Roberto De Philippis

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

124 papers

5,281 citations

40 h-index

69 g-index

134 ext. papers

6,118 ext. citations

5.2 avg, IF

5.93 L-index

#	Paper	IF	Citations
124	Complexity of cyanobacterial exopolysaccharides: composition, structures, inducing factors and putative genes involved in their biosynthesis and assembly. <i>FEMS Microbiology Reviews</i> , 2009 , 33, 917-4	11 ^{15.1}	412
123	Exocellular polysaccharides from cyanobacteria and their possible applications. <i>FEMS Microbiology Reviews</i> , 1998 , 22, 151-175	15.1	278
122	Exopolysaccharide-producing cyanobacteria and their possible exploitation: A review. <i>Journal of Applied Phycology</i> , 2001 , 13, 293-299	3.2	202
121	Exopolysaccharide-producing cyanobacteria in heavy metal removal from water: molecular basis and practical applicability of the biosorption process. <i>Applied Microbiology and Biotechnology</i> , 2011 , 92, 697-708	5.7	196
120	Exocellular polysaccharides from cyanobacteria and their possible applications. <i>FEMS Microbiology Reviews</i> , 1998 , 22, 151-175	15.1	191
119	Role of cyanobacterial exopolysaccharides in phototrophic biofilms and in complex microbial mats. <i>Life</i> , 2015 , 5, 1218-38	3	186
118	Generation of superoxide anion and SOD activity in haemocytes and muscle of American white shrimp (Litopenaeus vannamei) as a response to beta-glucan and sulphated polysaccharide. <i>Fish and Shellfish Immunology</i> , 2002 , 12, 353-66	4.3	170
117	Microbial secreted exopolysaccharides affect the hydrological behavior of induced biological soil crusts in desert sandy soils. <i>Soil Biology and Biochemistry</i> , 2014 , 68, 62-70	7.5	135
116	The role of the exopolysaccharides in enhancing hydraulic conductivity of biological soil crusts. <i>Soil Biology and Biochemistry</i> , 2012 , 46, 33-40	7.5	115
115	Potential of unicellular cyanobacteria from saline environments as exopolysaccharide producers. <i>Applied and Environmental Microbiology</i> , 1998 , 64, 1130-2	4.8	110
114	Cyanobacterial inoculation (cyanobacterisation): Perspectives for the development of a standardized multifunctional technology for soil fertilization and desertification reversal. <i>Earth-Science Reviews</i> , 2017 , 171, 28-43	10.2	109
113	Exopolysaccharide production by a unicellular cyanobacterium isolated from a hypersaline habitat. <i>Journal of Applied Phycology</i> , 1993 , 5, 387-394	3.2	97
112	Photobioreactor design and illumination systems for H2 production with anoxygenic photosynthetic bacteria: A review. <i>International Journal of Hydrogen Energy</i> , 2014 , 39, 3127-3141	6.7	96
111	Using extracellular polymeric substances (EPS)-producing cyanobacteria for the bioremediation of heavy metals: do cations compete for the EPS functional groups and also accumulate inside the cell?. <i>Microbiology (United Kingdom)</i> , 2011 , 157, 451-458	2.9	95
110	Cyanobacteria Inoculation Improves Soil Stability and Fertility on Different Textured Soils: Gaining Insights for Applicability in Soil Restoration. <i>Frontiers in Environmental Science</i> , 2018 , 6,	4.8	90
109	Characteristics and role of the exocellular polysaccharides produced by five cyanobacteria isolated from phototrophic biofilms growing on stone monuments. <i>Biofouling</i> , 2012 , 28, 215-24	3.3	89
108	Microbial extracellular polymeric substances improve water retention in dryland biological soil crusts. <i>Soil Biology and Biochemistry</i> , 2018 , 116, 67-69	7.5	88

