Biology, 2009, 12, 766-772.	3.5	52
80	Amyloplast displacement is necessary for gravisensing in Arabidopsis shoots as revealed by a centrifuge microscope. Plant Journal, 2013, 76, 648-660.	2.8	51
81	The fast and the furious: rapid long-range signaling in plants. Plant Physiology, 2021, 185, 694-706.	2.3	50
82	Increases in cytosolic Ca 2+ are not required for abscisic acid-inhibition of inward K + currents in guard cells of Vicia faba L.. Planta, 2000, 211, 209-217.	1.6	49
83	Expression of the Cameleon calcium biosensor in fungi reveals distinct Ca2+ signatures associated with polarized growth, development, and pathogenesis. Fungal Genetics and Biology, 2012, 49, 589-601.	0.9	48
84	Nitrogen source interacts with ROP signalling in root hair tipâ€growth. Plant, Cell and Environment, 2011, 34, 76-88.	2.8	43
85	Control of basal jasmonate signalling and defence through modulation of intracellular cation flux capacity. New Phytologist, 2017, 216, 1161-1169.	3.5	43
86	The Sensitivity of Barley Aleurone Tissue to Gibberellin Is Heterogeneous and May Be Spatially Determined1. Plant Physiology, 1999, 120, 361-370.	2.3	41
87	Calmodulin stimulation of unidirectional calcium uptake by the endoplasmic reticulum of barley aleurone. Planta, 1993, 190, 289.	1.6	40
88	Shootward and rootward: peak terminology for plant polarity. Trends in Plant Science, 2010, 15, 593-594.	4.3	39
89	CML24 is Involved in Root Mechanoresponses and Cortical Microtubule Orientation in Arabidopsis. Journal of Plant Growth Regulation, 2011, 30, 467-479.	2.8	38
90	Plant cell biology in the new millennium: new tools and new insights. American Journal of Botany, 2000, 87, 1547-1560.	0.8	37

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91	Identification and characterization of PiORP1, a Petunia oxysterol-binding-protein related protein involved in receptor-kinase mediated signaling in pollen, and analysis of the ORP gene family in Arabidopsis. Plant Molecular Biology, 2006, 61, 553-565.	2.0	37
92	Staying in touch: mechanical signals in plantâ€"microbe interactions. Current Opinion in Plant Biology, 2014, 20, 104-109.	3.5	36
93	Editorial: Inter-cellular Electrical Signals in Plant Adaptation and Communication. Frontiers in Plant Science, 2018, 9, 643.	1.7	34
94	From common signalling components to cell specific responses: insights from the cereal aleurone. Physiologia Plantarum, 2002, 115, 342-351.	2.6	33
95	Using GCaMP3 to Study Ca2+ Signaling in Nicotiana Species. Plant and Cell Physiology, 2017, 58, 1173-1184.	1.5	32
96	A New Era for Space Life Science: International Standards for Space Omics Processing. Patterns, 2020, 1, 100148.	3.1	28
97	Changes in Root Cap pH Are Required for the Gravity Response of the Arabidopsis Root. Plant Cell, 2001, 13, 907.	3.1	27
98	An unexpectedly high degree of specialization and a widespread involvement in sterol metabolism among the C. elegans putative aminophospholipid translocases. BMC Developmental Biology, 2008, 8, 96.	2.1	24
99	Quantitative ROS bioreporters: A robust toolkit for studying biological roles of ROS in response to abiotic and biotic stresses. Physiologia Plantarum, 2019, 165, 356-368.	2.6	24
100	Test of Arabidopsis Space Transcriptome: A Discovery Environment to Explore Multiple Plant Biology Spaceflight Experiments. Frontiers in Plant Science, 2020, 11, 147.	1.7	23
101	The rice E3 ubiquitin ligase OsHOS1 modulates the expression of OsRMC, a gene involved in root mechano-sensing, through the interaction with two ERF transcription factors. Plant Physiology, 2015, 169, pp.01131.2015.	2.3	22
102	NASA GeneLab RNA-seq consensus pipeline: Standardized processing of short-read RNA-seq data. IScience, 2021, 24, 102361.	1.9	20
103	Wortmannin-induced vacuole fusion enhances amyloplast dynamics in Arabidopsis<i>zigzag1</i>hypocotyls. Journal of Experimental Botany, 2016, 67, 6459-6472.	2.4	18
104	CYCLIC NUCLEOTIDE-GATED ION CHANNEL 2 modulates auxin homeostasis and signaling. Plant Physiology, 2021, 187, 1690-1703.	2.3	18
105	Localization of GAR transformylase in Escherichia coli and mammalian cells. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 6565-6570.	3.3	17
106	Auxin Transport and the Integration of Gravitropic Growth. , 0, , 47-77.		15
107	Co-regulation of root hair tip growth by ROP GTPases and nitrogen source modulated pH fluctuations. Plant Signaling and Behavior, 2011, 6, 426-429.	1.2	15
108	Changes in Nuclear Shape and Gene Expression in Response to Simulated Microgravity Are LINC Complex-Dependent. International Journal of Molecular Sciences, 2020, 21, 6762.	1.8	15

