

Laurent Cournac

List of Publications by Year in descending order

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89
papers

6,771
citations

61984

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62596

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docs citations

95
times ranked

5526
citing authors

#	ARTICLE	IF	CITATIONS
1	Chlororespiration and cyclic electron flow around PSI during photosynthesis and plant stress response. <i>Plant, Cell and Environment</i> , 2007, 30, 1041-1051.	5.7	362
2	CHLORORESPIRATION. <i>Annual Review of Plant Biology</i> , 2002, 53, 523-550.	18.7	359
3	Flavodiiron proteins Flv1 and Flv3 enable cyanobacterial growth and photosynthesis under fluctuating light. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 4111-4116.	7.1	287
4	An economic, sustainability, and energetic model of biodiesel production from microalgae. <i>Bioresource Technology</i> , 2012, 111, 191-200.	9.6	283
5	PredAlgo: A New Subcellular Localization Prediction Tool Dedicated to Green Algae. <i>Molecular Biology and Evolution</i> , 2012, 29, 3625-3639.	8.9	270
6	Sustained Photoevolution of Molecular Hydrogen in a Mutant of <i>Synechocystis</i> sp. Strain PCC 6803 Deficient in the Type I NADPH-Dehydrogenase Complex. <i>Journal of Bacteriology</i> , 2004, 186, 1737-1746.	2.2	230
7	Targeted Inactivation of the Plastid <i>ndhB</i> Gene in Tobacco Results in an Enhanced Sensitivity of Photosynthesis to Moderate Stomatal Closure. <i>Plant Physiology</i> , 2000, 123, 1337-1350.	4.8	219
8	Hydrogen production by <i>Chlamydomonas reinhardtii</i> : an elaborate interplay of electron sources and sinks. <i>Planta</i> , 2007, 227, 397-407.	3.2	187
9	A type II NAD(P)H dehydrogenase mediates light-independent plastoquinone reduction in the chloroplast of <i>Chlamydomonas</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 20546-20551.	7.1	187
10	Potential for hydrogen production with inducible chloroplast gene expression in <i>Chlamydomonas</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 17548-17553.	7.1	181
11	Cyclic Electron Flow around Photosystem I in C3Plants. In Vivo Control by the Redox State of Chloroplasts and Involvement of the NADH-Dehydrogenase Complex. <i>Plant Physiology</i> , 2002, 128, 760-769.	4.8	179
12	Control of Hydrogen Photoproduction by the Proton Gradient Generated by Cyclic Electron Flow in <i>Chlamydomonas reinhardtii</i> . <i>Plant Cell</i> , 2011, 23, 2619-2630.	6.6	176
13	Autotrophic and Mixotrophic Hydrogen Photoproduction in Sulfur-Deprived <i>Chlamydomonas</i> Cells. <i>Applied and Environmental Microbiology</i> , 2005, 71, 6199-6205.	3.1	170
14	Hydrogen Production in <i>Chlamydomonas</i> : Photosystem II-Dependent and -Independent Pathways Differ in Their Requirement for Starch Metabolism. <i>Plant Physiology</i> , 2009, 151, 631-640.	4.8	154
15	Auxiliary electron transport pathways in chloroplasts of microalgae. <i>Photosynthesis Research</i> , 2010, 106, 19-31.	2.9	152
16	Experimental approaches to kinetics of gas diffusion in hydrogenase. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 11188-11193.	7.1	150
17	Electron Flow between Photosystem II and Oxygen in Chloroplasts of Photosystem I-deficient Algae Is Mediated by a Quinol Oxidase Involved in Chlororespiration. <i>Journal of Biological Chemistry</i> , 2000, 275, 17256-17262.	3.4	149
18	Involvement of a Plastid Terminal Oxidase in Plastoquinone Oxidation as Evidenced by Expression of the <i>Arabidopsis thaliana</i> Enzyme in Tobacco. <i>Journal of Biological Chemistry</i> , 2002, 277, 31623-31630.	3.4	147

