Edgar P Spalding

List of Publications by Year
in descending order

86 papers	8,324 citations	44069 48 h-index	49909 87 g-index
97 all docs	97 docs citations	97 times ranked	8474 citing authors

#	Article	IF	Citations
1	A Role for the AKT1 Potassium Channel in Plant Nutrition. Science, 1998, 280, 918-921.	12.6	673
2	Plant ABC proteins â€“ a unified nomenclature and updated inventory. Trends in Plant Science, 2008, 13, 151-159.	8.8	652
3	<i>Multidrug Resistance</i>â€“like Genes of Arabidopsis Required for Auxin Transport and Auxin-Mediated Development. Plant Cell, 2001, 13, 2441-2454.	6.6	462
4	The iPlant Collaborative: Cyberinfrastructure for Plant Biology. Frontiers in Plant Science, 2011, 2, 34.	3.6	396
5	The Receptor-like Kinase FERONIA Is Required for Mechanical Signal Transduction in Arabidopsis Seedlings. Current Biology, 2014, 24, 1887-1892.	3.9	267
6	Potassium Uptake Supporting Plant Growth in the Absence of AKT1 Channel Activity. Journal of General Physiology, 1999, 113, 909-918.	1.9	266
7	Enhanced gravi- and phototropism in plant mdr mutants mislocalizing the auxin efflux protein PIN1. Nature, 2003, 423, 999-1002.	27.8	253
8	Unexpected roles for cryptochrome 2 and phototropin revealed by high-resolution analysis of blue light-mediated hypocotyl growth inhibition. Plant Journal, 2001, 26, 471-478.	5.7	233
9	Calcium Entry Mediated by GLR3.3, an Arabidopsis Glutamate Receptor with a Broad Agonist Profile. Plant Physiology, 2006, 142, 963-971.	4.8	217
10	Glutamate-Gated Calcium Fluxes in Arabidopsis. Plant Physiology, 2000, 124, 1511-1514.	4.8	188
11	Separating the Roles of Acropetal and Basipetal Auxin Transport on Gravitropism with Mutations in Two Arabidopsis Multidrug Resistance-Like ABC Transporter Genes. Plant Cell, 2007, 19, 1838-1850.	6.6	184
12	Protection of Plasma Membrane K+ Transport by the Salt Overly Sensitive1 Na+-H+ Antiporter during Salinity Stress. Plant Physiology, 2004, 136, 2548-2555.	4.8	176
13	The Identity of Plant Glutamate Receptors. Science, 2001, 292, 1486b-1487.	12.6	175
14	Arabidopsis Seedling Growth Response and Recovery to Ethylene. A Kinetic Analysis. Plant Physiology, 2004, 136, 2913-2920.	4.8	164
15	Mutations in Arabidopsis Multidrug Resistance-Like ABC Transporters Separate the Roles of Acropetal and Basipetal Auxin Transport in Lateral Root Development. Plant Cell, 2007, 19, 1826-1837.	6.6	164
16	Genomic and physiological studies of early cryptochrome 1 action demonstrate roles for auxin and gibberellin in the control of hypocotyl growth by blue light. Plant Journal, 2003, 36, 203-214.	5.7	149
17	Ca2+ Conduction by an Amino Acid-Gated Ion Channel Related to Glutamate Receptors Â. Plant Physiology, 2012, 159, 40-46.	4.8	138
18	Rapid Auxin-Mediated Cell Expansion. Annual Review of Plant Biology, 2020, 71, 379-402.	18.7	128

