

# Muthappa Senthil-Kumar

## List of Publications by Year in descending order

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91  
papers

6,113  
citations

94433

37  
h-index

76900

74  
g-index

100  
all docs

100  
docs citations

100  
times ranked

7212  
citing authors

#	ARTICLE	IF	CITATIONS
1	Impact of Combined Abiotic and Biotic Stresses on Plant Growth and Avenues for Crop Improvement by Exploiting Physio-morphological Traits. <i>Frontiers in Plant Science</i> , 2017, 8, 537.	3.6	643
2	Regulation of primary plant metabolism during plant-pathogen interactions and its contribution to plant defense. <i>Frontiers in Plant Science</i> , 2014, 5, 17.	3.6	554
3	The interactive effects of simultaneous biotic and abiotic stresses on plants: Mechanistic understanding from drought and pathogen combination. <i>Journal of Plant Physiology</i> , 2015, 176, 47-54.	3.5	493
4	Shared and unique responses of plants to multiple individual stresses and stress combinations: physiological and molecular mechanisms. <i>Frontiers in Plant Science</i> , 2015, 6, 723.	3.6	409
5	Tobacco rattle virusâ€‘based virus-induced gene silencing in <i>Nicotiana benthamiana</i> . <i>Nature Protocols</i> , 2014, 9, 1549-1562.	12.0	283
6	New dimensions for VIGS in plant functional genomics. <i>Trends in Plant Science</i> , 2011, 16, 656-665.	8.8	279
7	Glycolate Oxidase Modulates Reactive Oxygen Speciesâ€‘Mediated Signal Transduction during Nonhost Resistance in <i>Nicotiana benthamiana</i> and <i>Arabidopsis</i> . <i>Plant Cell</i> , 2012, 24, 336-352.	6.6	215
8	Nonhost Resistance Against Bacterial Pathogens: Retrospectives and Prospects. <i>Annual Review of Phytopathology</i> , 2013, 51, 407-427.	7.8	149
9	Phytosterols Play a Key Role in Plant Innate Immunity against Bacterial Pathogens by Regulating Nutrient Efflux into the Apoplast. <i>Plant Physiology</i> , 2012, 158, 1789-1802.	4.8	146
10	Plant and pathogen nutrient acquisition strategies. <i>Frontiers in Plant Science</i> , 2015, 6, 750.	3.6	145
11	A systematic study to determine the extent of gene silencing in <i>Nicotiana benthamiana</i> and other Solanaceae species when heterologous gene sequences are used for virus-induced gene silencing. <i>New Phytologist</i> , 2007, 176, 782-791.	7.3	118
12	Virus-induced gene silencing is a versatile tool for unraveling the functional relevance of multiple abiotic-stress-responsive genes in crop plants. <i>Frontiers in Plant Science</i> , 2014, 5, 323.	3.6	114
13	Identification and functional validation of a unique set of drought induced genes preferentially expressed in response to gradual water stress in peanut. <i>Molecular Genetics and Genomics</i> , 2009, 281, 591-605.	2.1	110
14	Virus-induced gene silencing can persist for more than 2 years and also be transmitted to progeny seedlings in <i>Nicotiana benthamiana</i> and tomato. <i>Plant Biotechnology Journal</i> , 2011, 9, 797-806.	8.3	108
15	Global profiling of phytohormone dynamics during combined drought and pathogen stress in <i>Arabidopsis thaliana</i> reveals ABA and JA as major regulators. <i>Scientific Reports</i> , 2017, 7, 4017.	3.3	105
16	Role of proline and pyrroline-5-carboxylate metabolism in plant defense against invading pathogens. <i>Frontiers in Plant Science</i> , 2015, 6, 503.	3.6	102
17	Drought Stress Acclimation Imparts Tolerance to <i>Sclerotinia sclerotiorum</i> and <i>Pseudomonas syringae</i> in <i>Nicotiana benthamiana</i> . <i>International Journal of Molecular Sciences</i> , 2013, 14, 9497-9513.	4.1	95
18	Ornithineâ€‘deltaâ€‘aminotransferase and proline dehydrogenase genes play a role in non-host disease resistance by regulating pyrrolineâ€‘5â€‘carboxylate metabolism-induced hypersensitive response. <i>Plant, Cell and Environment</i> , 2012, 35, 1329-1343.	5.7	93

