Markus SchwarzlÃ¤nder

List of Publications by Year
in descending order

73 papers	5,491 citations	66343 42 h-index	88630 70 g-index
93 all docs	93 docs citations	93 times ranked	5749 citing authors

#	Article	IF	Citations
1	The Roles of Mitochondrial Reactive Oxygen Species in Cellular Signaling and Stress Response in Plants. Plant Physiology, 2016, 171, 1551-1559.	4.8	354
2	The NADPH-dependent thioredoxin system constitutes a functional backup for cytosolic glutathione reductase in <i>Arabidopsis</i>. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 9109-9114.	7.1	259
3	Dissecting Redox Biology Using Fluorescent Protein Sensors. Antioxidants and Redox Signaling, 2016, 24, 680-712.	5.4	247
4	The mitochondrial complexome of <i>Arabidopsis thaliana</i>. Plant Journal, 2017, 89, 1079-1092.	5.7	192
5	Decrease in Manganese Superoxide Dismutase Leads to Reduced Root Growth and Affects Tricarboxylic Acid Cycle Flux and Mitochondrial Redox Homeostasis Â Â. Plant Physiology, 2008, 147, 101-114.	4.8	162
6	The Metabolic Response of Arabidopsis Roots to Oxidative Stress is Distinct from that of Heterotrophic Cells in Culture and Highlights a Complex Relationship between the Levels of Transcripts, Metabolites, and Flux. Molecular Plant, 2009, 2, 390-406.	8.3	155
7	Mitochondrial Energy and Redox Signaling in Plants. Antioxidants and Redox Signaling, 2013, 18, 2122-2144.	5.4	154
8	Single organelle function and organization as estimated from Arabidopsis mitochondrial proteomics. Plant Journal, 2020, 101, 420-441.	5.7	152
9	Multiparametric optical analysis of mitochondrial redox signals during neuronal physiology and pathology in vivo. Nature Medicine, 2014, 20, 555-560.	30.7	143
10	A Conserved Mitochondrial ATP-binding Cassette Transporter Exports Glutathione Polysulfide for Cytosolic Metal Cofactor Assembly. Journal of Biological Chemistry, 2014, 289, 23264-23274.	3.4	141
11	Cellular Ca²⁺ Signals Generate Defined pH Signatures in Plants. Plant Cell, 2018, 30, 2704-2719.	6.6	141
12	Monitoring the in vivo redox state of plant mitochondria: Effect of respiratory inhibitors, abiotic stress and assessment of recovery from oxidative challenge. Biochimica Et Biophysica Acta - Bioenergetics, 2009, 1787, 468-475.	1.0	137
13	The fluorescent protein sensor ro<scp>GFP</scp>2â€Orp1 monitors <i>inÂvivo</i> H₂O₂ and thiol redox integration and elucidates intracellular H₂O₂ dynamics during elicitorâ€induced oxidative burst in Arabidopsis. New Phytologist, 2019, 221, 1649-1664.	7.3	132
14	ATP sensing in living plant cells reveals tissue gradients and stress dynamics of energy physiology. ELife, 2017, 6, .	6.0	125
15	A Genome-Scale Metabolic Model Accurately Predicts Fluxes in Central Carbon Metabolism under Stress Conditions Â Â. Plant Physiology, 2010, 154, 311-323.	4.8	124
16	Immobilized Subpopulations of Leaf Epidermal Mitochondria Mediate PENETRATION2-Dependent Pathogen Entry Control in Arabidopsis. Plant Cell, 2016, 28, 130-145.	6.6	120
17	Hydrogen Sulfide Increases Production of NADPH Oxidase-Dependent Hydrogen Peroxide and Phospholipase D-Derived Phosphatidic Acid in Guard Cell Signaling. Plant Physiology, 2018, 176, 2532-2542.	4.8	115
18	The impact of impaired mitochondrial function on retrograde signalling: a meta-analysis of transcriptomic responses. Journal of Experimental Botany, 2012, 63, 1735-1750.	4.8	112