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19	<scp>A</scp>t<scp>LAZY</scp>1 is a signaling component required for gravitropism of the <i><scp>A</scp>rabidopsis thaliana</i> inflorescence. Plant Journal, 2013, 74, 267-279.	5.7	125
20	Interacting Glutamate Receptor-Like Proteins in Phloem Regulate Lateral Root Initiation in <i>Arabidopsis</i> Â Â. Plant Cell, 2013, 25, 1304-1313.	6.6	125
21	LAZY Genes Mediate the Effects of Gravity on Auxin Gradients and Plant Architecture. Plant Physiology, 2017, 175, 959-969.	4.8	120
22	Image analysis is driving a renaissance in growth measurement. Current Opinion in Plant Biology, 2013, 16, 100-104.	7.1	115
23	Large plasma-membrane depolarization precedes rapid blue-light-induced growth inhibition in cucumber. Planta, 1989, 178, 407-410.	3.2	108
24	Computerâ€vision analysis of seedling responses to light and gravity. Plant Journal, 2007, 52, 374-381.	5.7	108
25	Photocontrol of stem growth. Current Opinion in Plant Biology, 2001, 4, 436-440.	7.1	107
26	Functions of AKT1 and AKT2 Potassium Channels Determined by Studies of Single and Double Mutants of Arabidopsis. Plant Physiology, 2001, 127, 1012-1019.	4.8	107
27	Glutamate Receptor Subtypes Evidenced by Differences in Desensitization and Dependence on the <i>GLR3.3</i> and <i>GLR3.4</i> Genes. Plant Physiology, 2008, 146, 323-324.	4.8	103
28	The ER-Localized TWD1 Immunophilin Is Necessary for Localization of Multidrug Resistance-Like Proteins Required for Polar Auxin Transport in <i>Arabidopsis</i> Roots. Plant Cell, 2010, 22, 3295-3304.	6.6	98
29	Separate functions for nuclear and cytoplasmic cryptochrome 1 during photomorphogenesis of <i>Arabidopsis</i> seedlings. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 18813-18818.	7.1	97
30	HYPOTrace: Image Analysis Software for Measuring Hypocotyl Growth and Shape Demonstrated on Arabidopsis Seedlings Undergoing Photomorphogenesis. Plant Physiology, 2009, 149, 1632-1637.	4.8	97
31	Primary Inhibition of Hypocotyl Growth and Phototropism Depend Differently on Phototropin-Mediated Increases in Cytoplasmic Calcium Induced by Blue Light. Plant Physiology, 2003, 133, 1464-1470.	4.8	94
32	A robust, highâ€throughput method for computing maize ear, cob, and kernel attributes automatically from images. Plant Journal, 2017, 89, 169-178.	5.7	86
33	The ins and outs of cellular Ca2+ transport. Current Opinion in Plant Biology, 2011, 14, 715-720.	7.1	84
34	A role for ABCB19-mediated polar auxin transport in seedling photomorphogenesis mediated by cryptochromeâ€ƒ1 and phytochromeâ€ƒB. Plant Journal, 2010, 62, 179-191.	5.7	77
35	Genome-wide association analysis of stalk biomass and anatomical traits in maize. BMC Plant Biology, 2019, 19, 45.	3.6	77
36	High-Throughput Computer Vision Introduces the Time Axis to a Quantitative Trait Map of a Plant Growth Response. Genetics, 2013, 195, 1077-1086.	2.9	72