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109	Plants eavesdrop on cues produced by snails and induce costly defenses that affect insect herbivores. Oecologia, 2018, 186, 703-710.	0.9	14
110	Signal Transduction in Barley Aleurone Protoplasts Is Calcium Dependent and Independent. Plant Cell, 1996, 8, 2193.	3.1	13
111	Imaging Changes in Cytoplasmic Calcium Using the Yellow Cameleon 3.6 Biosensor and Confocal Microscopy. Methods in Molecular Biology, 2013, 1009, 291-302.	0.4	13
112	Calcium and Plant Hormone Action. , 1995, , 298-317.		13
113	The Emerging Roles of Phospholipase C in Plant Growth and Development. Plant Cell Monographs, 2010, , 23-37.	0.4	11
114	Agency, teleonomy and signal transduction in plant systems. Biological Journal of the Linnean Society, 2023, 139, 514-529.	0.7	8
115	A 90-kD Phospholipase D from Tobacco Binds to Microtubules and the Plasma Membrane. Plant Cell, 2001, 13, 2143.	3.1	6
116	Wide-Field, Real-Time Imaging of Local and Systemic Wound Signals in Arabidopsis. Journal of Visualized Experiments, 2021, , .	0.2	6
117	Evaluating Mechano-Transduction and Touch Responses in Plant Roots. Methods in Molecular Biology, 2015, 1309, 143-150.	0.4	6
118	Real-time In Vivo Recording of Arabidopsis Calcium Signals During Insect Feeding Using a Fluorescent Biosensor. Journal of Visualized Experiments, 2017, , .	0.2	5
119	Calcium in Root Hair Growth. , 2000, , 141-163.		5
120	Plant biologists FRET over stress. ELife, 2014, 3, e02763.	2.8	5
121	Plant Cell Biology: With Grand Challenges Come Great Possibilities. Frontiers in Plant Science, 2011, 2, 3.	1.7	3
122	Calcium, Mechanical Signaling, and Tip Growth. Signaling and Communication in Plants, 2011, , 41-61.	0.5	3
123	Development of Equipment that Uses Far-Red Light to Impose Seed Dormancy in Arabidopsis for Spaceflight. Gravitational and Space Research: Publication of the American Society for Gravitational and Space Research, 2016, 4, 8-19.	0.3	3
124	Pollen tube vs CHUKNORRIS: the action is pulsatile. Journal of Experimental Botany, 2017, 68, 3041-3043.	2.4	2
125	Rad-Bio-App: a discovery environment for biologists to explore spaceflight-related radiation exposures. Npj Microgravity, 2021, 7, 15.	1.9	2
126	Mechanisms of Gravity Perception in Higher Plants. , 0, , 3-19.		1

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127	Signal Transduction in Gravitropism. , 0, , 21-45.		1
128	Plant cell biologyâ€"digging deep into cell function. Current Opinion in Plant Biology, 2011, 14, 629-631.	3.5	1
129	Moving Magnesium. Molecular Plant, 2022, , .	3.9	1
130	Calcium Signals and Their Regulation. , 0, , 137-162.		0
131	Spectrum: Fluorescence Imaging on the International Space Station. Microscopy and Microanalysis, 2020, 26, 352-353.	0.2	0
132	Calcium | Calcium Signaling in Plants. , 2021, , 637-645.		0
133	Using the Automated Botanical Contact Device (ABCD) to Deliver Reproducible, Intermittent Touch Stimulation to Plants. Methods in Molecular Biology, 2022, 2368, 81-94.	0.4	0
134	Analysis of Plant Root Gravitropism. Methods in Molecular Biology, 2022, 2494, 3-16.	0.4	0