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19	Characterization of Nda2, a Plastoquinone-reducing Type II NAD(P)H Dehydrogenase in Chlamydomonas Chloroplasts. <i>Journal of Biological Chemistry</i> , 2009, 284, 4148-4157.	3.4	134
20	Inhibitor studies on non-photochemical plastoquinone reduction and H ₂ photoproduction in <i>Chlamydomonas reinhardtii</i> . <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2005, 1708, 322-332.	1.0	128
21	Increased Sensitivity of Photosynthesis to Antimycin A Induced by Inactivation of the Chloroplast ndhB Gene. Evidence for a Participation of the NADH-Dehydrogenase Complex to Cyclic Electron Flow around Photosystem I. <i>Plant Physiology</i> , 2001, 125, 1919-1929.	4.8	122
22	Interplay between Flavodiiron Proteins and Photorespiration in <i>Synechocystis</i> sp. PCC 6803. <i>Journal of Biological Chemistry</i> , 2011, 286, 24007-24014.	3.4	111
23	Plastidial phosphorylase is required for normal starch synthesis in <i>Chlamydomonas reinhardtii</i> . <i>Plant Journal</i> , 2006, 48, 274-285.	5.7	105
24	Introduction of Methionines in the Gas Channel Makes [NiFe] Hydrogenase Aero-Tolerant. <i>Journal of the American Chemical Society</i> , 2009, 131, 10156-10164.	13.7	105
25	Understanding and Tuning the Catalytic Bias of Hydrogenase. <i>Journal of the American Chemical Society</i> , 2012, 134, 8368-8371.	13.7	103
26	Effect of selenate on growth and photosynthesis of <i>Chlamydomonas reinhardtii</i> . <i>Aquatic Toxicology</i> , 2007, 83, 149-158.	4.0	97
27	Reduction of the plastoquinone pool by exogenous NADH and NADPH in higher plant chloroplasts. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 1998, 1363, 59-69.	1.0	95
28	Original Design of an Oxygen-Tolerant [NiFe] Hydrogenase: Major Effect of a Valine-to-Cysteine Mutation near the Active Site. <i>Journal of the American Chemical Society</i> , 2011, 133, 986-997.	13.7	91
29	In Vivo Interactions between Photosynthesis, Mitorespiration, and Chlororespiration in <i>Chlamydomonas reinhardtii</i> . <i>Plant Physiology</i> , 2002, 129, 1921-1928.	4.8	90
30	Limiting steps of hydrogen production in <i>Chlamydomonas reinhardtii</i> and <i>Synechocystis</i> PCC 6803 as analysed by light-induced gas exchange transients. <i>International Journal of Hydrogen Energy</i> , 2002, 27, 1229-1237.	7.1	87
31	Growth and Photosynthetic Characteristics of <i>Solanum tuberosum</i> Plantlets Cultivated in Vitro in Different Conditions of Aeration, Sucrose Supply, and CO ₂ Enrichment. <i>Plant Physiology</i> , 1991, 97, 112-117.	4.8	85
32	Hydrogen-Activating Enzymes: Activity Does Not Correlate with Oxygen Sensitivity. <i>Angewandte Chemie - International Edition</i> , 2008, 47, 2052-2054.	13.8	81
33	Enlarging the gas access channel to the active site renders the regulatory hydrogenase HupUV of <i>Rhodobacter capsulatus</i> O ₂ sensitive without affecting its transducing activity. <i>FEBS Journal</i> , 2005, 272, 3899-3908.	4.7	73
34	Complete activity profile of <i>Clostridium acetobutylicum</i> [FeFe]-hydrogenase and kinetic parameters for endogenous redox partners. <i>FEMS Microbiology Letters</i> , 2007, 275, 113-121.	1.8	70
35	The quest for a functional substrate access tunnel in FeFe hydrogenase. <i>Faraday Discussions</i> , 2011, 148, 385-407.	3.2	70
36	Flexibility in photosynthetic electron transport: a newly identified chloroplast oxidase involved in chlororespiration. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2000, 355, 1447-1454.	4.0	66