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37	Advanced imaging techniques for the study of plant growth and development. Trends in Plant Science, 2014, 19, 304-310.	8.8	72
38	Two Genetically Separable Phases of Growth Inhibition Induced by Blue Light in Arabidopsis Seedlings. Plant Physiology, 1998, 118, 609-615.	4.8	71
39	Plasticity of Arabidopsis Root Gravitropism throughout a Multidimensional Condition Space Quantified by Automated Image Analysis Â Â. Plant Physiology, 2009, 152, 206-216.	4.8	71
40	Separating parental environment from seed size effects on next generation growth and development in <i>Arabidopsis</i>. Plant, Cell and Environment, 2011, 34, 291-301.	5.7	70
41	Detection of a Gravitropism Phenotype in<i>glutamate receptor-like 3.3</i>Mutants of<i>Arabidopsis thaliana</i>Using Machine Vision and Computation. Genetics, 2010, 186, 585-593.	2.9	69
42	Constitutive Expression of Arabidopsis <i>SMALL AUXIN UP RNA19</i> (<i>SAUR19</i>) in Tomato Confers Auxin-Independent Hypocotyl Elongation. Plant Physiology, 2017, 173, 1453-1462.	4.8	67
43	TIPS: a system for automated image-based phenotyping of maize tassels. Plant Methods, 2017, 13, 21.	4.3	62
44	Role of SKD1 Regulators LIP5 and IST1-LIKE1 in Endosomal Sorting and Plant Development. Plant Physiology, 2016, 171, 251-264.	4.8	61
45	Morphological Plant Modeling: Unleashing Geometric and Topological Potential within the Plant Sciences. Frontiers in Plant Science, 2017, 8, 900.	3.6	61
46	Diverting the downhill flow of auxin to steer growth during tropisms. American Journal of Botany, 2013, 100, 203-214.	1.7	58
47	Opposing roles of phytochrome A and phytochrome B in early cryptochrome-mediated growth inhibition. Plant Journal, 2001, 28, 333-340.	5.7	57
48	Anion Channels and the Stimulation of Anthocyanin Accumulation by Blue Light in Arabidopsis Seedlings1. Plant Physiology, 1998, 116, 503-509.	4.8	51
49	Genotype-by-environment interactions affecting heterosis in maize. PLoS ONE, 2018, 13, e0191321.	2.5	51
50	Auxin transport into cotyledons and cotyledon growth depend similarly on the ABCB19 Multidrug Resistanceâ€like transporter. Plant Journal, 2009, 60, 91-101.	5.7	50
51	A high throughput robot system for machine vision based plant phenotype studies. Machine Vision and Applications, 2013, 24, 619-636.	2.7	44
52	Machine learning-enabled phenotyping for GWAS and TWAS of WUE traits in 869 field-grown sorghum accessions. Plant Physiology, 2021, 187, 1481-1500.	4.8	44
53	Image analysis of anatomical traits in stalk transections of maize and other grasses. Plant Methods, 2015, 11, 26.	4.3	40
54	Mapping Quantitative Trait Loci Affecting Arabidopsis thaliana Seed Morphology Features Extracted Computationally From Images. G3: Genes, Genomes, Genetics, 2013, 3, 109-118.	1.8	39

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55	Maize genomes to fields (G2F): 2014â€“2017 field seasons: genotype, phenotype, climatic, soil, and inbred ear image datasets. BMC Research Notes, 2020, 13, 71.	1.4	38
56	Phenotypic and Transcriptional Analysis of Divergently Selected Maize Populations Reveals the Role of Developmental Timing in Seed Size Determination Â Â. Plant Physiology, 2014, 165, 658-669.	4.8	37
57	Switching the Direction of Stem Gravitropism by Altering Two Amino Acids in AtLAZY1. Plant Physiology, 2020, 182, 1039-1051.	4.8	37
58	AUXIN UP-REGULATED F-BOX PROTEIN1 Regulates the Cross Talk between Auxin Transport and Cytokinin Signaling during Plant Root Growth Â Â. Plant Physiology, 2011, 156, 1878-1893.	4.8	36
59	A Simple Regression-Based Method to Map Quantitative Trait Loci Underlying Function-Valued Phenotypes. Genetics, 2014, 197, 1409-1416.	2.9	35
60	Mapping Quantitative Trait Loci Underlying Function-Valued Traits Using Functional Principal Component Analysis and Multi-Trait Mapping. G3: Genes, Genomes, Genetics, 2016, 6, 79-86.	1.8	34
61	Classifying coldâ€stress responses of inbred maize seedlings using <scp>RGB</scp> imaging. Plant Direct, 2019, 3, e00104.	1.9	34
62	Activation of K + Channels in the Plasma Membrane of Arabidopsis by ATP Produced Photosynthetically. Plant Cell, 1993, 5, 477.	6.6	29
63	An Automated Image Analysis Pipeline Enables Genetic Studies of Shoot and Root Morphology in Carrot (Daucus carota L.). Frontiers in Plant Science, 2018, 9, 1703.	3.6	29
64	<scp>ABCB</scp>19â€mediated polar auxin transport modulates Arabidopsis hypocotyl elongation and the endoreplication variant of the cell cycle. Plant Journal, 2016, 85, 209-218.	5.7	28
65	Maize Genomes to Fields: 2014 and 2015 field season genotype, phenotype, environment, and inbred ear image datasets. BMC Research Notes, 2018, 11, 452.	1.4	25
66	Regulation of Root Angle and Gravitropism. G3: Genes, Genomes, Genetics, 2018, 8, 3841-3855.	1.8	24
67	Distribution of Endogenous NO Regulates Early Gravitropic Response and PIN2 Localization in Arabidopsis Roots. Frontiers in Plant Science, 2018, 9, 495.	3.6	21
68	Relative utility of agronomic, phenological, and morphological traits for assessing genotypeâ€byâ€environment interaction in maize inbreds. Crop Science, 2020, 60, 62-81.	1.8	21
69	Block of ATP-Binding Cassette B19 Ion Channel Activity by 5-Nitro-2-(3-Phenylpropylamino)-Benzoic Acid Impairs Polar Auxin Transport and Root Gravitropism. Plant Physiology, 2014, 166, 2091-2099.	4.8	20
70	Predicting Zea mays Flowering Time, Yield, and Kernel Dimensions by Analyzing Aerial Images. Frontiers in Plant Science, 2019, 10, 1251.	3.6	20
71	Functions of AKT1 and AKT2 Potassium Channels Determined by Studies of Single and Double Mutants of Arabidopsis. Plant Physiology, 2001, 127, 1012-1019.	4.8	18
72	Light-Induced Growth Promotion by SPA1 Counteracts Phytochrome-Mediated Growth Inhibition during De-Etiolation. Plant Physiology, 2001, 126, 1291-1298.	4.8	17

