Jaakko Sakari KangasjÃ¤rvi

List of Publications by Year
in descending order

120 papers	19,424 citations	16451 64 h-index	20358 116 g-index
137 all docs	137 docs citations	137 times ranked	17029 citing authors

#	Article	IF	Citations
1	The Genome of Black Cottonwood, <i>Populus trichocarpa</i> (Torr. & Gray). Science, 2006, 313, 1596-1604.	12.6	3,945
2	Reactive Oxygen Species in Plant Signaling. Annual Review of Plant Biology, 2018, 69, 209-236.	18.7	858
3	SLAC1 is required for plant guard cell S-type anion channel function in stomatal signalling. Nature, 2008, 452, 487-491.	27.8	733
4	Reactive oxygen species and hormonal control of cell death. Trends in Plant Science, 2003, 8, 335-342.	8.8	599
5	Ozone-Sensitive Arabidopsis rcd1 Mutant Reveals Opposite Roles for Ethylene and Jasmonate Signaling Pathways in Regulating Superoxide-Dependent Cell Death. Plant Cell, 2000, 12, 1849-1862.	6.6	491
6	Plant defence systems induced by ozone. Plant, Cell and Environment, 1994, 17, 783-794.	5.7	468
7	Reactive oxygen species in abiotic stress signaling. Physiologia Plantarum, 2010, 138, 405-413.	5.2	440
8	Signalling and cell death in ozone-exposed plants. Plant, Cell and Environment, 2005, 28, 1021-1036.	5.7	418
9	Chilling of Dormant Buds Hyperinduces<i>FLOWERING LOCUS T</i>and Recruits GA-Inducible 1,3-Î²-Glucanases to Reopen Signal Conduits and Release Dormancy in<i>Populus</i>Â Â. Plant Cell, 2011, 23, 130-146.	6.6	402
10	Reactive oxygen species signaling and stomatal movement in plant responses to drought stress and pathogen attack. Journal of Integrative Plant Biology, 2018, 60, 805-826.	8.5	397
11	Reconstitution of abscisic acid activation of SLAC1 anion channel by CPK6 and OST1 kinases and branched ABI1 PP2C phosphatase action. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 10593-10598.	7.1	393
12	Spreading the news: subcellular and organellar reactive oxygen species production and signalling. Journal of Experimental Botany, 2016, 67, 3831-3844.	4.8	364
13	Gradual Soil Water Depletion Results in Reversible Changes of Gene Expression, Protein Profiles, Ecophysiology, and Growth Performance in Populus euphratica, a Poplar Growing in Arid Regions. Plant Physiology, 2007, 143, 876-892.	4.8	338
14	ROS signaling loops â€" production, perception, regulation. Current Opinion in Plant Biology, 2013, 16, 575-582.	7.1	303
15	The Membrane-Bound NAC Transcription Factor ANAC013 Functions in Mitochondrial Retrograde Regulation of the Oxidative Stress Response in <i>Arabidopsis</i> Â Â. Plant Cell, 2013, 25, 3472-3490.	6.6	293
16	Activation of an oxidative burst is a general feature of sensitive plants exposed to the air pollutant ozone. Plant, Cell and Environment, 2002, 25, 717-726.	5.7	273
17	Changes in hydrogen peroxide homeostasis trigger an active cell death process in tobacco. Plant Journal, 2003, 33, 621-632.	5.7	272
18	Rapid Responses to Abiotic Stress: Priming the Landscape for the Signal Transduction Network. Trends in Plant Science, 2019, 24, 25-37.	8.8	264