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37	Photosystem I Is Indispensable for Photoautotrophic Growth, CO ₂ Fixation, and H ₂ Photoproduction in <i>Chlamydomonas reinhardtii</i> . <i>Journal of Biological Chemistry</i> , 1999, 274, 10466-10473.	3.4	62
38	Heterocyst-specific flavodiiron protein Flv3B enables oxic diazotrophic growth of the filamentous cyanobacterium <i>Anabaena</i> sp. PCC 7120. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 11205-11210.	7.1	55
39	Soil organic carbon, microbial biomass and enzyme activities responses to natural regeneration in a tropical dry region in Northeast Brazil. <i>Catena</i> , 2017, 151, 137-146.	5.0	54
40	Gas Exchange in the Filamentous Cyanobacterium <i>Nostoc punctiforme</i> Strain ATCC 29133 and Its Hydrogenase-Deficient Mutant Strain NHM5. <i>Applied and Environmental Microbiology</i> , 2004, 70, 2137-2145.	3.1	53
41	Plastidial Expression of Type II NAD(P)H Dehydrogenase Increases the Reducing State of Plastoquinones and Hydrogen Photoproduction Rate by the Indirect Pathway in <i>Chlamydomonas reinhardtii</i> . <i>Plant Physiology</i> , 2014, 165, 1344-1352.	4.8	47
42	The rhizosheath: from desert plants adaptation to crop breeding. <i>Plant and Soil</i> , 2020, 456, 1-13.	3.7	47
43	Response to early drought stress and identification of QTLs controlling biomass production under drought in pearl millet. <i>PLoS ONE</i> , 2018, 13, e0201635.	2.5	46
44	Bioelectrocatalytic hydrogen production by hydrogenase electrodes. <i>International Journal of Hydrogen Energy</i> , 2002, 27, 1501-1505.	7.1	45
45	The AbrB2 Autorepressor, Expressed from an Atypical Promoter, Represses the Hydrogenase Operon To Regulate Hydrogen Production in <i>Synechocystis</i> Strain PCC6803. <i>Journal of Bacteriology</i> , 2012, 194, 5423-5433.	2.2	45
46	Continuous monitoring of the activation and activity of 6NiFe9-hydrogenases by membrane-inlet mass spectrometry. <i>International Journal of Hydrogen Energy</i> , 2002, 27, 1441-1448.	7.1	43
47	Fast determination of light availability and leaf area index in tropical forests. <i>Journal of Tropical Ecology</i> , 2002, 18, 295-302.	1.1	41
48	Relationships between PSII-independent hydrogen bioproduction and starch metabolism as evidenced from isolation of starch catabolism mutants in the green alga <i>Chlamydomonas reinhardtii</i> . <i>International Journal of Hydrogen Energy</i> , 2010, 35, 10731-10740.	7.1	37
49	How far does the tree affect the crop in agroforestry? New spatial analysis methods in a <i>Faidherbia parkland</i> . <i>Agriculture, Ecosystems and Environment</i> , 2020, 296, 106928.	5.3	37
50	Effects of canopy gap size on recruitment and invasion of the non-indigenous <i>Rubus alceifolius</i> in lowland tropical rain forest on Réunion. <i>Journal of Tropical Ecology</i> , 2008, 24, 337-345.	1.1	32
51	Role of HoxE subunit in <i>Synechocystis</i> PCC6803 hydrogenase. <i>FEBS Journal</i> , 2011, 278, 4035-4043.	4.7	31
52	Molecular hydrogen from water radiolysis as an energy source for bacterial growth in a basin containing irradiating waste. <i>FEMS Microbiology Letters</i> , 2004, 240, 155-162.	1.8	30
53	Functional redundancy between flavodiiron proteins and NDH-1 in <i>Synechocystis</i> sp. PCC 6803. <i>Plant Journal</i> , 2020, 103, 1460-1476.	5.7	29
54	Inorganic fertilizer use efficiency of millet crop increased with organic fertilizer application in rainfed agriculture on smallholdings in central Senegal. <i>Agriculture, Ecosystems and Environment</i> , 2020, 294, 106878.	5.3	29