107	Glycogen and poly-⊕hydroxybutyrate synthesis in Spirulina maxima. <i>Journal of General Microbiology</i> , 1992 , 138, 1623-1628		76
106	Selectivity in the heavy metal removal by exopolysaccharide-producing cyanobacteria. <i>Journal of Applied Microbiology</i> , 2008 , 105, 88-94	4.7	74
105	Complex role of the polymeric matrix in biological soil crusts. <i>Plant and Soil</i> , 2018 , 429, 19-34	4.2	72
104	Production and characterization of extracellular carbohydrate polymer from Cyanothece sp. CCY 0110. <i>Carbohydrate Polymers</i> , 2013 , 92, 1408-15	10.3	70
103	Heavy metal sorption by released polysaccharides and whole cultures of two exopolysaccharide-producing cyanobacteria. <i>Biodegradation</i> , 2007 , 18, 181-7	4.1	68
102	Occurrence of poly-beta-hydroxybutyrate in Spirulina species. <i>Journal of Bacteriology</i> , 1990 , 172, 2791-	2 3.5	68
101	Macromolecular and chemical features of the excreted extracellular polysaccharides in induced biological soil crusts of different ages. <i>Soil Biology and Biochemistry</i> , 2014 , 78, 1-9	7.5	67
100	Assessment of the metal removal capability of two capsulated cyanobacteria, Cyanospira capsulata and Nostoc PCC7936. <i>Journal of Applied Phycology</i> , 2003 , 15, 155-161	3.2	64
99	Use of cyanobacterial polysaccharides to promote shrub performances in desert soils: a potential approach for the restoration of desertified areas. <i>Biology and Fertility of Soils</i> , 2013 , 49, 143-152	6.1	63
98	Studies on exopolysaccharide release by diazotrophic batch cultures of Cyanospira capsulata. <i>Applied Microbiology and Biotechnology</i> , 1990 , 34, 392-396	5.7	59
97	Effects of heavy metals on Cyanothece sp. CCY 0110 growth, extracellular polymeric substances (EPS) production, ultrastructure and protein profiles. <i>Journal of Proteomics</i> , 2015 , 120, 75-94	3.9	57
96	Development of the polysaccharidic matrix in biocrusts induced by a cyanobacterium inoculated in sand microcosms. <i>Biology and Fertility of Soils</i> , 2018 , 54, 27-40	6.1	57
95	Hydrogen production during stationary phase in purple photosynthetic bacteria. <i>International Journal of Hydrogen Energy</i> , 2008 , 33, 6525-6534	6.7	56
94	Hydrogen-producing purple non-sulfur bacteria isolated from the trophic lake Averno (Naples, Italy). <i>International Journal of Hydrogen Energy</i> , 2010 , 35, 12216-12223	6.7	52
93	Released polysaccharides (RPS) from Cyanothece sp. CCY 0110 as biosorbent for heavy metals bioremediation: interactions between metals and RPS binding sites. <i>Applied Microbiology and Biotechnology</i> , 2016 , 100, 7765-75	5.7	51
92	Characterization of exopolysaccharides produced by seven biofilm-forming cyanobacterial strains for biotechnological applications. <i>Journal of Applied Phycology</i> , 2013 , 25, 1697-1708	3.2	50
91	Sustained outdoor H2 production with Rhodopseudomonas palustris cultures in a 50L tubular photobioreactor. <i>International Journal of Hydrogen Energy</i> , 2012 , 37, 8840-8849	6.7	49
90	Effects of growth conditions on exopolysaccharide production by Cyanospira capsulata. <i>Bioresource Technology</i> , 1991 , 38, 101-104	11	46

