Rainer Hoefgen

List of Publications by Year
in descending order

91 papers	6,734 citations	57758 44 h-index	64796 79 g-index
94 all docs	94 docs citations	94 times ranked	7160 citing authors

#	Article	IF	Citations
1	Transcriptome analysis of sulfur depletion in Arabidopsis thaliana : interlacing of biosynthetic pathways provides response specificity. Plant Journal, 2003, 33, 633-650.	5.7	383
2	Systems Rebalancing of Metabolism in Response to Sulfur Deprivation, as Revealed by Metabolome Analysis of Arabidopsis Plants. Plant Physiology, 2005, 138, 304-318.	4.8	377
3	Plant cysteine oxidases control the oxygen-dependent branch of the N-end-rule pathway. Nature Communications, 2014, 5, 3425.	12.8	293
4	SALT-RESPONSIVE ERF1 Regulates Reactive Oxygen Species-Dependent Signaling during the Initial Response to Salt Stress in Rice. Plant Cell, 2013, 25, 2115-2131.	6.6	289
5	Shikimate and Phenylalanine Biosynthesis in the Green Lineage. Frontiers in Plant Science, 2013, 4, 62.	3.6	288
6	Comprehensive Dissection of Spatiotemporal Metabolic Shifts in Primary, Secondary, and Lipid Metabolism during Developmental Senescence in Arabidopsis Â. Plant Physiology, 2013, 162, 1290-1310.	4.8	278
7	The evolution of phenylpropanoid metabolism in the green lineage. Critical Reviews in Biochemistry and Molecular Biology, 2013, 48, 123-152.	5.2	228
8	Trehalose 6â€“phosphate coordinates organic and amino acid metabolism with carbon availability. Plant Journal, 2016, 85, 410-423.	5.7	176
9	Molecular aspects of methionine biosynthesis. Trends in Plant Science, 2003, 8, 259-262.	8.8	172
10	Metabolic Engineering of Amino Acids and Storage Proteins in Plants. Metabolic Engineering, 2002, 4, 3-11.	7.0	163
11	Current understanding of the regulation of methionine biosynthesis in plants. Journal of Experimental Botany, 2004, 55, 1799-1808.	4.8	154
12	Molecular analysis and control of cysteine biosynthesis: integration of nitrogen and sulphur metabolism. Journal of Experimental Botany, 2004, 55, 1283-1292.	4.8	151
13	Trehalose 6â€phosphate is involved in triggering axillary bud outgrowth in garden pea (<i>Pisum) Tj ETQq1 1 0.784314 rgBT /Overlock	5.7	147
14	Characterization of a recently evolved flavonol-phenylacyltransferase gene provides signatures of natural light selection in Brassicaceae. Nature Communications, 2016, 7, 12399.	12.8	145
15	Expression of a bacterial serine acetyltransferase in transgenic potato plants leads to increased levels of cysteine and glutathione. Plant Journal, 2000, 22, 335-343.	5.7	143
16	Impact of elevated H2S on metabolite levels, activity of enzymes and expression of genes involved in cysteine metabolism. Plant Physiology and Biochemistry, 2005, 43, 473-483.	5.8	131
17	Integrative gene-metabolite network with implemented causality deciphers informational fluxes of sulphur stress response. Journal of Experimental Botany, 2005, 56, 1887-1896.	4.8	129
18	Sulfur deficiencyâ€“induced repressor proteins optimize glucosinolate biosynthesis in plants. Science Advances, 2016, 2, e1601087.	10.3	127