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55	Enhancing agroecosystem productivity with woody perennials in semi-arid West Africa. A meta-analysis. <i>Agronomy for Sustainable Development</i> , 2018, 38, 57.	5.3	27
56	Use and management of biodiversity by smallholder farmers in semi-arid West Africa. <i>Global Food Security</i> , 2018, 18, 76-85.	8.1	27
57	Limited photosynthetic electron flow but no CO ₂ fixation in <i>Chlamydomonas</i> mutants lacking photosystem I. <i>FEBS Letters</i> , 1997, 416, 65-68.	2.8	24
58	Pearl Millet Genetic Traits Shape Rhizobacterial Diversity and Modulate Rhizosphere Aggregation. <i>Frontiers in Plant Science</i> , 2017, 8, 1288.	3.6	23
59	Pearl millet genotype impacts microbial diversity and enzymatic activities in relation to root-adhering soil aggregation. <i>Plant and Soil</i> , 2021, 464, 109.	3.7	22
60	Temperature dependence of CO ₂ emissions rates and isotopic signature from a calcareous soil. <i>Journal of Arid Environments</i> , 2016, 135, 132-139.	2.4	21
61	Development of a model estimating root length density from root impacts on a soil profile in pearl millet (<i>Pennisetum glaucum</i> (L.) R. Br). Application to measure root system response to water stress in field conditions. <i>PLoS ONE</i> , 2019, 14, e0214182.	2.5	21
62	Estimation of the driving force for dioxygen formation in photosynthesis. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2016, 1857, 23-33.	1.0	19
63	Hydrogen independent expression of hupSL genes in <i>Thiocapsa roseopersicina</i> BBS. <i>FEBS Journal</i> , 2005, 272, 4807-4816.	4.7	18
64	A Threonine Stabilizes the NiC and NiR Catalytic Intermediates of [NiFe]-hydrogenase. <i>Journal of Biological Chemistry</i> , 2015, 290, 8550-8558.	3.4	18
65	Carbonic anhydrase activity in leaves as measured in vivo by ¹⁸ O exchange between carbon dioxide and water. <i>Planta</i> , 1995, 196, 732-739.	3.2	17
66	Impact of late-season drought on water relations in a sparse canopy of millet (<i>Pennisetum glaucum</i>) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	8.1	16
67	Improved oxygen tolerance of the <i>Synechocystis</i> sp. PCC 6803 bidirectional hydrogenase by site-directed mutagenesis of putative residues of the gas diffusion channel. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 16872-16884.	7.1	16
68	<i>Agrobacterium tumefaciens</i> type II NADH dehydrogenase.. <i>FEBS Journal</i> , 2006, 273, 3625-3637.	4.7	15
69	Modification of substrate specificity in single point mutants of <i>Agrobacterium tumefaciens</i> type II NADH dehydrogenase. <i>FEBS Letters</i> , 2007, 581, 4017-4022.	2.8	15
70	Ramial wood amendments (<i>Piliostigma reticulatum</i>) mitigate degradation of tropical soils but do not replenish nutrient exports. <i>Land Degradation and Development</i> , 2018, 29, 2694-2706.	3.9	15
71	Non-Photochemical Reduction of Intersystem Electron Carriers in Chloroplasts of Higher Plants and Algae. , 1998, , 1877-1882.		15
72	Is engineering O ₂ -tolerant hydrogenases just a matter of reproducing the active sites of the naturally occurring O ₂ -resistant enzymes??. <i>International Journal of Hydrogen Energy</i> , 2010, 35, 10770-10777.	7.1	14