89	Effect of light and temperature on biomass, photosynthesis and capsular polysaccharides in cultured phototrophic biofilms. <i>Journal of Applied Phycology</i> , 2012 , 24, 211-220	3.2	44
88	H and poly-III hydroxybutyrate, two alternative chemicals from purple non sulfur bacteria. <i>Biotechnology Letters</i> , 1997 , 19, 759-762	3	42
87	Sheathless mutant of Cyanobacterium Gloeothece sp. strain PCC 6909 with increased capacity to remove copper ions from aqueous solutions. <i>Applied and Environmental Microbiology</i> , 2008 , 74, 2797-80	o4 ^{.8}	42
86	Microbial fixation of CO2 in water bodies and in drylands to combat climate change, soil loss and desertification. <i>New Biotechnology</i> , 2015 , 32, 109-20	6.4	40
85	Exocellular Polysaccharides in Microalgae and Cyanobacteria: Chemical Features, Role and Enzymes and Genes Involved in Their Biosynthesis 2016 , 565-590		40
84	Capsular polysaccharides of cultured phototrophic biofilms. <i>Biofouling</i> , 2009 , 25, 495-504	3.3	40
83	Control of Lunar and Martian dustexperimental insights from artificial and natural cyanobacterial and algal crusts in the desert of Inner Mongolia, China. <i>Astrobiology</i> , 2008 , 8, 75-86	3.7	40
82	The potential of the cyanobacterium Leptolyngbya ohadii as inoculum for stabilizing bare sandy substrates. <i>Soil Biology and Biochemistry</i> , 2018 , 127, 318-328	7.5	38
81	Response of an exopolysaccharide-producing heterocystous cyanobacterium to changes in metabolic carbon flux. <i>Journal of Applied Phycology</i> , 1996 , 8, 275-281	3.2	38
80	A Rhodopseudomonas palustris nifA* mutant produces H2 from -containing vegetable wastes. <i>International Journal of Hydrogen Energy</i> , 2012 , 37, 15893-15900	6.7	36
79	Energy conversion of biomass crops and agroindustrial residues by combined biohydrogen/biomethane system and anaerobic digestion. <i>Bioresource Technology</i> , 2016 , 211, 509-18	11	36
78	Rhizosphere effect and salinity competing to shape microbial communities in Phragmites australis (Cav.) Trin. ex-Steud. <i>FEMS Microbiology Letters</i> , 2014 , 359, 193-200	2.9	35
77	Optimization of copper sorbing-desorbing cycles with confined cultures of the exopolysaccharide-producing cyanobacterium Cyanospira capsulata. <i>Journal of Applied Microbiology</i> , 2006 , 101, 1351-6	4.7	33
76	Characterizing cultivable soil microbial communities from copper fungicide-amended olive orchard and vineyard soils. <i>World Journal of Microbiology and Biotechnology</i> , 2008 , 24, 309-318	4.4	32
75	Bread wastes to energy: Sequential lactic and photo-fermentation for hydrogen production. <i>International Journal of Hydrogen Energy</i> , 2018 , 43, 9569-9576	6.7	31
74	Assessment of the potential of Nostoc strains from the Pasteur Culture Collection for the production of polysaccharides of applied interest. <i>Journal of Applied Phycology</i> , 2000 , 12, 401-407	3.2	30
73	Soil Type and Cyanobacteria Species Influence the Macromolecular and Chemical Characteristics of the Polysaccharidic Matrix in Induced Biocrusts. <i>Microbial Ecology</i> , 2019 , 78, 482-493	4.4	30
72	Treatment of Cr(VI)-containing wastewaters with exopolysaccharide-producing cyanobacteria in pilot flow through and batch systems. <i>Applied Microbiology and Biotechnology</i> , 2010 , 87, 1953-61	5.7	27