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19	Antisense Inhibition of Threonine Synthase Leads to High Methionine Content in Transgenic Potato Plants. Plant Physiology, 2001, 127, 792-802.	4.8	122
20	Metabolomics integrated with transcriptomics: assessing systems response to sulfurâ€deficiency stress. Physiologia Plantarum, 2008, 132, 190-198.	5.2	122
21	Towards dissecting nutrient metabolism in plants: a systems biology case study on sulphur metabolism. Journal of Experimental Botany, 2004, 55, 1861-1870.	4.8	114
22	Perturbation of <i>Arabidopsis</i> Amino Acid Metabolism Causes Incompatibility with the Adapted Biotrophic Pathogen <i>Hyaloperonospora arabidopsidis</i>. Plant Cell, 2011, 23, 2788-2803.	6.6	109
23	Impact of Reduced O-Acetylserine(thiol)lyase Isoform Contents on Potato Plant Metabolism. Plant Physiology, 2005, 137, 892-900.	4.8	105
24	Additional role of <i>O</i>â€acetylserine as a sulfur statusâ€independent regulator during plant growth. Plant Journal, 2012, 70, 666-677.	5.7	104
25	O-Acetylserine and the Regulation of Expression of Genes Encoding Components for Sulfate Uptake and Assimilation in Potato. Plant Physiology, 2005, 138, 433-440.	4.8	100
26	Transcriptome and metabolome analysis of plant sulfate starvation and resupply provides novel information on transcriptional regulation of metabolism associated with sulfur, nitrogen and phosphorus nutritional responses in Arabidopsis. Frontiers in Plant Science, 2014, 5, 805.	3.6	96
27	Functional Analysis of Cystathionine Î³-Synthase in Genetically Engineered Potato Plants. Plant Physiology, 2003, 131, 1843-1854.	4.8	87
28	Improving the levels of essential amino acids and sulfur metabolites in plants. Biological Chemistry, 2005, 386, 817-31.	2.5	79
29	Supply of sulphur to S-deficient young barley seedlings restores their capability to cope with iron shortage. Journal of Experimental Botany, 2010, 61, 799-806.	4.8	75
30	The arbuscular mycorrhizal symbiosis influences sulfur starvation responses of <i>Medicago truncatula</i>. New Phytologist, 2013, 197, 606-616.	7.3	72
31	Photosynthesis and metabolism interact during acclimation of <i>Arabidopsis thaliana</i> to high irradiance and sulphur depletion. Plant, Cell and Environment, 2010, 33, 1974-1988.	5.7	71
32	Functional Features of TREHALOSE-6-PHOSPHATE SYNTHASE1, an Essential Enzyme in Arabidopsis[OPEN]. Plant Cell, 2020, 32, 1949-1972.	6.6	69
33	Analysis of Cytosolic and Plastidic Serine Acetyltransferase Mutants and Subcellular Metabolite Distributions Suggests Interplay of the Cellular Compartments for Cysteine Biosynthesis in Arabidopsis. Plant, Cell and Environment, 2008, 32, 349-67.	5.7	69
34	Metabolic and Transcriptional Analysis of Durum Wheat Responses to Elevated CO2at Low and High Nitrate Supply. Plant and Cell Physiology, 2016, 57, 2133-2146.	3.1	67
35	The interplay between sulfur and iron nutrition in tomato. Plant Physiology, 2015, 169, pp.00995.2015.	4.8	66
36	RAPTOR Controls Developmental Growth Transitions by Altering the Hormonal and Metabolic Balance. Plant Physiology, 2018, 177, 565-593.	4.8	66

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37	Improving the nutritive value of rice seeds: elevation of cysteine and methionine contents in rice plants by ectopic expression of a bacterial serine acetyltransferase. Journal of Experimental Botany, 2012, 63, 5991-6001.	4.8	62
38	Coordinating Sulfur Pools under Sulfate Deprivation. Trends in Plant Science, 2020, 25, 1227-1239.	8.8	62
39	SALT-RESPONSIVE ERF1 Is a Negative Regulator of Grain Filling and Gibberellin-Mediated Seedling Establishment in Rice. Molecular Plant, 2014, 7, 404-421.	8.3	55
40	Transcription factors relevant to auxin signalling coordinate broad-spectrum metabolic shifts including sulphur metabolism. Journal of Experimental Botany, 2008, 59, 2831-2846.	4.8	54
41	Integrating transcriptomic and metabolomic analysis to understand natural leaf senescence in sunflower. Plant Biotechnology Journal, 2016, 14, 719-734.	8.3	53
42	Feeding the Walls: How Does Nutrient Availability Regulate Cell Wall Composition?. International Journal of Molecular Sciences, 2018, 19, 2691.	4.1	52
43	Identification of Arabidopsis Mutants Impaired in the Systemic Regulation of Root Nitrate Uptake by the Nitrogen Status of the Plant Â Â. Plant Physiology, 2010, 153, 1250-1260.	4.8	50
44	The SAL-PAP Chloroplast Retrograde Pathway Contributes to Plant Immunity by Regulating Glucosinolate Pathway and Phytohormone Signaling. Molecular Plant-Microbe Interactions, 2017, 30, 829-841.	2.6	50
45	General Regulatory Patterns of Plant Mineral Nutrient Depletion as Revealed by serat Quadruple Mutants Disturbed in Cysteine Synthesis. Molecular Plant, 2010, 3, 438-466.	8.3	49
46	Multiple circadian clock outputs regulate diel turnover of carbon and nitrogen reserves. Plant, Cell and Environment, 2019, 42, 549-573.	5.7	49
47	Local and systemic regulation of sulfur homeostasis in roots of <i>Arabidopsis thaliana</i>. Plant Journal, 2012, 72, 625-635.	5.7	43
48	Cloning and characterization of a cDNA encoding a cobalamin-independent methionine synthase from potato (Solanum tuberosum L.). Plant Molecular Biology, 2002, 48, 255-265.	3.9	42
49	Characterization of the Wheat Leaf Metabolome during Grain Filling and under Varied N-Supply. Frontiers in Plant Science, 2017, 8, 2048.	3.6	42
50	Exploring traditional aus-type rice for metabolites conferring drought tolerance. Rice, 2018, 11, 9.	4.0	42
51	Multifaceted regulatory function of tomato SlTAF1 in the response to salinity stress. New Phytologist, 2020, 225, 1681-1698.	7.3	42
52	Opposite fates of the purine metabolite allantoin under water and nitrogen limitations in bread wheat. Plant Molecular Biology, 2019, 99, 477-497.	3.9	41
53	Metabolic variation in the pulps of two durian cultivars: Unraveling the metabolites that contribute to the flavor. Food Chemistry, 2018, 268, 118-125.	8.2	40
54	Activation of <i><scp>R</scp></i>â€mediated innate immunity and disease susceptibility is affected by mutations in a cytosolic <i><scp>O</scp></i>â€acetylserine (thiol) lyase in <scp>A</scp>rabidopsis. Plant Journal, 2013, 73, 118-130.	5.7	36