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19	Ozone-triggered rapid stomatal response involves the production of reactive oxygen species, and is controlled by SLAC1 and OST1. Plant Journal, 2010, 62, 442-453.	5.7	262
20	Populus euphratica Displays Apoplastic Sodium Accumulation, Osmotic Adjustment by Decreases in Calcium and Soluble Carbohydrates, and Develops Leaf Succulence under Salt Stress. Plant Physiology, 2005, 139, 1762-1772.	4.8	261
21	Transcriptional regulation of the CRK/DUF26 group of Receptor-like protein kinases by ozone and plant hormones in Arabidopsis. BMC Plant Biology, 2010, 10, 95.	3.6	261
22	Genome sequencing and population genomic analyses provide insights into the adaptive landscape of silver birch. Nature Genetics, 2017, 49, 904-912.	21.4	221
23	Ethylene is an endogenous stimulator of cell division in the cambial meristem of <i>Populus</i>. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 5984-5989.	7.1	218
24	ROS-talk â€" how the apoplast, the chloroplast, and the nucleus get the message through. Frontiers in Plant Science, 2012, 3, 292.	3.6	218
25	Arabidopsis RADICAL-INDUCED CELL DEATH1 Belongs to the WWE Proteinâ€"Protein Interaction Domain Protein Family and Modulates Abscisic Acid, Ethylene, and Methyl Jasmonate Responses. Plant Cell, 2004, 16, 1925-1937.	6.6	217
26	Stress hormone-independent activation and nuclear translocation of mitogen-activated protein kinases in Arabidopsis thaliana during ozone exposure. Plant Journal, 2004, 40, 512-522.	5.7	214
27	Gene expression and metabolite profiling of Populus euphratica growing in the Negev desert. Genome Biology, 2005, 6, R101.	9.6	208
28	Subcellular localization of ozone-induced hydrogen peroxide production in birch (Betula pendula) leaf cells. Plant Journal, 1999, 20, 349-356.	5.7	203
29	Ethylene Synthesis Regulated by Biphasic Induction of 1-Aminocyclopropane-1-Carboxylic Acid Synthase and 1-Aminocyclopropane-1-Carboxylic Acid Oxidase Genes Is Required for Hydrogen Peroxide Accumulation and Cell Death in Ozone-Exposed Tomato. Plant Physiology, 2002, 130, 1918-1926.	4.8	199
30	Reactive Oxygen Species in the Regulation of Stomatal Movements. Plant Physiology, 2016, 171, 1569-1580.	4.8	199
31	Nitric oxide modulates ozoneâ€induced cell death, hormone biosynthesis and gene expression in <i>Arabidopsis thaliana</i>. Plant Journal, 2009, 58, 1-12.	5.7	182
32	Ozone-Induced Programmed Cell Death in the Arabidopsis radical-induced cell death1 Mutant. Plant Physiology, 2005, 137, 1092-1104.	4.8	178
33	Large-Scale Phenomics Identifies Primary and Fine-Tuning Roles for CRKs in Responses Related to Oxidative Stress. PLoS Genetics, 2015, 11, e1005373.	3.5	167
34	Plant signalling in acute ozone exposure. Plant, Cell and Environment, 2015, 38, 240-252.	5.7	166
35	Non-Cell-Autonomous Postmortem Lignification of Tracheary Elements in<i>Zinnia elegans</i>Â Â. Plant Cell, 2013, 25, 1314-1328.	6.6	158
36	Unequally redundant RCD1 and SRO1 mediate stress and developmental responses and interact with transcription factors. Plant Journal, 2009, 60, 268-279.	5.7	156

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37	Apoplastic Reactive Oxygen Species Transiently Decrease Auxin Signaling and Cause Stress-Induced Morphogenic Response in Arabidopsis Â Â. Plant Physiology, 2011, 157, 1866-1883.	4.8	154
38	Specificity in ROS Signaling and Transcript Signatures. Antioxidants and Redox Signaling, 2014, 21, 1422-1441.	5.4	140
39	Ozone induction of ethylene emission in tomato plants: regulation by differential accumulation of transcripts for the biosynthetic enzymes. Plant Journal, 1997, 12, 1151-1162.	5.7	133
40	Hydrogen Peroxide Activates Cell Death and Defense Gene Expression in Birch. Plant Physiology, 2002, 130, 549-560.	4.8	129
41	The Arabidopsis thaliana cysteine-rich receptor-like kinases CRK6 and CRK7 protect against apoplastic oxidative stress. Biochemical and Biophysical Research Communications, 2014, 445, 457-462.	2.1	121
42	Linking the Salt Transcriptome with Physiological Responses of a Salt-Resistant <i>Populus</i> Species as a Strategy to Identify Genes Important for Stress Acclimation. Plant Physiology, 2010, 154, 1697-1709.	4.8	120
43	Arabidopsis RCD1 coordinates chloroplast and mitochondrial functions through interaction with ANAC transcription factors. ELife, 2019, 8, .	6.0	118
44	Natural variation in ozone sensitivity among <i>Arabidopsis thaliana</i> accessions and its relation to stomatal conductance. Plant, Cell and Environment, 2010, 33, 914-925.	5.7	111
45	Mutual antagonism of ethylene and jasmonic acid regulates ozone-induced spreading cell death inArabidopsis. Plant Journal, 2004, 39, 59-69.	5.7	109
46	Transitions in the functioning of the shoot apical meristem in birch (Betula pendula) involve ethylene. Plant Journal, 2006, 46, 628-640.	5.7	108
47	<i>CENL1</i>Expression in the Rib Meristem Affects Stem Elongation and the Transition to Dormancy in<i>Populus</i>. Plant Cell, 2008, 20, 59-74.	6.6	107
48	RCD1â€“DREB2A interaction in leaf senescence and stress responses in <i>Arabidopsis thaliana</i>. Biochemical Journal, 2012, 442, 573-581.	3.7	107
49	The RST and PARP-like domain containing SRO protein family: analysis of protein structure, function and conservation in land plants. BMC Genomics, 2010, 11, 170.	2.8	101
50	Short-Day Potentiation of Low Temperature-Induced Gene Expression of a C-Repeat-Binding Factor-Controlled Gene during Cold Acclimation in Silver Birch. Plant Physiology, 2004, 136, 4299-4307.	4.8	98
51	A novel device detects a rapid ozone-induced transient stomatal closure in intact Arabidopsis and its absence in abi2 mutant. Physiologia Plantarum, 2007, 129, 796-803.	5.2	98
52	Ethylene Insensitivity Modulates Ozone-Induced Cell Death in Birch. Plant Physiology, 2003, 132, 185-195.	4.8	96
53	The jasmonate-insensitive mutant jin1 shows increased resistance to biotrophic as well as necrotrophic pathogens. Molecular Plant Pathology, 2004, 5, 425-434.	4.2	95
54	The Receptor-like Pseudokinase GHR1 Is Required for Stomatal Closure. Plant Cell, 2018, 30, 2813-2837.	6.6	95