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19	The circularly permuted yellow fluorescent protein cpYFP that has been used as a superoxide probe is highly responsive to pH but not superoxide in mitochondria: implications for the existence of superoxide â€˜flashesâ€™. Biochemical Journal, 2011, 437, 381-387.	3.7	110
20	The â€˜mitoflashâ€™ probe cpYFP does not respond to superoxide. Nature, 2014, 514, E12-E14.	27.8	109
21	Pulsing of Membrane Potential in Individual Mitochondria: A Stress-Induced Mechanism to Regulate Respiratory Bioenergetics in <i>Arabidopsis</i>. Plant Cell, 2012, 24, 1188-1201.	6.6	107
22	The life of plant mitochondrial complex I. Mitochondrion, 2014, 19, 295-313.	3.4	103
23	The EF-Hand Ca²⁺ Binding Protein MICU Choreographs Mitochondrial Ca²⁺ Dynamics in Arabidopsis. Plant Cell, 2015, 27, 3190-3212.	6.6	103
24	Redox-mediated kick-start of mitochondrial energy metabolism drives resource-efficient seed germination. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 741-751.	7.1	96
25	The stability and nuclear localization of the transcription factor <scp>RAP</scp>2.12 are dynamically regulated by oxygen concentration. Plant, Cell and Environment, 2015, 38, 1094-1103.	5.7	95
26	FRIENDLY Regulates Mitochondrial Distribution, Fusion, and Quality Control in Arabidopsis. Plant Physiology, 2014, 166, 808-828.	4.8	93
27	The mitochondrial monothiol glutaredoxin S15 is essential for iron-sulfur protein maturation in <i>Arabidopsis thaliana</i>. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 13735-13740.	7.1	84
28	Mitochondrial Energy Signaling and Its Role in the Low-Oxygen Stress Response of Plants. Plant Physiology, 2018, 176, 1156-1170.	4.8	79
29	Mitochondrial â€˜flashesâ€™: a radical concept repHined. Trends in Cell Biology, 2012, 22, 503-508.	7.9	74
30	ATP compartmentation in plastids and cytosol of <i>Arabidopsis thaliana</i> revealed by fluorescent protein sensing. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E10778-E10787.	7.1	72
31	Chloroplast-Specific in Vivo Ca²⁺ Imaging Using Yellow Cameleon Fluorescent Protein Sensors Reveals Organelle-Autonomous Ca²⁺ Signatures in the Stroma. Plant Physiology, 2016, 171, 2317-2330.	4.8	71
32	Matrix Redox Physiology Governs the Regulation of Plant Mitochondrial Metabolism through Posttranslational Protein Modifications. Plant Cell, 2020, 32, 573-594.	6.6	70
33	Glutathione peroxidaseâ€like enzymes cover five distinct cell compartments and membrane surfaces in <i>Arabidopsis thaliana</i>. Plant, Cell and Environment, 2017, 40, 1281-1295.	5.7	69
34	Redox regulation of mitochondrial proteins and proteomes by cysteine thiol switches. Mitochondrion, 2017, 33, 72-83.	3.4	69
35	Multiparametric realâ€time sensing of cytosolic physiology links hypoxia responses to mitochondrial electron transport. New Phytologist, 2019, 224, 1668-1684.	7.3	69
36	Chloroplast-derived photo-oxidative stress causes changes in H2O2 and <i>E</i>GSH in other subcellular compartments. Plant Physiology, 2021, 186, 125-141.	4.8	65

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37	Mitochondrial Cysteine Synthase Complex Regulates O-Acetylserine Biosynthesis in Plants. Journal of Biological Chemistry, 2012, 287, 27941-27947.	3.4	64
38	Arabidopsis glutathione reductase 2 is indispensable in plastids, while mitochondrial glutathione is safeguarded by additional reduction and transport systems. New Phytologist, 2019, 224, 1569-1584.	7.3	57
39	Loss of GET pathway orthologs in <i>Arabidopsis thaliana</i> causes root hair growth defects and affects SNARE abundance. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E1544-E1553.	7.1	56
40	Regulation of mitochondrial calcium in plants versus animals. Journal of Experimental Botany, 2016, 67, 3809-3829.	4.8	55
41	Physiological Characterization of a Plant Mitochondrial Calcium Uniporter in Vitro and in Vivo. Plant Physiology, 2017, 173, 1355-1370.	4.8	54
42	Thiol switches in mitochondria: operation and physiological relevance. Biological Chemistry, 2015, 396, 465-482.	2.5	53
43	Chloroplasts require glutathione reductase to balance reactive oxygen species and maintain efficient photosynthesis. Plant Journal, 2020, 103, 1140-1154.	5.7	47
44	Metabolite-mediated TOR signaling regulates the circadian clock in <i>Arabidopsis</i>. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 25395-25397.	7.1	44
45	D-Lactate dehydrogenase links methylglyoxal degradation and electron transport through cytochrome C. Plant Physiology, 2016, 172, pp.01174.2016.	4.8	42
46	Shifting paradigms and novel players in Cys-based redox regulation and ROS signaling in plants - and where to go next. Biological Chemistry, 2021, 402, 399-423.	2.5	41
47	In Vivo NADH/NAD⁺ Biosensing Reveals the Dynamics of Cytosolic Redox Metabolism in Plants. Plant Cell, 2020, 32, 3324-3345.	6.6	40
48	The versatility of plant organic acid metabolism in leaves is underpinned by mitochondrial malateâ€“citrate exchange. Plant Cell, 2021, 33, 3700-3720.	6.6	37
49	Mitochondrial mRNA Polymorphisms in Different Arabidopsis Accessions Â. Plant Physiology, 2008, 148, 1106-1116.	4.8	33
50	Live monitoring of plant redox and energy physiology with genetically encoded biosensors. Plant Physiology, 2021, 186, 93-109.	4.8	33
51	Reductive stress triggers ANAC017-mediated retrograde signaling to safeguard the endoplasmic reticulum by boosting mitochondrial respiratory capacity. Plant Cell, 2022, 34, 1375-1395.	6.6	25
52	Promoters from the itaconate cluster of Ustilago maydis are induced by nitrogen depletion. Fungal Biology and Biotechnology, 2017, 4, 11.	5.1	23
53	Analysis of Plant Mitochondrial Function Using Fluorescent Protein Sensors. Methods in Molecular Biology, 2015, 1305, 241-252.	0.9	23
54	Mitochondrial redox and pH signaling occurs in axonal and synaptic organelle clusters. Scientific Reports, 2016, 6, 23251.	3.3	22