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55	The Transcription Factor EIL1 Participates in the Regulation of Sulfur-Deficiency Response. Plant Physiology, 2020, 184, 2120-2136.	4.8	33
56	H⁺ Transport by K⁺ EXCHANGE ANTIPORTER3 Promotes Photosynthesis and Growth in Chloroplast ATP Synthase Mutants. Plant Physiology, 2020, 182, 2126-2142.	4.8	32
57	Improving the nutritive value of tubers: Elevation of cysteine and glutathione contents in the potato cultivar White Lady by marker-free transformation. Journal of Biotechnology, 2007, 128, 335-343.	3.8	31
58	Enhanced cystathionine Î^{2}-lyase activity in transgenic potato plants does not force metabolite flow towards methionine. Planta, 2001, 214, 163-170.	3.2	27
59	Chlorosis caused by two recessively interacting genes reveals a role of <scp>RNA</scp> helicase in hybrid breakdown in <i>Arabidopsis thaliana</i>. Plant Journal, 2017, 91, 251-262.	5.7	24
60	Tight control of nitrate acquisition in a plant species that evolved in an extremely phosphorusâ€impoverished environment. Plant, Cell and Environment, 2016, 39, 2754-2761.	5.7	22
61	Plasmodium Para-Aminobenzoate Synthesis and Salvage Resolve Avoidance of Folate Competition and Adaptation to Host Diet. Cell Reports, 2019, 26, 356-363.e4.	6.4	21
62	Sulfur deficiency-induced genes affect seed protein accumulation and composition under sulfate deprivation. Plant Physiology, 2021, 187, 2419-2434.	4.8	20
63	Impact of sulfur starvation on cysteine biosynthesis in T-DNA mutants deficient for compartment-specific serine-acetyltransferase. Amino Acids, 2010, 39, 1029-1042.	2.7	19
64	Comprehensive Metabolomics Studies of Plant Developmental Senescence. Methods in Molecular Biology, 2018, 1744, 339-358.	0.9	19
65	Metabolomic markers and physiological adaptations for high phosphate utilization efficiency in rice. Plant, Cell and Environment, 2020, 43, 2066-2079.	5.7	19
66	Metabolome and Lipidome Profiles of Populus Ã— canescens Twig Tissues During Annual Growth Show Phospholipid-Linked Storage and Mobilization of C, N, and S. Frontiers in Plant Science, 2018, 9, 1292.	3.6	18
67	Sulphur systems biologyâ€"making sense of omics data. Journal of Experimental Botany, 2019, 70, 4155-4170.	4.8	17
68	Assessing Dynamic Changes of Taste-Related Primary Metabolism During Ripening of Durian Pulp Using Metabolomic and Transcriptomic Analyses. Frontiers in Plant Science, 2021, 12, 687799.	3.6	16
69	Non-aqueous fractionation revealed changing subcellular metabolite distribution during apple fruit development. Horticulture Research, 2019, 6, 98.	6.3	15
70	On the way to understand biological complexity in plants: S-nutrition as a case study for systems biology. Cellular and Molecular Biology Letters, 2006, 11, 37-56.	7.0	14
71	Tight control of sulfur assimilation: an adaptive mechanism for a plant from a severely phosphorusâ€impoverished habitat. New Phytologist, 2017, 215, 1068-1079.	7.3	14
72	Phylogenetic aspects of the sulfate assimilation genes from Thalassiosira pseudonana. Amino Acids, 2013, 44, 1253-1265.	2.7	12

