

Thomas P Brutnell

List of Publications by Year in descending order

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108
papers

13,826
citations

34105

52
h-index

27406

106
g-index

119
all docs

119
docs citations

119
times ranked

14440
citing authors

#	ARTICLE	IF	CITATIONS
1	The B73 Maize Genome: Complexity, Diversity, and Dynamics. <i>Science</i> , 2009, 326, 1112-1115.	12.6	3,612
2	Reference genome sequence of the model plant <i>Setaria</i> . <i>Nature Biotechnology</i> , 2012, 30, 555-561.	17.5	864
3	Natural Genetic Variation in <i>Lycopene Epsilon Cyclase</i> Tapped for Maize Biofortification. <i>Science</i> , 2008, 319, 330-333.	12.6	692
4	The developmental dynamics of the maize leaf transcriptome. <i>Nature Genetics</i> , 2010, 42, 1060-1067.	21.4	660
5	Advancing Crop Transformation in the Era of Genome Editing. <i>Plant Cell</i> , 2016, 28, tpc.00196.2016.	6.6	429
6	Rare genetic variation at <i>Zea mays crtRB1</i> increases β^2 -carotene in maize grain. <i>Nature Genetics</i> , 2010, 42, 322-327.	21.4	421
7	The iPlant Collaborative: Cyberinfrastructure for Plant Biology. <i>Frontiers in Plant Science</i> , 2011, 2, 34.	3.6	396
8	<i>Setaria viridis</i> : A Model for C4 Photosynthesis. <i>Plant Cell</i> , 2010, 22, 2537-2544.	6.6	320
9	<i>Setaria viridis</i> and <i>Setaria italica</i> , model genetic systems for the Panicoid grasses. <i>Journal of Experimental Botany</i> , 2011, 62, 3031-3037.	4.8	312
10	Standards for plant synthetic biology: a common syntax for exchange of DNA parts. <i>New Phytologist</i> , 2015, 208, 13-19.	7.3	263
11	<i>Brachypodium</i> as a Model for the Grasses: Today and the Future. <i>Plant Physiology</i> , 2011, 157, 3-13.	4.8	243
12	Comparative analyses of C4 and C3 photosynthesis in developing leaves of maize and rice. <i>Nature Biotechnology</i> , 2014, 32, 1158-1165.	17.5	228
13	<i>grassy tillers1</i> promotes apical dominance in maize and responds to shade signals in the grasses. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, E506-12.	7.1	215
14	A Versatile Phenotyping System and Analytics Platform Reveals Diverse Temporal Responses to Water Availability in <i>Setaria</i> . <i>Molecular Plant</i> , 2015, 8, 1520-1535.	8.3	202
15	The maize W22 genome provides a foundation for functional genomics and transposon biology. <i>Nature Genetics</i> , 2018, 50, 1282-1288.	21.4	183
16	High Glycolate Oxidase Activity Is Required for Survival of Maize in Normal Air. <i>Plant Physiology</i> , 2009, 149, 195-204.	4.8	178
17	Precise insertion and guided editing of higher plant genomes using Cpf1 CRISPR nucleases. <i>Scientific Reports</i> , 2017, 7, 11606.	3.3	164
18	BUNDLE SHEATH DEFECTIVE2, a Novel Protein Required for Post-Translational Regulation of the <i>rbcl</i> Gene of Maize. <i>Plant Cell</i> , 1999, 11, 849-864.	6.6	149

