Chikahiro Miyake

List of Publications by Citations

87 papers	3,578 citations	30 h-index	59 g-index
93 ext. papers	4,277 ext. citations	5 avg, IF	5.77 L-index

#	Paper	IF	Citations
87	Cyclic electron flow around photosystem I is essential for photosynthesis. *Nature*, **2004**, 429, 579-82	50.4	658
86	Alternative electron flows (water-water cycle and cyclic electron flow around PSI) in photosynthesis: molecular mechanisms and physiological functions. *Plant and Cell Physiology*, **2010**, 51, 1951-63	4.9	208
85	Ferredoxin-Dependent Photoreduction of the Monodehydroascorbate Radical in Spinach Thylakoids. *Plant and Cell Physiology*, **1994**, 35, 539-549	4.9	165
84	Physiological functions of the water-water cycle (Mehler reaction) and the cyclic electron flow around PSI in rice leaves. *Plant and Cell Physiology*, **2002**, 43, 1017-26	4.9	163
83	Superoxide and Singlet Oxygen Produced within the Thylakoid Membranes Both Cause Photosystem I Photoinhibition. *Plant Physiology*, **2016**, 171, 1626-34	6.6	154
82	CO2 response of cyclic electron flow around PSI (CEF-PSI) in tobacco leaves--relative electron fluxes through PSI and PSII determine the magnitude of non-photochemical quenching (NPQ) of Chl fluorescence. *Plant and Cell Physiology*, **2005**, 46, 629-37	4.9	140
81	Biosynthesis of astaxanthin in tobacco leaves by transplastomic engineering. *Plant Journal*, **2008**, 55, 857-68	6.9	137
80	Determination of the rate of photoreduction of O2 in the water-water cycle in watermelon leaves and enhancement of the rate by limitation of photosynthesis. *Plant and Cell Physiology*, **2000**, 41, 335-43	4.9	135
79	Repetitive short-pulse light mainly inactivates photosystem I in sunflower leaves. *Plant and Cell Physiology*, **2014**, 55, 1184-93	4.9	111
78	Effects of light intensity on cyclic electron flow around PSI and its relationship to non-photochemical quenching of Chl fluorescence in tobacco leaves. *Plant and Cell Physiology*, **2005**, 46, 1819-30	4.9	96
77	Enhancement of cyclic electron flow around PSI at high light and its contribution to the induction of non-photochemical quenching of chl fluorescence in intact leaves of tobacco plants. *Plant and Cell Physiology*, **2004**, 45, 1426-33	4.9	80
76	Chloroplastic ATP synthase builds up a proton motive force preventing production of reactive oxygen species in photosystem I. *Plant Journal*, **2017**, 91, 306-324	6.9	68
75	The Liverwort, , Drives Alternative Electron Flow Using a Flavodiiron Protein to Protect PSI. *Plant Physiology*, **2017**, 173, 1636-1647	6.6	65
74	Purification and characterization of class-I and class-II fructose-1,6-bisphosphate aldolases from the cyanobacterium Synechocystis sp. PCC 6803. *Plant and Cell Physiology*, **2003**, 44, 326-33	4.9	63
73	Methylglyoxal functions as Hill oxidant and stimulates the photoreduction of O(2) at photosystem I: a symptom of plant diabetes. *Plant, Cell and Environment*, **2011**, 34, 1454-64	8.4	57
72	FLAVODIIRON2 and FLAVODIIRON4 proteins mediate an oxygen-dependent alternative electron flow in Synechocystis sp. PCC 6803 under CO2-limited conditions. *Plant Physiology*, **2015**, 167, 472-80	6.6	54
71	Ferredoxin limits cyclic electron flow around PSI (CEF-PSI) in higher plants--stimulation of CEF-PSI enhances non-photochemical quenching of Chl fluorescence in transplastomic tobacco. *Plant and Cell Physiology*, **2006**, 47, 1355-71	4.9	54