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73	Characterization of the Heat-Stable Proteome during Seed Germination in Arabidopsis with Special Focus on LEA Proteins. International Journal of Molecular Sciences, 2021, 22, 8172.	4.1	12
74	On the processing of metabolic information through metaboliteâ€“gene communication networks: An approach for modelling causality. Phytochemistry, 2007, 68, 2163-2175.	2.9	9
75	Metabolomic profiling of the purple sulfur bacterium Allochromatium vinosum during growth on different reduced sulfur compounds and malate. Metabolomics, 2014, 10, 1094-1112.	3.0	9
76	The Effect of Single and Multiple SERAT Mutants on Serine and Sulfur Metabolism. Frontiers in Plant Science, 2018, 9, 702.	3.6	9
77	Sulfur in plants as part of a metabolic network. Plant Ecophysiology, 2007, , 107-142.	1.5	9
78	OAS Cluster Genes: A Tightly Co-regulated Network. Proceedings of the International Plant Sulfur Workshop, 2015, , 125-132.	0.1	8
79	Cysteine and Methionine Biosynthetic Enzymes Have Distinct Effects on Seed Nutritional Quality and on Molecular Phenotypes Associated With Accumulation of a Methionine-Rich Seed Storage Protein in Rice. Frontiers in Plant Science, 2020, 11, 1118.	3.6	8
80	<i>In silico</i> analysis of <i>cis</i>â€elements and identification of transcription factors putatively involved in the regulation of the <scp>OAS</scp> cluster genes <scp><i>SDI1</i></scp> and <scp><i>SDI2</i></scp>. Plant Journal, 2022, 110, 1286-1304.	5.7	8
81	A defect in cystathionine Î²-lyase activity causes the severe phenotype of a Nicotiana plumbaginifolia methionine auxotroph. Plant Science, 2002, 162, 607-614.	3.6	7
82	CYSTATHIONINE GAMMA-SYNTHASE activity in rice is developmentally regulated and strongly correlated with sulfate. Plant Science, 2018, 270, 234-244.	3.6	7
83	Sulfur and Cysteine Metabolism. Agronomy, 2015, , 83-104.	0.2	6
84	Effect of Senescence Phenotypes and Nitrate Availability on Wheat Leaf Metabolome during Grain Filling. Agronomy, 2019, 9, 305.	3.0	6
85	Plant Response to Mineral Ion Availability: Transcriptome Responses to Sulfate, Selenium and Iron. , 2012, , 123-134.		5
86	Medicago truncatula Mtha1-2 mutants loose metabolic responses to mycorrhizal colonization. Plant Signaling and Behavior, 2015, 10, e989025.	2.4	5
87	Sulfite Reductase Co-suppression in Tobacco Reveals Detoxification Mechanisms and Downstream Responses Comparable to Sulfate Starvation. Frontiers in Plant Science, 2018, 9, 1423.	3.6	5
88	Developmental stage-specific metabolite signatures in Arabidopsis thaliana under optimal and mild nitrogen limitation. Plant Science, 2021, 303, 110746.	3.6	5
89	The ABCB7-Like Transporter PexA in Rhodobacter capsulatus Is Involved in the Translocation of Reactive Sulfur Species. Frontiers in Microbiology, 2019, 10, 406.	3.5	4
90	Meeting the complexity of plant nutrient metabolism with multi-omics approaches. Journal of Experimental Botany, 2021, 72, 2261-2265.	4.8	3

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91	Re-assessing Systems Biology Approaches on Analyzing Sulfate Metabolism. Proceedings of the International Plant Sulfur Workshop, 2017, , 123-133.	0.1	0