Luca Dall Osto

List of Publications by Citations

73 papers	4,535 citations	37 h-index	67 g-index
77 ext. papers	5,235 ext. citations	6.7 avg, IF	5.55 L-index

#	Paper	IF	Citations
73	Zeaxanthin has enhanced antioxidant capacity with respect to all other xanthophylls in Arabidopsis leaves and functions independent of binding to PSII antennae. *Plant Physiology*, **2007**, 145, 1506-20	6.6	301
72	Light-induced dissociation of an antenna hetero-oligomer is needed for non-photochemical quenching induction. *Journal of Biological Chemistry*, **2009**, 284, 15255-66	5.4	242
71	Contrasting behavior of higher plant photosystem I and II antenna systems during acclimation. *Journal of Biological Chemistry*, **2007**, 282, 8947-58	5.4	224
70	A mechanism of nonphotochemical energy dissipation, independent from PsbS, revealed by a conformational change in the antenna protein CP26. *Plant Cell*, **2005**, 17, 1217-32	11.6	195
69	Lutein is needed for efficient chlorophyll triplet quenching in the major LHCII antenna complex of higher plants and effective photoprotection in vivo under strong light. *BMC Plant Biology*, **2006**, 6, 32	5.3	193
68	Photoprotection in the antenna complexes of photosystem II: role of individual xanthophylls in chlorophyll triplet quenching. *Journal of Biological Chemistry*, **2008**, 283, 6184-92	5.4	156
67	Minor antenna proteins CP24 and CP26 affect the interactions between photosystem II subunits and the electron transport rate in grana membranes of Arabidopsis. *Plant Cell*, **2008**, 20, 1012-28	11.6	149
66	The Arabidopsis aba4-1 mutant reveals a specific function for neoxanthin in protection against photooxidative stress. *Plant Cell*, **2007**, 19, 1048-64	11.6	141
65	Enhanced photoprotection by protein-bound vs free xanthophyll pools: a comparative analysis of chlorophyll b and xanthophyll biosynthesis mutants. *Molecular Plant*, **2010**, 3, 576-93	14.4	136
64	A zeaxanthin-independent nonphotochemical quenching mechanism localized in the photosystem II core complex. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 12375-80	11.5	123
63	The effect of zeaxanthin as the only xanthophyll on the structure and function of the photosynthetic apparatus in Arabidopsis thaliana. *Journal of Biological Chemistry*, **2004**, 279, 13878-88	5.4	123
62	Evolution and functional properties of photosystem II light harvesting complexes in eukaryotes. *Biochimica Et Biophysica Acta - Bioenergetics*, **2012**, 1817, 143-57	4.6	120
61	Different roles of alpha- and beta-branch xanthophylls in photosystem assembly and photoprotection. *Journal of Biological Chemistry*, **2007**, 282, 35056-68	5.4	113
60	Regulation of plant light harvesting by thermal dissipation of excess energy. *Biochemical Society Transactions*, **2010**, 38, 651-60	5.1	111
59	The light stress-induced protein ELIP2 is a regulator of chlorophyll synthesis in Arabidopsis thaliana. *Plant Journal*, **2007**, 50, 795-809	6.9	108
58	Arabidopsis mutants deleted in the light-harvesting protein Lhcb4 have a disrupted photosystem II macrostructure and are defective in photoprotection. *Plant Cell*, **2011**, 23, 2659-79	11.6	105
57	Biomass from microalgae: the potential of domestication towards sustainable biofactories. *Microbial Cell Factories*, **2018**, 17, 173	6.4	101