70	Diversity of strategies for escaping reactive oxygen species production within photosystem I among land plants: P700 oxidation system is prerequisite for alleviating photoinhibition in photosystem I. *Physiologia Plantarum*, **2017**, 161, 56-74	4.6	53
69	Acclimation of tobacco leaves to high light intensity drives the plastoquinone oxidation system--relationship among the fraction of open PSII centers, non-photochemical quenching of Chl fluorescence and the maximum quantum yield of PSII in the dark. *Plant and Cell Physiology*, **2009**, 50, 730-43	4.9	52
68	Cyclic flow of electrons within PSII in thylakoid membranes. *Plant and Cell Physiology*, **2001**, 42, 508-15	4.9	52
67	Photoinactivation of ascorbate peroxidase in isolated tobacco chloroplasts: Galdieria partita APX maintains the electron flux through the water-water cycle in transplastomic tobacco plants. *Plant and Cell Physiology*, **2006**, 47, 200-10	4.9	49
66	Oxidation of P700 Ensures Robust Photosynthesis. *Frontiers in Plant Science*, **2018**, 9, 1617	6.2	47
65	Oxidation of P700 in Photosystem I Is Essential for the Growth of Cyanobacteria. *Plant Physiology*, **2016**, 172, 1443-1450	6.6	41
64	The Calvin cycle inevitably produces sugar-derived reactive carbonyl methylglyoxal during photosynthesis: a potential cause of plant diabetes. *Plant and Cell Physiology*, **2014**, 55, 333-40	4.9	40
63	Cyclic electron flow within PSII protects PSII from its photoinhibition in thylakoid membranes from spinach chloroplasts. *Plant and Cell Physiology*, **2003**, 44, 457-62	4.9	40
62	Reduction-Induced Suppression of Electron Flow (RISE) in the Photosynthetic Electron Transport System of Synechococcus elongatus PCC 7942. *Plant and Cell Physiology*, **2016**, 57, 1443-1453	4.9	39
61	Land plants drive photorespiration as higher electron-sink: comparative study of post-illumination transient O -uptake rates from liverworts to angiosperms through ferns and gymnosperms. *Physiologia Plantarum*, **2017**, 161, 138-149	4.6	35
60	Responses of the Photosynthetic Electron Transport Reactions Stimulate the Oxidation of the Reaction Center Chlorophyll of Photosystem I, P700, under Drought and High Temperatures in Rice. *International Journal of Molecular Sciences*, **2019**, 20,	6.3	33
59	Overexpression of flv3 improves photosynthesis in the cyanobacterium Synechocystis sp. PCC6803 by enhancement of alternative electron flow. *Biotechnology for Biofuels*, **2014**, 7, 493	7.8	32
58	Cyclic electron flow within PSII functions in intact chloroplasts from spinach leaves. *Plant and Cell Physiology*, **2002**, 43, 951-7	4.9	31
57	Functional analysis of the AKR4C subfamily of Arabidopsis thaliana: model structures, substrate specificity, acrolein toxicity, and responses to light and [CO(2)]. *Bioscience, Biotechnology and Biochemistry*, **2013**, 77, 2038-45	2.1	29
56	Photorespiration provides the chance of cyclic electron flow to operate for the redox-regulation of P700 in photosynthetic electron transport system of sunflower leaves. *Photosynthesis Research*, **2016**, 129, 279-90	3.7	29
55	O2-dependent large electron flow functioned as an electron sink, replacing the steady-state electron flux in photosynthesis in the cyanobacterium Synechocystis sp. PCC 6803, but not in the cyanobacterium Synechococcus sp. PCC 7942. *Bioscience, Biotechnology and Biochemistry*, **2014**, 78, 384-93	2.1	27
54	Diverse strategies of O usage for preventing photo-oxidative damage under CO limitation during algal photosynthesis. *Scientific Reports*, **2017**, 7, 41022	4.9	27
53	Molecular Mechanism of Oxidation of P700 and Suppression of ROS Production in Photosystem I in Response to Electron-Sink Limitations in C3 Plants. *Antioxidants*, **2020**, 9,	7.1	25