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71	Leptolyngbya strains from Roman hypogea: cytochemical and physico-chemical characterisation of exopolysaccharides. <i>Journal of Applied Phycology</i> , 2003 , 15, 193-200	3.2	27	
7°	Seasonal succession of phototrophic biofilms in an Italian wastewater treatment plant: biovolume, spatial structure and exopolysaccharides. <i>Aquatic Microbial Ecology</i> , 2006 , 45, 301-312	1.1	27	
69	Chemical composition of volatile oil from Artemisia ordosica and its allelopathic effects on desert soil microalgae, Palmellococcus miniatus. <i>Plant Physiology and Biochemistry</i> , 2012 , 51, 153-8	5.4	26	
68	Populations of exopolysaccharide-producing cyanobacteria and diatoms in the mucilaginous benthic aggregates of the Tyrrhenian Sea (Tuscan Archipelago). <i>Science of the Total Environment</i> , 2005 , 353, 360-8	10.2	24	
67	UV-B resistance as a criterion for the selection of desert microalgae to be utilized for inoculating desert soils. <i>Journal of Applied Phycology</i> , 2013 , 25, 1009-1015	3.2	23	•
66	Shifting species interaction in soil microbial community and its influence on ecosystem functions modulating. <i>Microbial Ecology</i> , 2013 , 65, 700-8	4.4	23	
65	Rheology of culture broths and exopolysaccharide of Cyanospira capsulata at different stages of growth. <i>Carbohydrate Polymers</i> , 1992 , 17, 1-10	10.3	23	
64	Stability of molecular and rheological properties of the exopolysaccharide produced byCyanospira capsulata cultivated under different growth conditions. <i>Journal of Applied Phycology</i> , 1993 , 5, 539-541	3.2	23	
63	Selective biosorption and recovery of Ruthenium from industrial effluents with Rhodopseudomonas palustris strains. <i>Applied Microbiology and Biotechnology</i> , 2012 , 95, 381-7	5.7	22	
62	Exopolysaccharides of Two Cyanobacterial Strains from Roman Hypogea. <i>Geomicrobiology Journal</i> , 2006 , 23, 301-310	2.5	22	
61	Assembly and Export of Extracellular Polymeric Substances (EPS) in Cyanobacteria: A Phylogenomic Approach. <i>Advances in Botanical Research</i> , 2013 , 65, 235-279	2.2	21	
60	Factors affecting poly-E-hydroxybutyrate accumulation in cyanobacteria and in purple non-sulfur bacteria. <i>FEMS Microbiology Letters</i> , 1992 , 103, 187-194	2.9	21	
59	Gold biosorption by exopolysaccharide producing cyanobacteria and purple nonsulphur bacteria. Journal of Applied Microbiology, 2012 , 113, 1380-8	4.7	20	
58	Morphological and biochemical characterization of the exocellular investments of polysaccharide-producing Nostoc strains from the Pasteur Culture Collection. <i>World Journal of Microbiology and Biotechnology</i> , 2000 , 16, 655-661	4.4	20	
57	Agroindustrial residues and energy crops for the production of hydrogen and poly-III-hydroxybutyrate via photofermentation. <i>Bioresource Technology</i> , 2016 , 216, 941-7	11	20	
56	The alternative sigma factor SigF is a key player in the control of secretion mechanisms in Synechocystis sp. PCC 6803. <i>Environmental Microbiology</i> , 2019 , 21, 343-359	5.2	20	
55	Introducing capnophilic lactic fermentation in a combined dark-photo fermentation process: a route to unparalleled H2 yields. <i>Applied Microbiology and Biotechnology</i> , 2015 , 99, 1001-10	5.7	19	
54	Cyanoflan: A cyanobacterial sulfated carbohydrate polymer with emulsifying properties. <i>Carbohydrate Polymers</i> , 2020 , 229, 115525	10.3	19	