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55	Apoplastic and Chloroplastic Redox Signaling Networks in Plant Stress Responses. Antioxidants and Redox Signaling, 2013, 18, 2220-2239.	5.4	94
56	A genomeâ€wide screen for ethyleneâ€induced Ethylene Response Factors (<scp>ERF</scp>s) in hybrid aspen stem identifies <i><scp>ERF</scp></i> genes that modify stem growth and wood properties. New Phytologist, 2013, 200, 511-522.	7.3	90
57	A Dominant Mutation in the HT1 Kinase Uncovers Roles of MAP Kinases and GHR1 in CO₂-Induced Stomatal Closure. Plant Cell, 2016, 28, 2493-2509.	6.6	89
58	Transcriptomics and Functional Genomics of ROS-Induced Cell Death Regulation by RADICAL-INDUCED CELL DEATH1. PLoS Genetics, 2014, 10, e1004112.	3.5	88
59	Lack of GLYCOLATE OXIDASE1, but Not GLYCOLATE OXIDASE2, Attenuates the Photorespiratory Phenotype of CATALASE2-Deficient Arabidopsis. Plant Physiology, 2016, 171, 1704-1719.	4.8	84
60	<scp>GRIM REAPER</scp> peptide binds to receptor kinase <scp>PRK</scp> 5 to trigger cell death in <i>Arabidopsis</i>. EMBO Journal, 2015, 34, 55-66.	7.8	83
61	Molecular characterization of PeNhaD1: the first member of the NhaD Na+/H+ antiporter family of plant origin. Plant Molecular Biology, 2005, 58, 75-88.	3.9	77
62	<i>Arabidopsis</i> GRI is involved in the regulation of cell death induced by extracellular ROS. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 5412-5417.	7.1	75
63	Mechanistic insights into the evolution of DUF26-containing proteins in land plants. Communications Biology, 2019, 2, 56.	4.4	75
64	Induction of genes for the stress proteins PRâ€10 and PAL in relation to growth, visible injuries and stomatal conductance in birch (Betula pendula) clones exposed to ozone and/or drought. New Phytologist, 1998, 138, 295-305.	7.3	71
65	Complex phenotypic profiles leading to ozone sensitivity in <i>Arabidopsis thaliana</i> mutants. Plant, Cell and Environment, 2008, 31, 1237-1249.	5.7	69
66	Natural Variation in Arabidopsis Cvi-0 Accession Reveals an Important Role of MPK12 in Guard Cell CO2 Signaling. PLoS Biology, 2016, 14, e2000322.	5.6	69
67	Ozone Affects Birch (Betula pendula Roth) Phenylpropanoid, Polyamine and Active Oxygen Detoxifying Pathways at Biochemical and Gene Expression Level. Journal of Plant Physiology, 1996, 148, 179-188.	3.5	59
68	Differential Effects of Elevated Ozone on Two Hybrid Aspen Genotypes Predisposed to Chronic Ozone Fumigation. Role of Ethylene and Salicylic Acid. Plant Physiology, 2003, 132, 196-205.	4.8	58
69	Tissueâ€specific study across the stem reveals the chemistry and transcriptome dynamics of birch bark. New Phytologist, 2019, 222, 1816-1831.	7.3	56
70	Isolation and characterization of cDNA for a plant mitochondrial phosphate translocator (Mpt1): ozone stress induces Mpt1 mRNA accumulation in birch (Betula pendula Roth). Plant Molecular Biology, 1997, 35, 271-279.	3.9	55
71	Ethylene signaling induces gelatinous layers with typical features of tension wood in hybrid aspen. New Phytologist, 2018, 218, 999-1014.	7.3	52
72	<i>Arabidopsis</i> downy mildew effector HaRxL106 suppresses plant immunity by binding to RADICALâ€INDUCED CELL DEATH1. New Phytologist, 2018, 220, 232-248.	7.3	51