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73	ECOSIMP2 model: Prediction of CO ₂ concentration changes and carbon status in closed ecosystems. <i>Advances in Space Research</i> , 1994, 14, 323-326.	2.6	12
74	IMPROVEMENT OF PHOTOAUTOTROPHIC SOLANUM TUBEROSUM PLANTLET CULTURE BY LIGHT AND CO ₂ : DIFFERENTIAL DEVELOPMENT OF PHOTOSYNTHETIC CHARACTERISTICS AND VARIETAL CONSTRAINTS.. <i>Acta Horticulturae</i> , 1992, , 53-58.	0.2	11
75	Effect of ramial wood amendment on sorghum production and topsoil quality in a Sudano-Sahelian ecosystem (central Burkina Faso). <i>Agroforestry Systems</i> , 2015, 89, 81-93.	2.0	11
76	Evidence for ¹⁸ O labeling of photorespiratory CO ₂ in photoautotrophic cell cultures of higher plants illuminated in the presence of ¹⁸ O ₂ . <i>Planta</i> , 1993, 190, 407.	3.2	7
77	Arbuscular Mycorrhizal Fungi Alleviate the Negative Effect of Temperature Stress in Millet Lines with Contrasting Soil Aggregation Potential. <i>Gesunde Pflanzen</i> , 2022, 74, 53-67.	3.0	7
78	Carbonic anhydrase activity in leaves as measured in vivo by ¹⁸ O exchange between carbon dioxide and water. <i>Planta</i> , 1995, 196, 732.	3.2	5
79	Reversible oxygen-tolerant hydrogenase carried by free-living N ₂ -fixing bacteria isolated from the rhizospheres of rice, maize, and wheat. <i>MicrobiologyOpen</i> , 2012, 1, 349-361.	3.0	5
80	Increased Sensitivity of Photosynthesis to Anaerobic Conditions Induced by Targeted Inactivation of the Chloroplast ndhB Gene. , 1998, , 1967-1970.		5
81	Impact of Simulated Drought Stress on Soil Microbiology, and Nematofauna in a Native Shrub + Millet Intercropping System in Senegal. <i>Open Journal of Soil Science</i> , 2016, 06, 189-203.	0.8	5
82	Rhizodeposition efficiency of pearl millet genotypes assessed on a short growing period by carbon isotopes (¹³ C and ¹⁴ C) and Tj ETQq0 0 0 4gBT /Overlock 10 Tf		5
83	A simplified ecosystem based on higher plants: Ecosimp, a model of carbon cycle. <i>Acta Astronautica</i> , 1992, 27, 189-196.	3.2	4
84	An overlooked local resource: Shrub-intercropping for food production, drought resistance and ecosystem restoration in the Sahel. <i>Agriculture, Ecosystems and Environment</i> , 2021, 319, 107523.	5.3	4
85	Attractancy of bacterivorous nematodes to root-adhering soils differs according to rice cultivars. <i>Rhizosphere</i> , 2017, 3, 128-131.	3.0	3
86	Methanogenic and fertilizing potential of aquaculture waste: towards freshwater farms energy self-sufficiency in the framework of blue growth. <i>Reviews in Aquaculture</i> , 2020, 12, 1435-1444.	9.0	3
87	Towards Hydrogenase Engineering for Hydrogen Production. , 0, , 247-257.		3
88	Sub-chapter 3.5.3. Soil carbon as an indicator of Mediterranean soil quality. , 2016, , 627-636.		3
89	Temporal Microbial Response to Wetting-Drying Cycles in Soils within and Outside the Influence of a Shrub in the Sahel. <i>Open Journal of Soil Science</i> , 2019, 09, 284-297.	0.8	0