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19	<i>Chlamydomonas reinhardtii</i> , a model system for functional validation of abiotic stress responsive genes. <i>Planta</i> , 2007, 226, 655-670.	3.2	86
20	Expression of a Finger Millet Transcription Factor, EcNAC1, in Tobacco Confers Abiotic Stress-Tolerance. <i>PLoS ONE</i> , 2012, 7, e40397.	2.5	83
21	Stable Expression of mtID Gene Imparts Multiple Stress Tolerance in Finger Millet. <i>PLoS ONE</i> , 2014, 9, e99110.	2.5	81
22	GBF3 transcription factor imparts drought tolerance in <i>Arabidopsis thaliana</i> . <i>Scientific Reports</i> , 2017, 7, 9148.	3.3	77
23	Transcriptome Analysis of Sunflower Genotypes with Contrasting Oxidative Stress Tolerance Reveals Individual- and Combined- Biotic and Abiotic Stress Tolerance Mechanisms. <i>PLoS ONE</i> , 2016, 11, e0157522.	2.5	77
24	Caveat of RNAi in Plants: The Off-Target Effect. <i>Methods in Molecular Biology</i> , 2011, 744, 13-25.	0.9	76
25	Plant Ribosomal Proteins, RPL12 and RPL19, Play a Role in Nonhost Disease Resistance against Bacterial Pathogens. <i>Frontiers in Plant Science</i> , 2015, 6, 1192.	3.6	71
26	Impact of drought stress on simultaneously occurring pathogen infection in field-grown chickpea. <i>Scientific Reports</i> , 2019, 9, 5577.	3.3	65
27	Assessment of variability in acquired thermotolerance: Potential option to study genotypic response and the relevance of stress genes. <i>Journal of Plant Physiology</i> , 2007, 164, 111-125.	3.5	63
28	Agroinoculation and Agroinfiltration: Simple Tools for Complex Gene Function Analyses. <i>Methods in Molecular Biology</i> , 2011, 678, 65-76.	0.9	57
29	Screening of inbred lines to develop a thermotolerant sunflower hybrid using the temperature induction response (TIR) technique: a novel approach by exploiting residual variability. <i>Journal of Experimental Botany</i> , 2003, 54, 2569-2578.	4.8	56
30	GENERAL CONTROL NONREPRESSIBLE4 Degrades 14-3-3 and the RIN4 Complex to Regulate Stomatal Aperture with Implications on Nonhost Disease Resistance and Drought Tolerance. <i>Plant Cell</i> , 2017, 29, 2233-2248.	6.6	56
31	<i>pssRNAit</i> : A Web Server for Designing Effective and Specific Plant siRNAs with Genome-Wide Off-Target Assessment. <i>Plant Physiology</i> , 2020, 184, 65-81.	4.8	54
32	Understanding the Impact of Drought on Foliar and Xylem Invading Bacterial Pathogen Stress in Chickpea. <i>Frontiers in Plant Science</i> , 2016, 7, 902.	3.6	53
33	Functional characterization of <i>Nicotiana benthamiana</i> homologs of peanut water deficit-induced genes by virus-induced gene silencing. <i>Planta</i> , 2007, 225, 523-539.	3.2	52
34	Global Transcriptional Analysis Reveals Unique and Shared Responses in <i>Arabidopsis thaliana</i> Exposed to Combined Drought and Pathogen Stress. <i>Frontiers in Plant Science</i> , 2016, 7, 686.	3.6	52
35	Drought Stress Predominantly Endures <i>Arabidopsis thaliana</i> to <i>Pseudomonas syringae</i> Infection. <i>Frontiers in Plant Science</i> , 2016, 7, 808.	3.6	51
36	Comprehensive analysis of small RNA-seq data reveals that combination of miRNA with its isomiRs increase the accuracy of target prediction in <i>Arabidopsis thaliana</i> . <i>RNA Biology</i> , 2014, 11, 1414-1429.	3.1	46