53	A novel two-phase bioprocess for the production of Arthrospira (Spirulina) maxima LJGR1 at pilot plant scale during different seasons and for phycocyanin induction under controlled conditions. Bioresource Technology, 2020, 298, 122548	11	18
52	The role of the tyrosine kinase Wzc (Sll0923) and the phosphatase Wzb (Slr0328) in the production of extracellular polymeric substances (EPS) by Synechocystis PCC 6803. <i>MicrobiologyOpen</i> , 2019 , 8, e007.	3 .4	17
51	Effectiveness of Cyanothece spp. and Cyanospira capsulata exocellular polysaccharides as antiadhesive agents for blocking attachment of Helicobacter pylori to human gastric cells. <i>Folia Microbiologica</i> , 2004 , 49, 64-70	2.8	17
50	Acclimation strategy of Rhodopseudomonas palustris to high light irradiance. <i>Microbiological Research</i> , 2017 , 197, 49-55	5-3	16
49	Mixotrophic cultivation of Chlorococcum sp. under non-controlled conditions using a digestate from pig manure within a biorefinery. <i>Journal of Applied Phycology</i> , 2018 , 30, 2847-2857	3.2	16
48	Induced biological soil crusts and soil properties varied between slope aspect, slope gradient and plant canopy in the Hobq desert of China. <i>Catena</i> , 2020 , 190, 104559	5.8	16
47	Biosorption of copper by cyanobacterial bloom-derived biomass harvested from the eutrophic Lake Dianchi in China. <i>Current Microbiology</i> , 2010 , 61, 340-5	2.4	15
46	Cyanobacteria inoculation as a potential tool for stabilization of burned soils. <i>Restoration Ecology</i> , 2020 , 28, S106	3.1	15
45	The role of grain size and inoculum amount on biocrust formation by Leptolyngbya ohadii. <i>Catena</i> , 2020 , 184, 104248	5.8	15
44	Differentiation of the characteristics of excreted extracellular polysaccharides reveals the heterogeneous primary succession of induced biological soil crusts. <i>Journal of Applied Phycology</i> , 2015 , 27, 1935-1944	3.2	14
43	A novel method to evaluate nutrient retention by biological soil crust exopolymeric matrix. <i>Plant and Soil</i> , 2018 , 429, 53-64	4.2	14
42	Pore characteristics in biological soil crusts are independent of extracellular polymeric substances. Soil Biology and Biochemistry, 2016 , 103, 294-299	7.5	14
41	Increased algicidal activity of Aeromonas veronii in response to Microcystis aeruginosa: interspecies crosstalk and secondary metabolites synergism. <i>Environmental Microbiology</i> , 2019 , 21, 1140	⁵ 1²150	14
40	Anti-Inflammatory Activity of Exopolysaccharides from sp. ETS05, the Most Abundant Cyanobacterium of the Therapeutic Euganean Thermal Muds, Using the Zebrafish Model. Biomolecules, 2020, 10,	5.9	14
39	Characterization and antitumor activity of the extracellular carbohydrate polymer from the cyanobacterium Synechocystis ligF mutant. <i>International Journal of Biological Macromolecules</i> , 2019 , 136, 1219-1227	7.9	13
38	Ammonia photoproduction byCyanospira rippkae cells EntrappedIIn dialysis tube. <i>Experientia</i> , 1986 , 42, 1040-1043		12
37	Heterotrophic metabolism and diazotrophic growth ofNostoc sp. fromCycas circinalis. <i>Plant and Soil</i> , 1988 , 110, 199-206	4.2	12
36	Two halophilic Ectothiorhodospira strains with unusual morphological, physiological and biochemical characters. <i>Archives of Microbiology</i> , 1988 , 149, 273-279	3	12