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73	Interaction of methyl viologen-induced chloroplast and mitochondrial signalling in Arabidopsis. Free Radical Biology and Medicine, 2019, 134, 555-566.	2.9	51
74	Mutations in the <scp>SLAC</scp>1 anion channel slow stomatal opening and severely reduce K⁺ uptake channel activity via enhanced cytosolic [Ca²⁺] and increased Ca²⁺ sensitivity of K⁺ uptake channels. New Phytologist, 2013, 197, 88-98.	7.3	50
75	Ozone-Sensitive Arabidopsis rcd1 Mutant Reveals Opposite Roles for Ethylene and Jasmonate Signaling Pathways in Regulating Superoxide-Dependent Cell Death. Plant Cell, 2000, 12, 1849.	6.6	49
76	An <scp>AP</scp>2/<scp>ERF</scp> transcription factor <scp>ERF</scp>139 coordinates xylem cell expansion and secondary cell wall deposition. New Phytologist, 2019, 224, 1585-1599.	7.3	49
77	ROS signalling in a destabilised world: A molecular understanding of climate change. Journal of Plant Physiology, 2016, 203, 69-83.	3.5	45
78	Comparative study of transcriptional and physiological responses to salinity stress in two contrasting Populus alba L. genotypes. Tree Physiology, 2011, 31, 1335-1355.	3.1	44
79	Axillary buds are dwarfed shoots that tightly regulate GA pathway and GA-inducible 1,3-Î²-glucanase genes during branching in hybrid aspen. Journal of Experimental Botany, 2016, 67, 5975-5991.	4.8	44
80	The transcription factor interacting protein RCD1 contains a novel conserved domain. Plant Signaling and Behavior, 2010, 5, 78-80.	2.4	42
81	Detecting early signs of heat and drought stress in Phoenix dactylifera (date palm). PLoS ONE, 2017, 12, e0177883.	2.5	42
82	Gene expression responses of paper birch (Betula papyrifera) to elevated CO2 and O3 during leaf maturation and senescence. Environmental Pollution, 2010, 158, 959-968.	7.5	39
83	Reactive Oxygen Species, Photosynthesis, and Environment in the Regulation of Stomata. Antioxidants and Redox Signaling, 2019, 30, 1220-1237.	5.4	38
84	Differential gene expression in senescing leaves of two silver birch genotypes in response to elevated CO₂ and tropospheric ozone. Plant, Cell and Environment, 2010, 33, 1016-1028.	5.7	37
85	The IDA-LIKE peptides IDL6 and IDL7 are negative modulators of stress responses in Arabidopsis thaliana. Journal of Experimental Botany, 2017, 68, 3557-3571.	4.8	34
86	Low antioxidant concentrations impact on multiple signalling pathways in Arabidopsis thaliana partly through NPR1. Journal of Experimental Botany, 2012, 63, 1849-1861.	4.8	33
87	The physiological, transcriptional and genetic responses of an ozone- sensitive and an ozone tolerant poplar and selected extremes of their F 2 progeny. Environmental Pollution, 2011, 159, 45-54.	7.5	32
88	Genetic transformation of silver birch (Betula pendula) by particle bombardment. Tree Physiology, 2000, 20, 607-613.	3.1	30
89	Systemic Signaling in the Regulation of Stomatal Conductance. Plant Physiology, 2020, 182, 1829-1832.	4.8	30
90	Ozone and nitric oxide interaction in<i>Arabidopsis thaliana</i>, a role for ethylene?. Plant Signaling and Behavior, 2009, 4, 878-879.	2.4	28