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37	Virus-induced gene silencing and its application in characterizing genes involved in water-deficit-stress tolerance. <i>Journal of Plant Physiology</i> , 2008, 165, 1404-1421.	3.5	44
38	<i>AtCYP710A1</i> gene-mediated stigmaterol production plays a role in imparting temperature stress tolerance in <i>Arabidopsis thaliana</i> . <i>Plant Signaling and Behavior</i> , 2013, 8, e23142.	2.4	40
39	Functional characterization of three water deficit stress-induced genes in tobacco and <i>Arabidopsis</i> : An approach based on gene down regulation. <i>Plant Physiology and Biochemistry</i> , 2010, 48, 35-44.	5.8	39
40	Concurrent Drought Stress and Vascular Pathogen Infection Induce Common and Distinct Transcriptomic Responses in Chickpea. <i>Frontiers in Plant Science</i> , 2017, 8, 333.	3.6	39
41	High-throughput virus-induced gene-silencing approach to assess the functional relevance of a moisture stress-induced cDNA homologous to <i>lea4</i> . <i>Journal of Experimental Botany</i> , 2006, 57, 2291-2302.	4.8	38
42	A high-throughput virus-induced gene silencing protocol identifies genes involved in multi-stress tolerance. <i>BMC Plant Biology</i> , 2013, 13, 193.	3.6	31
43	Cross-Talk Signaling in Rice During Combined Drought and Bacterial Blight Stress. <i>Frontiers in Plant Science</i> , 2019, 10, 193.	3.6	30
44	<i>ath-miR164c</i> influences plant responses to the combined stress of drought and bacterial infection by regulating proline metabolism. <i>Environmental and Experimental Botany</i> , 2020, 172, 103998.	4.2	30
45	Assessing functional role of three water deficit stress-induced genes in nonhost disease resistance using virus-induced gene silencing in <i>Nicotiana benthamiana</i> . <i>Plant Signaling and Behavior</i> , 2010, 5, 586-590.	2.4	27
46	The small GTPase, nucleolar GTP-binding protein 1 (NOG1), has a novel role in plant innate immunity. <i>Scientific Reports</i> , 2017, 7, 9260.	3.3	27
47	Structure and regulation of SWEET transporters in plants: An update. <i>Plant Physiology and Biochemistry</i> , 2020, 156, 1-6.	5.8	27
48	Ribosomal protein QM/RPL10 positively regulates defence and protein translation mechanisms during nonhost disease resistance. <i>Molecular Plant Pathology</i> , 2020, 21, 1481-1494.	4.2	23
49	Two Chloroplast-Localized Proteins: <i>AtNHR2A</i> and <i>AtNHR2B</i> , Contribute to Callose Deposition During Nonhost Disease Resistance in <i>Arabidopsis</i> . <i>Molecular Plant-Microbe Interactions</i> , 2018, 31, 1280-1290.	2.6	22
50	Drought attenuates plant defence against bacterial pathogens by suppressing the expression of <i>CBP60g</i> / <i>SARD1</i> during combined stress. <i>Plant, Cell and Environment</i> , 2022, 45, 1127-1145.	5.7	19
51	Impact of Concurrent Drought Stress and Pathogen Infection on Plants. , 2015, , 203-222.		18
52	Transcriptome changes in <i>Arabidopsis thaliana</i> infected with <i>Pseudomonas syringae</i> during drought recovery. <i>Scientific Reports</i> , 2017, 7, 9124.	3.3	18
53	Drought Stress Exacerbates Fungal Colonization and Endodermal Invasion and Dampens Defense Responses to Increase Dry Root Rot in Chickpea. <i>Molecular Plant-Microbe Interactions</i> , 2022, 35, 583-591.	2.6	18
54	<i>AtGBF3</i> confers tolerance to <i>Arabidopsis thaliana</i> against combined drought and <i>Pseudomonas syringae</i> stress. <i>Environmental and Experimental Botany</i> , 2019, 168, 103881.	4.2	17

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55	Tailored Responses to Simultaneous Drought Stress and Pathogen Infection in Plants. , 2016, , 427-438.		17
56	Perspectives on the utilization of resistance mechanisms from host and nonhost plants for durable protection of <i>Brassica</i> crops against <i>Alternaria</i> blight. PeerJ, 2019, 7, e7486.	2.0	17
57	Dry Root Rot of Chickpea: A Disease Favored by Drought. Plant Disease, 2022, 106, 346-356.	1.4	17
58	Plant-pathogen interaction in the presence of abiotic stress: What do we know about plant responses?. Plant Physiology Reports, 2019, 24, 541-549.	1.5	16
59	Low soil moisture predisposes field-grown chickpea plants to dry root rot disease: evidence from simulation modeling and correlation analysis. Scientific Reports, 2021, 11, 6568.	3.3	16
60	Combined Drought and Heat Stress Influences the Root Water Relation and Determine the Dry Root Rot Disease Development Under Field Conditions: A Study Using Contrasting Chickpea Genotypes. Frontiers in Plant Science, 2022, 13, .	3.6	16
61	Virus-induced gene silencing database for phenomics and functional genomics in <i>Nicotiana benthamiana</i> . Plant Direct, 2018, 2, e00055.	1.9	15
62	Advances in Plant Gene Silencing Methods. Methods in Molecular Biology, 2015, 1287, 3-23.	0.9	15
63	VIGS-Mediated Forward Genetics Screening for Identification of Genes Involved in Nonhost Resistance. Journal of Visualized Experiments, 2013, , e51033.	0.3	14
64	Transcriptomic changes under combined drought and nonhost bacteria reveal novel and robust defenses in <i>Arabidopsis thaliana</i> . Environmental and Experimental Botany, 2017, 139, 152-164.	4.2	13
65	Virus-induced gene silencing and its applications.. CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources, 0, , .	1.0	13
66	Plant viral vectors: expanding the possibilities of precise gene editing in plant genomes. Plant Cell Reports, 2021, 40, 931-934.	5.6	11
67	Plant-microbe interaction: prospects for crop improvement and management. Plant Physiology Reports, 2019, 24, 461-462.	1.5	9
68	A Novel Role of Salt- and Drought-Induced RING 1 Protein in Modulating Plant Defense Against Hemibiotrophic and Necrotrophic Pathogens. Molecular Plant-Microbe Interactions, 2021, 34, 297-308.	2.6	9
69	An efficient low-cost xylem sap isolation method for bacterial wilt assays in tomato. Applications in Plant Sciences, 2020, 8, e11335.	2.1	7
70	A sick plot-based protocol for dry root rot disease assessment in field-grown chickpea plants. Applications in Plant Sciences, 2021, 9, e11445.	2.1	7
71	Non-host resistance to plant viruses: What do we know?. Physiological and Molecular Plant Pathology, 2020, 111, 101506.	2.5	7
72	Investigation of the novel transcriptional changes under combined drought and bacterial stress underpins the role of AtMYB96 in imparting tolerance. Journal of Plant Biochemistry and Biotechnology, 2021, 30, 999-1007.	1.7	6