56	Domestication of the green alga Chlorella sorokiniana: reduction of antenna size improves light-use efficiency in a photobioreactor. *Biotechnology for Biofuels*, **2014**, 7, 157	7.8	98
55	Interaction between avoidance of photon absorption, excess energy dissipation and zeaxanthin synthesis against photooxidative stress in Arabidopsis. *Plant Journal*, **2013**, 76, 568-79	6.9	96
54	Two mechanisms for dissipation of excess light in monomeric and trimeric light-harvesting complexes. *Nature Plants*, **2017**, 3, 17033	11.5	95
53	The Arabidopsis szl1 mutant reveals a critical role of β-carotene in photosystem I photoprotection. *Plant Physiology*, **2012**, 159, 1745-58	6.6	94
52	Zeaxanthin binds to light-harvesting complex stress-related protein to enhance nonphotochemical quenching in Physcomitrella patens. *Plant Cell*, **2013**, 25, 3519-34	11.6	93
51	Zeaxanthin protects plant photosynthesis by modulating chlorophyll triplet yield in specific light-harvesting antenna subunits. *Journal of Biological Chemistry*, **2012**, 287, 41820-34	5.4	92
50	Effect of antenna-depletion in Photosystem II on excitation energy transfer in Arabidopsis thaliana. *Biophysical Journal*, **2010**, 98, 922-31	2.9	92
49	Mechanistic aspects of the xanthophyll dynamics in higher plant thylakoids. *Physiologia Plantarum*, **2003**, 119, 347-354	4.6	84
48	Reactive oxygen species and transcript analysis upon excess light treatment in wild-type Arabidopsis thaliana vs a photosensitive mutant lacking zeaxanthin and lutein. *BMC Plant Biology*, **2011**, 11, 62	5.3	81
47	Nonphotochemical quenching of chlorophyll fluorescence in Chlamydomonas reinhardtii. *Biochemistry*, **2006**, 45, 1490-8	3.2	74
46	Improper excess light energy dissipation in Arabidopsis results in a metabolic reprogramming. *BMC Plant Biology*, **2009**, 9, 12	5.3	62
45	Elucidation of the beta-carotene hydroxylation pathway in Arabidopsis thaliana. *FEBS Letters*, **2006**, 580, 4718-22	3.8	58
44	Single-molecule spectroscopy of LHCSR1 protein dynamics identifies two distinct states responsible for multi-timescale photosynthetic photoprotection. *Nature Chemistry*, **2017**, 9, 772-778	17.6	57
43	Action spectra of photosystems II and I and quantum yield of photosynthesis in leaves in State 1. *Biochimica Et Biophysica Acta - Bioenergetics*, **2014**, 1837, 315-25	4.6	53
42	Carotenoid to chlorophyll energy transfer in light harvesting complex II from Arabidopsis thaliana probed by femtosecond fluorescence upconversion. *Chemical Physics Letters*, **2003**, 379, 305-313	2.5	53
41	Biogenesis of light harvesting proteins. *Biochimica Et Biophysica Acta - Bioenergetics*, **2015**, 1847, 861-71	4.6	51
40	On the origin of a slowly reversible fluorescence decay component in the Arabidopsis npq4 mutant. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2014**, 369, 20130221	5.8	43
39	Quenching in Arabidopsis thaliana mutants lacking monomeric antenna proteins of photosystem II. *Journal of Biological Chemistry*, **2011**, 286, 36830-40	5.4	42

38	Role of xanthophylls in light harvesting in green plants: a spectroscopic investigation of mutant LHCII and Lhcb pigment-protein complexes. *Journal of Physical Chemistry B*, **2012**, 116, 3834-49	3.4	39
37	Dynamics of zeaxanthin binding to the photosystem II monomeric antenna protein Lhcb6 (CP24) and modulation of its photoprotection properties. *Archives of Biochemistry and Biophysics*, **2010**, 504, 67-77	4.1	39
36	Differential Roles of Carotenes and Xanthophylls in Photosystem I Photoprotection. *Biochemistry*, **2016**, 55, 3636-49	3.2	33
35	Potential and Challenges of Improving Photosynthesis in Algae. *Plants*, **2020**, 9,	4.5	31
34	Long-term acclimatory response to excess excitation energy: evidence for a role of hydrogen peroxide in the regulation of photosystem II antenna size. *Journal of Experimental Botany*, **2015**, 66, 7151-64	7	28
33	A quadruple mutant of Arabidopsis reveals a β-carotene hydroxylation activity for LUT1/CYP97C1 and a regulatory role of xanthophylls on determination of the PSI/PSII ratio. *BMC Plant Biology*, **2012**, 12, 50	5.3	28
32	The Arabidopsis nox mutant lacking carotene hydroxylase activity reveals a critical role for xanthophylls in photosystem I biogenesis. *Plant Cell*, **2013**, 25, 591-608	11.6	28
31	Time-Resolved Investigation of Molecular Components Involved in the Induction of [Formula: see text] High Affinity Transport System in Maize Roots. *Frontiers in Plant Science*, **2016**, 7, 1657	6.2	28
30	Microsecond and millisecond dynamics in the photosynthetic protein LHCSR1 observed by single-molecule correlation spectroscopy. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 11247-11252	11.5	25
29	Combined resistance to oxidative stress and reduced antenna size enhance light-to-biomass conversion efficiency in cultures. *Biotechnology for Biofuels*, **2019**, 12, 221	7.8	24
28	Disturbed excitation energy transfer in Arabidopsis thaliana mutants lacking minor antenna complexes of photosystem II. *Biochimica Et Biophysica Acta - Bioenergetics*, **2014**, 1837, 1981-1988	4.6	24
27	Investigating energy partitioning during photosynthesis using an expanded quantum yield convention. *Chemical Physics*, **2009**, 357, 151-158	2.3	24
26	Optimized Cas9 expression systems for highly efficient Arabidopsis genome editing facilitate isolation of complex alleles in a single generation. *Functional and Integrative Genomics*, **2020**, 20, 151-162	3.8	23
25	An In Vivo Quantitative Comparison of Photoprotection in Arabidopsis Xanthophyll Mutants. *Frontiers in Plant Science*, **2016**, 7, 841	6.2	20
24	A LHCB9-dependent photosystem I megacomplex induced under low light in Physcomitrella patens. *Nature Plants*, **2018**, 4, 910-919	11.5	20
23	A Light Harvesting Complex-Like Protein in Maintenance of Photosynthetic Components in. *Plant Physiology*, **2017**, 174, 2419-2433	6.6	18
22	LHCII can substitute for LHCI as an antenna for photosystem I but with reduced light-harvesting capacity. *Nature Plants*, **2016**, 2, 16131	11.5	18
21	Dissipation of Light Energy Absorbed in Excess: The Molecular Mechanisms. *Annual Review of Plant Biology*, **2021**, 72, 47-76	30.7	18