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19	A Low-Cost Library Construction Protocol and Data Analysis Pipeline for Illumina-Based Strand-Specific Multiplex RNA-Seq. PLoS ONE, 2011, 6, e26426.	2.5	135
20	<i>Brachypodium distachyon</i> and <i>Setaria viridis</i> : Model Genetic Systems for the Grasses. Annual Review of Plant Biology, 2015, 66, 465-485.	18.7	126
21	Genome-Wide Distribution of Transposed Dissociation Elements in Maize. Plant Cell, 2010, 22, 1667-1685.	6.6	123
22	Suppression of sorghum axillary bud outgrowth by shade, phyB and defoliation signalling pathways. Plant, Cell and Environment, 2009, 33, 48-58.	5.7	121
23	Novel lycopene epsilon cyclase activities in maize revealed through perturbation of carotenoid biosynthesis. Plant Journal, 2009, 59, 588-599.	5.7	120
24	Model-based clustering for RNA-seq data. Bioinformatics, 2014, 30, 197-205.	4.1	112
25	Grasses suppress shoot-borne roots to conserve water during drought. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 8861-8866.	7.1	111
26	Activator Mutagenesis of the Pink scutellum1/viviparous7 Locus of Maize. Plant Cell, 2003, 15, 874-884.	6.6	108
27	Exploring plant transcriptomes using ultra high-throughput sequencing. Briefings in Functional Genomics, 2010, 9, 118-128.	2.7	108
28	Subfunctionalization of PhyB1 and PhyB2 in the control of seedling and mature plant traits in maize. Plant Journal, 2007, 49, 338-353.	5.7	107
29	A genome resource for green millet <i>Setaria viridis</i> enables discovery of agronomically valuable loci. Nature Biotechnology, 2020, 38, 1203-1210.	17.5	103
30	Genetic Control and Comparative Genomic Analysis of Flowering Time in <i>Setaria</i> (Poaceae). G3: Genes, Genomes, Genetics, 2013, 3, 283-295.	1.8	97
31	The molecular analysis of the shade avoidance syndrome in the grasses has begun. Journal of Experimental Botany, 2007, 58, 3079-3089.	4.8	91
32	Light-regulated overexpression of an Arabidopsis phytochrome A gene in rice alters plant architecture and increases grain yield. Planta, 2006, 223, 627-636.	3.2	84
33	Genome-Wide Association of Carbon and Nitrogen Metabolism in the Maize Nested Association Mapping Population. Plant Physiology, 2015, 168, 575-583.	4.8	80
34	The Maize Oil Yellow1 (Oy1) Gene Encodes the I Subunit of Magnesium Chelatase. Plant Molecular Biology, 2006, 60, 95-106.	3.9	79
35	Identification of the <i>Pr1</i> Gene Product Completes the Anthocyanin Biosynthesis Pathway of Maize. Genetics, 2011, 188, 69-79.	2.9	78
36	A Limited Role for Carbonic Anhydrase in C4 Photosynthesis as Revealed by a <i>ca1ca2</i> Double Mutant in Maize. Plant Physiology, 2014, 165, 608-617.	4.8	78