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91	Expression of photosynthesis- and senescence-related genes during leaf development and senescence in silver birch (Betula pendula) seedlings. Physiologia Plantarum, 1999, 106, 302-309.	5.2	27
92	Plant PARPs, PARGs and PARP-like Proteins. Current Protein and Peptide Science, 2016, 17, 713-723.	1.4	27
93	PROTEIN PHOSPHATASE 2A-Bâ€²<i>Î³</i> Controls <i>Botrytis cinerea</i> Resistance and Developmental Leaf Senescence. Plant Physiology, 2020, 182, 1161-1181.	4.8	25
94	Plastid DNA in Developing Maize Endosperm. Plant Physiology, 1992, 100, 958-964.	4.8	24
95	The role of reactive oxygen species in the integration of temperature and light signals. Journal of Experimental Botany, 2018, 69, 3347-3358.	4.8	24
96	Preservation of transgenic silver birch (Betula pendula Roth) lines by means of cryopreservation. Molecular Breeding, 2002, 10, 143-152.	2.1	22
97	Cloning and characterization of cDNA clones encoding phenylalanine ammonia-lyase in barley. Plant Science, 1997, 123, 143-150.	3.6	21
98	Towards Understanding Extracellular ROS Sensory and Signaling Systems in Plants. Advances in Botany, 2014, 2014, 1-10.	3.4	20
99	Long and short photoperiod buds in hybrid aspen share structural development and expression patterns of marker genes. Journal of Experimental Botany, 2015, 66, 6745-6760.	4.8	20
100	Primary Metabolite Responses to Oxidative Stress in Early-Senescing and Paraquat Resistant Arabidopsis thaliana rcd1 (Radical-Induced Cell Death1). Frontiers in Plant Science, 2020, 11, 194.	3.6	20
101	[47] Ozone effects on plant defense. Methods in Enzymology, 2000, 319, 520-535.	1.0	18
102	Targeted retrieval of gene expression measurements using regulatory models. Bioinformatics, 2012, 28, 2349-2356.	4.1	18
103	Expression of senescence-associated genes in the leaves of silver birch (Betula pendula). Tree Physiology, 2005, 25, 1161-1172.	3.1	17
104	Ethylene and Jasmonate as Regulators of Cell Death in Disease Resistance. Ecological Studies, 2004, , 75-109.	1.2	17
105	Dissecting the interaction of photosynthetic electron transfer with mitochondrial signalling and hypoxic response in the Arabidopsis <i>rcd1</i> mutant. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190413.	4.0	15
106	ACONITASE 3 is part of theANAC017 transcription factor-dependent mitochondrial dysfunction response. Plant Physiology, 2021, 186, 1859-1877.	4.8	15
107	PopulusPtERF85 Balances Xylem Cell Expansion and Secondary Cell Wall Formation in Hybrid Aspen. Cells, 2021, 10, 1971.	4.1	11
108	Stress Signaling III: Reactive Oxygen Species (ROS). , 2009, , 91-102.		10

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109	Plant ROS and RNS: making plant science more radical than ever. Physiologia Plantarum, 2010, 138, 357-359.	5.2	8
110	1H, 13C and 15N NMR chemical shift assignments of A. thaliana RCD1 RST. Biomolecular NMR Assignments, 2017, 11, 207-210.	0.8	8
111	Arabidopsis Iron Superoxide Dismutase FSD1 Protects Against Methyl Viologen-Induced Oxidative Stress in a Copper-Dependent Manner. Frontiers in Plant Science, 2022, 13, 823561.	3.6	8
112	Photosynthetic characteristics in genetically modified sense-RbcS silver birch lines. Journal of Plant Physiology, 2010, 167, 820-828.	3.5	5
113	Ethylene signaling via Ethylene Response Factors (ERFs) modifies wood development in hybrid aspen. BMC Proceedings, 2011, 5, .	1.6	5
114	Reactive Oxygen Species in Ozone Toxicity. Signaling and Communication in Plants, 2009, , 191-207.	0.7	5
115	Nucleotide sequence and transcription of maize plastid genomeBam HI fragment 14 containing ORF170. Plant Molecular Biology, 1991, 17, 513-515.	3.9	4
116	Reactive Oxygen in Abiotic Stress Perception - From Genes to Proteins. , 0, , .		4
117	Scorched earth strategy. Plant Signaling and Behavior, 2009, 4, 631-633.	2.4	2
118	Pollinator behaviour in cultivated and wild Arctic Bramble (Rubus arcticus L.). Agricultural and Food Science, 1989, 61, 33-38.	0.9	2
119	Pathway Reconstitution of Abscisic Acid Hormone Activation of SLAC1 Anion Channels via Novel ABA Signaling Protein Kinase. Biophysical Journal, 2012, 102, 550a-551a.	0.5	0
120	Ozone-Induced Cell Death. Tree Physiology, 2001, , 81-92.	2.5	0