52	Respiration accumulates Calvin cycle intermediates for the rapid start of photosynthesis in Synechocystis sp. PCC 6803. *Bioscience, Biotechnology and Biochemistry*, **2014**, 78, 1997-2007	2.1	25
51	Post-illumination transient O -uptake is driven by photorespiration in tobacco leaves. *Physiologia Plantarum*, **2016**, 156, 227-238	4.6	25
50	What Quantity of Photosystem I Is Optimum for Safe Photosynthesis?. *Plant Physiology*, **2019**, 179, 1479-1485	6.4	23
49	PROTON GRADIENT REGULATION 5 supports linear electron flow to oxidize photosystem I. *Physiologia Plantarum*, **2018**, 164, 337-348	4.6	22
48	Reduction-Induced Suppression of Electron Flow (RISE) Is Relieved by Non-ATP-Consuming Electron Flow in PCC 7942. *Frontiers in Microbiology*, **2018**, 9, 886	5.7	22
47	Comparative analysis of strategies to prepare electron sinks in aquatic photoautotrophs. *Photosynthesis Research*, **2019**, 139, 401-411	3.7	19
46	Diversity in photosynthetic electron transport under [CO]-limitation: the cyanobacterium Synechococcus sp. PCC 7002 and green alga Chlamydomonas reinhardtii drive an O-dependent alternative electron flow and non-photochemical quenching of chlorophyll fluorescence during CO-limited photosynthesis. *Photosynthesis Research*, **2016**, 130, 293-305	3.7	19
45	Changing frequency of fluctuating light reveals the molecular mechanism for P700 oxidation in plant leaves. *Plant Direct*, **2018**, 2, e00073	3.3	18
44	Why don't plants have diabetes? Systems for scavenging reactive carbonyls in photosynthetic organisms. *Biochemical Society Transactions*, **2014**, 42, 543-7	5.1	18
43	Effects of genetic manipulation of the activity of photorespiration on the redox state of photosystem I and its robustness against excess light stress under CO-limited conditions in rice. *Photosynthesis Research*, **2018**, 137, 431-441	3.7	18
42	Oxidation of P700 Induces Alternative Electron Flow in Photosystem I in Wheat Leaves. *Plants*, **2019**, 8,	4.5	17
41	Identification of the electron donor to flavodiiron proteins in Synechocystis sp. PCC 6803 by in vivo spectroscopy. *Biochimica Et Biophysica Acta - Bioenergetics*, **2020**, 1861, 148256	4.6	17
40	The Water-Water Cycle in Algae. *Advances in Photosynthesis and Respiration*, **2003**, 183-204	1.7	16
39	Light-Harvesting Strategy during CO-Dependent Photosynthesis in the Green Alga Chlamydomonas reinhardtii. *Journal of Physical Chemistry Letters*, **2018**, 9, 1028-1033	6.4	15
38	Scavenging systems for reactive carbonyls in the cyanobacterium Synechocystis sp. PCC 6803. *Bioscience, Biotechnology and Biochemistry*, **2013**, 77, 2441-8	2.1	15
37	Acrolein, an α,β-unsaturated carbonyl, inhibits both growth and PSII activity in the cyanobacterium Synechocystis sp. PCC 6803. *Bioscience, Biotechnology and Biochemistry*, **2013**, 77, 1655-60	2.1	15
36	Growth Light Environment Changes the Sensitivity of Photosystem I Photoinhibition Depending on Common Wheat Cultivars. *Frontiers in Plant Science*, **2019**, 10, 686	6.2	14
35	4-Ketoantheraxanthin, a novel carotenoid produced by the combination of the bacterial enzyme β-carotene ketolase CrtW and endogenous carotenoid biosynthetic enzymes in higher plants. *Tetrahedron Letters*, **2008**, 49, 3294-3296	2	14

34	Intrinsic Fluctuations in Transpiration Induce Photorespiration to Oxidize P700 in Photosystem I. *Plants*, **2020**, 9,	4.5	12
33	P700 oxidation suppresses the production of reactive oxygen species in photosystem I. *Advances in Botanical Research*, **2020**, 96, 151-176	2.2	11
32	Growth under Fluctuating Light Reveals Large Trait Variation in a Panel of Arabidopsis Accessions. *Plants*, **2020**, 9,	4.5	10
31	Altered levels of primary metabolites in response to exogenous indole-3-acetic acid in wild type and auxin signaling mutants of Arabidopsis thaliana: A capillary electrophoresis-mass spectrometry analysis. *Plant Biotechnology*, **2015**, 32, 65-79	1.3	10
30	Suppression of Chloroplastic Alkenal/One Oxidoreductase Represses the Carbon Catabolic Pathway in Arabidopsis Leaves during Night. *Plant Physiology*, **2016**, 170, 2024-39	6.6	9
29	Antimycin A inhibits cytochrome b-mediated cyclic electron flow within photosystem II. *Photosynthesis Research*, **2019**, 139, 487-498	3.7	8
28	O2-enhanced induction of photosynthesis in rice leaves: the Mehler-ascorbate peroxidase (MAP) pathway drives cyclic electron flow within PSII and cyclic electron flow around PSI. *Soil Science and Plant Nutrition*, **2012**, 58, 718-727	1.6	7
27	Metabolic pathway engineering by plastid transformation is a powerful tool for production of compounds in higher plants. *Plant Biotechnology*, **2009**, 26, 39-46	1.3	7
26	Photosynthetic Parameters Show Specific Responses to Essential Mineral Deficiencies. *Antioxidants* , **2021**, 10,	7.1	7
25	How do photosynthetic organisms manage light stress? A tribute to the late Professor Kozi Asada. *Plant and Cell Physiology*, **2016**, 57, 1351-1353	4.9	7
24	Responses of the chloroplast glyoxalase system to high CO concentrations. *Bioscience, Biotechnology and Biochemistry*, **2018**, 82, 2072-2083	2.1	6
23	Photorespiration Coupled With CO Assimilation Protects Photosystem I From Photoinhibition Under Moderate Poly(Ethylene Glycol)-Induced Osmotic Stress in Rice. *Frontiers in Plant Science*, **2020**, 11, 1121	6.2	6
22	Respiratory terminal oxidases alleviate photo-oxidative damage in photosystem I during repetitive short-pulse illumination in Synechocystis sp. PCC 6803. *Photosynthesis Research*, **2018**, 137, 241-250	3.7	5
21	O2 supports 3-phosphoglycerate-dependent O2 evolution in chloroplasts from spinach leaves. *Soil Science and Plant Nutrition*, **2012**, 58, 462-468	1.6	5
20	Characterization of Light-Enhanced Respiration in Cyanobacteria. *International Journal of Molecular Sciences*, **2020**, 22,	6.3	4
19	Quantification of NAD(P)H in cyanobacterial cells by a phenol extraction method. *Photosynthesis Research*, **2021**, 148, 57-66	3.7	4
18	Overproduction of Chloroplast Glyceraldehyde-3-Phosphate Dehydrogenase Improves Photosynthesis Slightly under Elevated [CO2] Conditions in Rice. *Plant and Cell Physiology*, **2021**, 62, 156-165	4.9	4
17	Photochemistry of Photosystems II and I in Rice Plants Grown under Different N Levels at Normal and High Temperature. *Plant and Cell Physiology*, **2021**, 62, 1121-1130	4.9	4