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37	Developmental dynamics of Kranz cell transcriptional specificity in maize leaf reveals early onset of C4-related processes. <i>Journal of Experimental Botany</i> , 2014, 65, 3543-3555.	4.8	78
38	Structure and Expression of Maize Phytochrome Family HomeologsSequence data from this article have been deposited with the EMBL/GenBank Data Libraries under accession nos. AY234825, AY234826, AY234827, AY234828, AY234829, AY234830.. <i>Genetics</i> , 2004, 167, 1395-1405.	2.9	73
39	An N-acetylglucosamine transporter required for arbuscular mycorrhizal symbioses in rice and maize. <i>Nature Plants</i> , 2017, 3, 17073.	9.3	72
40	elongated mesocotyl1, a Phytochrome-Deficient Mutant of Maize. <i>Plant Physiology</i> , 2002, 130, 155-163.	4.8	68
41	Maize high chlorophyll fluorescent 60 mutation is caused by an Ac disruption of the gene encoding the chloroplast ribosomal small subunit protein 17. <i>Plant Journal</i> , 2000, 21, 317-327.	5.7	67
42	Photomorphogenic Responses in Maize Seedling Development. <i>Plant Physiology</i> , 2003, 133, 1578-1591.	4.8	67
43	Cereal phytochromes: targets of selection, targets for manipulation?. <i>Trends in Plant Science</i> , 2005, 10, 138-143.	8.8	66
44	CRISPR-Cas12a (Cpf1): A Versatile Tool in the Plant Genome Editing Tool Box for Agricultural Advancement. <i>Frontiers in Plant Science</i> , 2020, 11, 584151.	3.6	66
45	Leaf permease1 gene of maize is required for chloroplast development.. <i>Plant Cell</i> , 1996, 8, 463-475.	6.6	65
46	Transposon tagging in maize. <i>Functional and Integrative Genomics</i> , 2002, 2, 4-12.	3.5	64
47	The globby1-1 (glo1-1) mutation disrupts nuclear and cell division in the developing maize seed causing alterations in endosperm cell fate and tissue differentiation. <i>Development (Cambridge)</i> , 2003, 130, 5009-5017.	2.5	64
48	Identification of Photosynthesis-Associated C4 Candidate Genes through Comparative Leaf Gradient Transcriptome in Multiple Lineages of C3 and C4 Species. <i>PLoS ONE</i> , 2015, 10, e0140629.	2.5	63
49	Sparse panicle1 is required for inflorescence development in <i>Setaria viridis</i> and maize. <i>Nature Plants</i> , 2017, 3, 17054.	9.3	63
50	bundle sheath defective2, a Mutation That Disrupts the Coordinated Development of Bundle Sheath and Mesophyll Cells in the Maize Leaf.. <i>Plant Cell</i> , 1996, 8, 915-927.	6.6	61
51	Cross species selection scans identify components of C ₄ photosynthesis in the grasses. <i>Journal of Experimental Botany</i> , 2017, 68, 127-135.	4.8	61
52	Distribution of Activator (Ac) Throughout the Maize Genome for Use in Regional MutagenesisSequence data from this article have been deposited with the EMBL/GenBank Data Libraries under accession nos. AY559172, AY559173, AY559174, AY559175, AY559176, AY559177, AY559178, AY559179, AY559180, AY559181, AY559182, AY559183, AY559184, AY559185, AY559186, AY559187, AY559188, AY559189, AY559190, AY559191, AY559192, AY559193, AY559194, AY559195, AY559196, AY559197, AY559198, AY559199, AY559200, AY559201, AY559202, AY. <i>Genetics</i> , 2005, 169, 981-995.	3.9	60
53	Bundle sheath suberization in grass leaves: multiple barriers to characterization. <i>Journal of Experimental Botany</i> , 2014, 65, 3371-3380.	4.8	59
54	<i>Setaria viridis</i> as a Model System to Advance Millet Genetics and Genomics. <i>Frontiers in Plant Science</i> , 2016, 7, 1781.	3.6	58