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55	Endoplasmic reticulum oxidoreductin provides resilience against reductive stress and hypoxic conditions by mediating luminal redox dynamics. Plant Cell, 2022, 34, 4007-4027.	6.6	22
56	Changes in intracellular NAD status affect stomatal development in an abscisic acidâ€dependent manner. Plant Journal, 2020, 104, 1149-1168.	5.7	21
57	Shining a light on NAD- and NADP-based metabolism in plants. Trends in Plant Science, 2021, 26, 1072-1086.	8.8	19
58	Establishment of a GCâ€MSâ€based ¹³Câ€positional isotopomer approach suitable for investigating metabolic fluxes in plant primary metabolism. Plant Journal, 2021, 108, 1213-1233.	5.7	18
59	Acetylation of conserved lysines fineâ€tunes mitochondrial malate dehydrogenase activity in land plants. Plant Journal, 2022, 109, 92-111.	5.7	16
60	Low-glutathione mutants are impaired in growth but do not show an increased sensitivity to moderate water deficit. PLoS ONE, 2019, 14, e0220589.	2.5	14
61	Plant mitochondrial membranes: adding structure and new functions to respiratory physiology. Current Opinion in Plant Biology, 2017, 40, 147-157.	7.1	14
62	Online in vivo monitoring of cytosolic NAD redox dynamics in Ustilago maydis. Biochimica Et Biophysica Acta - Bioenergetics, 2018, 1859, 1015-1024.	1.0	13
63	The Proteomic Landscape of Cysteine Oxidation That Underpins Retinoic Acid-Induced Neuronal Differentiation. Journal of Proteome Research, 2020, 19, 1923-1940.	3.7	12
64	The function of glutaredoxin GRXS15 is required for lipoyl-dependent dehydrogenases in mitochondria. Plant Physiology, 2021, 186, 1507-1525.	4.8	12
65	NAD meets ABA: connecting cellular metabolism and hormone signaling. Trends in Plant Science, 2022, 27, 16-28.	8.8	12
66	Mitochondrial Flashes: Dump Superoxide and Dance with Protons Now. Antioxidants and Redox Signaling, 2016, 25, 550-551.	5.4	11
67	Live Monitoring of ROS-Induced Cytosolic Redox Changes with roGFP2-Based Sensors in Plants. Methods in Molecular Biology, 2022, , 65-85.	0.9	7
68	Structure and Function of Redox-Sensitive Superfolder Green Fluorescent Protein Variant. Antioxidants and Redox Signaling, 2022, 37, 1-18.	5.4	5
69	Keeping Mitochondrial Alternative Oxidase Reduced and Active In Vivo Does Not Require Thioredoxin o1. Plant and Cell Physiology, 2019, 60, 2357-2359.	3.1	4
70	Sensors and controllersâ€"for and from plants. Plant Physiology, 2021, 187, 473-476.	4.8	4
71	NAD redox monitoring with the genetically encoded fluorescent biosensor Peredox-mCherry. Trends in Plant Science, 2021, 26, 1087-1088.	8.8	2
72	Mass Spectrometryâ€"Based Quantitative Cysteine Proteome Profiling of Isolated Using Differential iodoTMT Labeling. Methods in Molecular Biology, 2022, 2363, 215-234.	0.9	1

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73	MITOCHONDRIAL REGULATION AND SIGNALLING IN THE PHOTOSYNTHETIC CELL. , 0, , 185-225.		1