16	Photoprotection mechanisms under different CO regimes during photosynthesis in a green alga Chlorella variabilis. *Photosynthesis Research*, **2020**, 144, 397-407	3.7	3
15	Medium-chain dehydrogenase/reductase and aldo-keto reductase scavenge reactive carbonyls in Synechocystis sp. PCC 6803. *FEBS Letters*, **2018**, 592, 1010-1019	3.8	3
14	Cyclic electron flow around PSI functions in the photoinhibited rice leaves. *Soil Science and Plant Nutrition*, **2011**, 57, 105-113	1.6	3
13	Effects of co-overproduction of Rubisco and chloroplast glyceraldehyde-3-phosphate dehydrogenase on photosynthesis in rice. *Soil Science and Plant Nutrition*, **2021**, 67, 283-287	1.6	3
12	Photosynthetic Linear Electron Flow Drives CO Assimilation in Maize Leaves. *International Journal of Molecular Sciences*, **2021**, 22,	6.3	3
11	A Carbon Dioxide Limitation-Inducible Protein, ColA, Supports the Growth of Synechococcus sp. PCC 7002. *Marine Drugs*, **2017**, 15,	6	2
10	Metabolic engineering by plastid transformation as a strategy to modulate isoprenoid yield in plants. *Methods in Molecular Biology*, **2010**, 643, 213-27	1.4	2
9	Suppression of chloroplast triosephosphate isomerase evokes inorganic phosphate-limited photosynthesis in rice. *Plant Physiology*, **2021**,	6.6	2
8	The difficulty of estimating the electron transport rate at photosystem I. *Journal of Plant Research*, **2021**, 1	2.6	2
7	Identification of a Novel Mutation Exacerbated the PSI Photoinhibition in / Mutants; Caution for Overestimation of the Phenotypes in Arabidopsis Mutant. *Cells*, **2021**, 10,	7.9	2
6	Evolutive differentiation between alga- and plant-type plastid terminal oxidase: Study of plastid terminal oxidase PTOX isoforms in Marchantia polymorpha. *Biochimica Et Biophysica Acta - Bioenergetics*, **2021**, 1862, 148309	4.6	2
5	Oxidation of the reaction center chlorophyll of photosystem I is induced via close cooperation of photosystems II and I with progress of drought stress in soybean seedlings. *Soil Science and Plant Nutrition*,1-8	1.6	1
4	NADPH production in dark stages is critical for cyanobacterial photocurrent generation: a study using mutants deficient in oxidative pentose phosphate pathway.. *Photosynthesis Research*, **2022**, 1	3.7	1
3	Order-of-magnitude enhancement in photocurrent generation of Synechocystis sp. PCC 6803 by outer membrane deprivation. *Nature Communications*, **2022**, 13,	17.4	1
2	Physiological Roles of Flavodiiron Proteins and Photorespiration in the Liverwort. *Frontiers in Plant Science*, **2021**, 12, 668805	6.2	0
1	P700 Oxidation System：The Universal Defense Mechanisms for Avoiding Oxidative Stress in Photosynthetic Organisms: Photosynthetic Organisms Created Defense Systems Through a Struggle Against O2. *Kagaku To Seibutsu*, **2018**, 56, 82-94	0	