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73	Complex molecular mechanisms determine fitness of plants to biotic and abiotic stresses. <i>Journal of Plant Biochemistry and Biotechnology</i> , 2021, 30, 633-635.	1.7	6
74	Morpho-Pathological and Global Transcriptomic Analysis Reveals the Robust Nonhost Resistance Responses in Chickpea Interaction with <i>Alternaria brassicae</i> . <i>Molecular Plant-Microbe Interactions</i> , 2019, 32, 1598-1613.	2.6	5
75	Functional role of formate dehydrogenase 1 (FDH1) for host and nonhost disease resistance against bacterial pathogens. <i>PLoS ONE</i> , 2022, 17, e0264917.	2.5	5
76	Morpho-Physiological Traits and Molecular Intricacies Associated with Tolerance to Combined Drought and Pathogen Stress in Plants. , 2018, , 59-74.		4
77	Dry Root Rot Disease Assays in Chickpea: a Detailed Methodology. <i>Journal of Visualized Experiments</i> , 2021, , .	0.3	4
78	Recent Advances in Plant Gene Silencing Methods. <i>Methods in Molecular Biology</i> , 2022, 2408, 1-22.	0.9	4
79	AtSWEET11 and AtSWEET12: the twin traders of sucrose. <i>Trends in Plant Science</i> , 2022, , .	8.8	4
80	Functional Characterization of Water-Deficit Stress Responsive Genes Using RNAi. <i>Methods in Molecular Biology</i> , 2010, 639, 193-206.	0.9	3
81	Concurrent Stresses Are Perceived as New State of Stress by the Plants: Overview of Impact of Abiotic and Biotic Stress Combinations. , 2017, , 1-15.		3
82	Tissue Water Status and Bacterial Pathogen Infection: How They Are Correlated?. , 2017, , 165-178.		3
83	Impact of Soil Moisture Regimes on Wilt Disease in Tomatoes: Current Understanding. , 2018, , 73-82.		2
84	An efficient, high-throughput method for the simultaneous exposure of drought stress and bacterial infection in plants. <i>Applications in Plant Sciences</i> , 2020, 8, e11399.	2.1	2
85	Plant Responses to Combined Drought and Pathogen Infection: Current Understanding on the Role of Phytohormones. , 2017, , 133-149.		2
86	Arabidopsis exhibits differential response in basal immunity and proline metabolism during defense against host and nonhost pathogen infection. <i>Plant Physiology Reports</i> , 2019, 24, 496-506.	1.5	1
87	Current Understanding of Regulation of GBF3 Under Abiotic and Biotic Stresses and Its Potential Role in Combined Stress Tolerance. , 2018, , 267-272.		1
88	A spotlight on non-host resistance to plant viruses. <i>PeerJ</i> , 2022, 10, e12996.	2.0	1
89	Possible strategies for establishment of VIGS protocol in chickpea. , 2018, , .		0
90	The ins and outs of SWEETs in plants: Current understanding of the basics and their prospects in crop improvement. <i>Journal of Biosciences</i> , 2021, 46, 1.	1.1	0

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91	High-Throughput Analysis of Gene Function under Multiple Abiotic Stresses Using Leaf Disks from Silenced Plants. <i>Methods in Molecular Biology</i> , 2022, 2408, 181-189.	0.9	0