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73	AN APPARATUS FOR STUDYING RAPID ELECTROPHYSIOLOGICAL RESPONSES TO LIGHT DEMONSTRATED ON Arabidopsis LEAVES. Photochemistry and Photobiology, 1995, 62, 934-939.	2.5	12
74	The Next Generation of Training for Arabidopsis Researchers: Bioinformatics and Quantitative Biology. Plant Physiology, 2017, 175, 1499-1509.	4.8	11
75	Jasmonoyl-L-Tryptophan Disrupts IAA Activity through the AUX1 Auxin Permease. Frontiers in Plant Science, 2017, 8, 736.	3.6	10
76	Electrophysiological study of Arabidopsis ABCB4 and PIN2 auxin transporters: Evidence of auxin activation and interaction enhancing auxin selectivity. Plant Direct, 2021, 5, e361.	1.9	10
77	Light Signaling. Plant Physiology, 2003, 133, 1417-1419.	4.8	8
78	Computer Vision as a Tool to Study Plant Development. Methods in Molecular Biology, 2009, 553, 317-326.	0.9	8
79	A machine vision platform for measuring imbibition of maize kernels: quantification of genetic effects and correlations with germination. Plant Methods, 2018, 14, 115.	4.3	6
80	A Digital Image-Based Phenotyping Platform for Analyzing Root Shape Attributes in Carrot. Frontiers in Plant Science, 2021, 12, 690031.	3.6	5
81	Spontaneous polyploidization in cucumber. Theoretical and Applied Genetics, 2017, 130, 1481-1490.	3.6	4
82	A novel high-throughput hyperspectral scanner and analytical methods for predicting maize kernel composition and physical traits. Food Chemistry, 2022, 391, 133264.	8.2	4
83	The inside view on plant growth. Nature Methods, 2010, 7, 506-507.	19.0	3
84	Characterizing introgression-by-environment interactions using maize near isogenic lines. Theoretical and Applied Genetics, 2020, 133, 2761-2773.	3.6	2
85	Multidrug Resistance-Like Genes of Arabidopsis Required for Auxin Transport and Auxin-Mediated Development. Plant Cell, 2001, 13, 2441.	6.6	1
86	The Contributions of Anthony B. Bleecker to Ethylene Signaling and Beyond. Plant Cell, 2006, 18, 3347-3349.	6.6	1