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55	A multi-treatment experimental system to examine photosynthetic differentiation in the maize leaf. <i>BMC Genomics</i> , 2007, 8, 12.	2.8	57
56	Time dependent genetic analysis links field and controlled environment phenotypes in the model C4 grass <i>Setaria</i> . <i>PLoS Genetics</i> , 2017, 13, e1006841.	3.5	53
57	Climate-smart crops with enhanced photosynthesis. <i>Journal of Experimental Botany</i> , 2018, 69, 3801-3809.	4.8	50
58	The draft genome of the C3 panicoid grass species <i>Dichanthelium oligosanthes</i> . <i>Genome Biology</i> , 2016, 17, 223.	8.8	48
59	Physiological and Genetic Characterization of End-of-Day Far-Red Light Response in Maize Seedlings. <i>Plant Physiology</i> , 2010, 154, 173-186.	4.8	47
60	Deregulation of Maize C4 Photosynthetic Development in a Mesophyll Cell-Defective Mutant. <i>Plant Physiology</i> , 2008, 146, 1469-1481.	4.8	45
61	A Recommendation for Naming Transcription Factor Proteins in the Grasses. <i>Plant Physiology</i> , 2009, 149, 4-6.	4.8	45
62	The Elm1 (ZmHy2) Gene of Maize Encodes a Phytochromobilin Synthase. <i>Plant Physiology</i> , 2004, 136, 2771-2781.	4.8	44
63	Regulatory mechanisms underlying C ₄ photosynthesis. <i>New Phytologist</i> , 2011, 190, 9-20.	7.3	42
64	Growth-defence balance in grass biomass production: the role of jasmonates. <i>Journal of Experimental Botany</i> , 2015, 66, 4165-4176.	4.8	41
65	Regional mutagenesis using Dissociation in maize. <i>Methods</i> , 2009, 49, 248-254.	3.8	40
66	Interactions of C ₄ Subtype Metabolic Activities and Transport in Maize Are Revealed through the Characterization of <i>DCT2</i> Mutants. <i>Plant Cell</i> , 2016, 28, 466-484.	6.6	39
67	Carbonic Anhydrase Mutants in <i>Zea mays</i> Have Altered Stomatal Responses to Environmental Signals. <i>Plant Physiology</i> , 2018, 177, 980-989.	4.8	37
68	Ac-Immobilized, a Stable Source of Activator Transposase That Mediates Sporophytic and Gametophytic Excision of Dissociation Elements in Maize. <i>Genetics</i> , 2005, 171, 1999-2012.	2.9	36
69	Generating Novel Allelic Variation Through Activator Insertional Mutagenesis in Maize. <i>Genetics</i> , 2007, 175, 981-992.	2.9	35
70	Enhancing the productivity of grasses under high-density planting by engineering light responses: from model systems to feedstocks. <i>Journal of Experimental Botany</i> , 2014, 65, 2825-2834.	4.8	35
71	Metabolomics of sorghum roots during nitrogen stress reveals compromised metabolic capacity for salicylic acid biosynthesis. <i>Plant Direct</i> , 2019, 3, e00122.	1.9	32
72	A synthesis of transcriptomic surveys to dissect the genetic basis of C4 photosynthesis. <i>Current Opinion in Plant Biology</i> , 2016, 31, 91-99.	7.1	30

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73	Making Roots, Shoots, and Seeds: IDD Gene Family Diversification in Plants. Trends in Plant Science, 2018, 23, 66-78.	8.8	29
74	Transposon Tagging Using Activator (Ac) in Maize. , 2003, 236, 157-176.		28
75	Genome-Guided Phylo-Transcriptomic Methods and the Nuclear Phylogenetic Tree of the Paniceae Grasses. Scientific Reports, 2017, 7, 13528.	3.3	27
76	Methods for Performing Crosses in <i>Setaria viridis</i>, a New Model System for the Grasses. Journal of Visualized Experiments, 2013, , .	0.3	26
77	bundle sheath defective2, a Mutation That Disrupts the Coordinated Development of Bundle Sheath and Mesophyll Cells in the Maize Leaf. Plant Cell, 1996, 8, 915.	6.6	25
78	Vegetative axillary bud dormancy induced by shade and defoliation signals in the grasses. Plant Signaling and Behavior, 2010, 5, 317-319.	2.4	21
79	Comparative feedstock analysis in <i>Setaria viridis</i> L. as a model for C4 bioenergy grasses and Panicoid crop species. Frontiers in Plant Science, 2013, 4, 181.	3.6	21
80	The rhizosphere and cropping system, but not arbuscular mycorrhizae, affect ammonia oxidizing archaea and bacteria abundances in two agricultural soils. Applied Soil Ecology, 2020, 151, 103540.	4.3	21
81	Engineering C4 photosynthetic regulatory networks. Current Opinion in Biotechnology, 2012, 23, 298-304.	6.6	19
82	Transcriptional response to petiole heat girdling in cassava. Scientific Reports, 2015, 5, 8414.	3.3	19
83	The Ac-st2 Element of Maize Exhibits a Positive Dosage Effect and Epigenetic Regulation. Genetics, 1997, 147, 823-834.	2.9	19
84	Transcriptomic Analysis of Leaf Sheath Maturation in Maize. International Journal of Molecular Sciences, 2019, 20, 2472.	4.1	15
85	Engineering chloroplast development in rice through cell-specific control of endogenous genetic circuits. Plant Biotechnology Journal, 2021, 19, 2291-2303.	8.3	15
86	Signals in Leaf Development. Advances in Botanical Research, 1998, 28, 161-195.	1.1	14
87	Tillering in the <i>sugary1</i> sweet corn is maintained by overriding the teosinte branched1 repressive signal. Plant Signaling and Behavior, 2015, 10, e1078954.	2.4	14
88	Model grasses hold key to crop improvement. Nature Plants, 2015, 1, .	9.3	13
89	Characterization and Transposon Mutagenesis of the Maize (<i>Zea mays</i>) Pho1 Gene Family. PLoS ONE, 2016, 11, e0161882.	2.5	13
90	In planta transient expression as a system for genetic and biochemical analyses of chlorophyll biosynthesis. Plant Methods, 2006, 2, 15.	4.3	12