20	Fluorescence F 0 of photosystems II and I in developing C3 and C 4 leaves, and implications on regulation of excitation balance. *Photosynthesis Research*, **2014**, 122, 41-56	3.7	16
19	Design of a highly thermostable hemicellulose-degrading blend from Thermotoga neapolitana for the treatment of lignocellulosic biomass. *Journal of Biotechnology*, **2019**, 296, 42-52	3.7	14
18	Identification of a pigment cluster catalysing fast photoprotective quenching response in CP29. *Nature Plants*, **2020**, 6, 303-313	11.5	10
17	Loss of LHCI system affects LHCII re-distribution between thylakoid domains upon state transitions. *Photosynthesis Research*, **2018**, 135, 251-261	3.7	10
16	Photoprotective Mechanisms: Carotenoids **2014**, 393-435		9
15	Cell Synchronization Enhances Nuclear Transformation and Genome Editing Cas9 Enabling Homologous Recombination in. *ACS Synthetic Biology*, **2020**, 9, 2840-2850	5.7	9
14	A Phosphite Dehydrogenase Variant with Promiscuous Access to Nicotinamide Cofactor Pools Sustains Fast Phosphite-Dependent Growth of Transplastomic. *Plants*, **2020**, 9,	4.5	9
13	Monomeric light harvesting complexes enhance excitation energy transfer from LHCII to PSII and control their lateral spacing in thylakoids. *Biochimica Et Biophysica Acta - Bioenergetics*, **2020**, 1861, 148035	4.6	6
12	A microalgal-based preparation with synergistic cellulolytic and detoxifying action towards chemical-treated lignocellulose. *Plant Biotechnology Journal*, **2021**, 19, 124-137	11.6	5
11	Functional analysis of LHCSR1, a protein catalyzing NPQ in mosses, by heterologous expression in Arabidopsis thaliana. *Photosynthesis Research*, **2019**, 142, 249-264	3.7	4
10	High Carotenoid Mutants of Show Enhanced Biomass Yield under High Irradiance. *Plants*, **2021**, 10,	4.5	4
9	Harnessing the Algal Chloroplast for Heterologous Protein Production.. *Microorganisms*, **2022**, 10,	4.9	3
8	Supramolecular assembly of chloroplast NADH dehydrogenase-like complex with photosystem I from Arabidopsis thaliana.. *Molecular Plant*, **2022**,	14.4	2
7	Effect of lhcsr gene dosage on oxidative stress and light use efficiency by Chlamydomonas reinhardtii cultures. *Journal of Biotechnology*, **2021**, 328, 12-22	3.7	2
6	Light harvesting complex I is essential for Photosystem II photoprotection under variable light conditions in Arabidopsis thaliana. *Environmental and Experimental Botany*, **2018**, 154, 89-98	5.9	1
5	The role of light-harvesting complex I in excitation-energy transfer from LHCII to photosystem I in Arabidopsis. *Plant Physiology*, **2021**,	6.6	1
4	Optimized Cas9 expression systems for highly efficient Arabidopsis genome editing facilitate isolation of complex alleles in a single generation		1
3	A chimeric hydrolase-PTXD transgene enables chloroplast-based heterologous protein expression and non-sterile cultivation of Chlamydomonas reinhardtii. *Algal Research*, **2021**, 59, 102429	5	1

2	Loss of a single chlorophyll in CP29 triggers re-organization of the Photosystem II supramolecular assembly.. *Biochimica Et Biophysica Acta - Bioenergetics*, **2022**, 148555	4.6	0
1	Improving light harvesting **2022**, 135-159		