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91	Light and Metabolic Signals Control the Selective Degradation of Sucrose Synthase in Maize Leaves during Deetiolation. <i>Plant Physiology</i> , 2007, 144, 468-478.	4.8	12
92	Topology of a maize field. <i>Plant Signaling and Behavior</i> , 2011, 6, 467-470.	2.4	12
93	Characterization of maize leaf pyruvate orthophosphate dikinase using high throughput sequencing. <i>Journal of Integrative Plant Biology</i> , 2018, 60, 670-690.	8.5	12
94	State II<i>Dissociation</i>Element Formation Following<i>Activator</i>Excision in Maize. <i>Genetics</i> , 2007, 177, 737-747.	2.9	11
95	Evidence for independent peripheral and central age-related hearing impairment. <i>Journal of Neuroscience Research</i> , 2020, 98, 1800-1814.	2.9	11
96	Cellular differentiation in the maize leaf is disrupted by bundle sheath defective mutations. <i>Symposia of the Society for Experimental Biology</i> , 1998, 51, 27-31.	0.0	9
97	The CLV3 Homolog in <i>Setaria viridis</i> Selectively Controls Inflorescence Meristem Size. <i>Frontiers in Plant Science</i> , 2021, 12, 636749.	3.6	8
98	The Activator/Dissociation Transposable Elements Comprise a Two-Component Gene Regulatory Switch That Controls Endogenous Gene Expression in Maize. <i>Genetics</i> , 2011, 187, 749-759.	2.9	5
99	Editorial: <i>Setaria</i> as a Model Genetic System to Accelerate Yield Increases in Cereals, Forage Crops, and Bioenergy Grasses. <i>Frontiers in Plant Science</i> , 2019, 10, 1211.	3.6	5
100	Light Signal Transduction Networks in Maize. , 2009, , 205-227.		4
101	Transposon Tagging in <i>Setaria viridis</i> . <i>Plant Genetics and Genomics: Crops and Models</i> , 2017, , 323-342.	0.3	4
102	Editorial overview: Growing the future: synthetic biology in plants. <i>Current Opinion in Plant Biology</i> , 2014, 19, iv-v.	7.1	3
103	<i>Setaria viridis</i> as a Model for C4 Photosynthesis. <i>Plant Genetics and Genomics: Crops and Models</i> , 2017, , 291-300.	0.3	3
104	Biochemical and physiological flexibility accompanies reduced cellulose biosynthesis in <i>Brachypodium cesa1S830N</i> . <i>AoB PLANTS</i> , 2019, 11, plz041.	2.3	2
105	<i>DCT4</i>"A New Member of the Dicarboxylate Transporter Family in C4 Grasses. <i>Genome Biology and Evolution</i> , 2021, 13, .	2.5	1
106	Forward Genetics in <i>Setaria viridis</i> . <i>Plant Genetics and Genomics: Crops and Models</i> , 2017, , 303-322.	0.3	1
107	Concepts and Strategies for Reverse Genetics in Field, Forest and Bioenergy Crop Species. , 2010, , 354-398.		1
108	Viruses making plants greener. <i>Trends in Genetics</i> , 1999, 15, 96.	6.7	0