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35	Hydrogen production under salt stress conditions by a freshwater Rhodopseudomonas palustris strain. <i>Applied Microbiology and Biotechnology</i> , 2016 , 100, 2917-26	5.7	12
34	H2 production in Rhodopseudomonas palustris as a way to cope with high light intensities. <i>Research in Microbiology</i> , 2016 , 167, 350-6	4	12
33	Cyanobacteria in biofilms on stone temples of Bhubaneswar, Eastern India. <i>Algological Studies</i> (Stuttgart, Germany: 2007), 2015 , 147, 67-93	1	11
32	Photosynthetic Purple Non Sulfur Bacteria in Hydrogen Producing Systems: New Approaches in the Use of Well Known and Innovative Substrates 2017 , 321-350		10
31	Draft genome sequence and overview of the purple non sulfur bacterium Rhodopseudomonas palustris 42OL. <i>Standards in Genomic Sciences</i> , 2016 , 11, 24		10
30	Identification of aqueous extracts from Artemisia ordosica and their allelopathic effects on desert soil algae. <i>Chemoecology</i> , 2019 , 29, 61-71	2	10
29	Hydrogen Production: Photofermentation 2012 , 53-75		9
28	The role of hydrogen metabolism in photoheterotrophic cultures of the cyanobacterium Nostoc sp. strain Cc isolated from Cycas circinalis L <i>Journal of General Microbiology</i> , 1990 , 136, 1009-1015		9
27	Use of quantitative PCR with the chloroplast gene rps4 to determine moss abundance in the early succession stage of biological soil crusts. <i>Biology and Fertility of Soils</i> , 2016 , 52, 595-599	6.1	8
26	Exopolysaccharide Features Influence Growth Success in Biocrust-forming Cyanobacteria, Moving From Liquid Culture to Sand Microcosms. <i>Frontiers in Microbiology</i> , 2020 , 11, 568224	5.7	8
25	Differentiation of microbial activity and functional diversity between various biocrust elements in a heterogeneous crustal community. <i>Catena</i> , 2016 , 147, 138-145	5.8	8
24	Exopolysaccharides in cyanobacterial biofilms from Roman catacombs. <i>Algological Studies</i> , 2005 , 117, 117-132		7
23	Carbohydrate synthesis by two Navicula strains isolated from benthic and pelagic mucilages in the Tyrrhenian Sea (Tuscan Archipelago). <i>Journal of Applied Phycology</i> , 2003 , 15, 259-261	3.2	7
22	Photosynthesis and Hydrogen Production in Purple Non Sulfur Bacteria: Fundamental and Applied Aspects. <i>Advances in Photosynthesis and Respiration</i> , 2014 , 269-290	1.7	7
21	Biotransformation of water lettuce (Pistia stratiotes) to biohydrogen by Rhodopseudomonas palustris. <i>Journal of Applied Microbiology</i> , 2017 , 123, 1438-1446	4.7	6
20	The facilitative effects of shrub on induced biological soil crust development and soil properties. <i>Applied Soil Ecology</i> , 2019 , 137, 129-138	5	6
19	Biosorption and Recovery of Chromium from Industrial Wastewaters By Using Saccharomyces cerevisiae in a Flow-Through System. <i>Industrial & Engineering Chemistry Research</i> , 2012 , 51, 4452-44	137	6
18	Overcoming field barriers to restore dryland soils by cyanobacteria inoculation. <i>Soil and Tillage Research</i> , 2021 , 207, 104799	6.5	6

17	Purple Bacteria: Electron Acceptors and Donors 2013 , 693-699		5
16	Combined Systems for Maximum Substrate Conversion 2012 , 107-126		5
15	Heavy Metal Removal with Exopolysaccharide-Producing Cyanobacteria. <i>Advances in Industrial and Hazardous Wastes Treatment Series</i> , 2009 ,		4
14	Differential proteomes of the cyanobacterium Cyanothece sp. CCY 0110 upon exposure to heavy metals. <i>Data in Brief</i> , 2015 , 4, 152-8	1.2	3
13	Cyanobacterial biocrust induction: A comprehensive review on a soil rehabilitation-effective biotechnology. <i>Geoderma</i> , 2022 , 415, 115766	6.7	3
12	Exopolysaccharides from cyanobacteria and their possible industrial applications 2013 , 197-207		2
11	Factors affecting poly-III hydroxybutyrate accumulation in cyanobacteria and in purple non-sulfur bacteria. <i>FEMS Microbiology Letters</i> , 1992 , 103, 187-194	2.9	2
10	Marine Cyanobacteria as a Potential Source of Biomass and Chemicals. <i>International Journal of Solar Energy</i> , 1988 , 6, 235-246		2
9	High Arctic biocrusts: characterization of the exopolysaccharidic matrix. <i>Polar Biology</i> , 2020 , 43, 1805-1	815	2
8	Multiple diversity facets of crucial microbial groups in biological soil crusts promote soil multifunctionality. <i>Global Ecology and Biogeography</i> , 2021 , 30, 1204-1217	6.1	2
7	Drought-tolerant cyanobacteria and mosses as biotechnological tools to attain land degradation neutrality. <i>Web Ecology</i> , 2021 , 21, 65-78	1.7	2
6	Rhizosheath-root system changes exopolysaccharide content but stabilizes bacterial community across contrasting seasons in a desert environment <i>Environmental Microbiomes</i> , 2022 , 17, 14	5.6	2
5	Phylogenetic, morphological and biochemical studies on Thermospirulina andreolii gen. & sp. nov. (Cyanophyta) from the Euganean Thermal District (Italy). <i>Phycologia</i> ,1-10	2.7	1
4	Heterotrophic metabolism and diazotrophic growth of Nostoc sp. from Cycas circinalis 1989 , 63-70		1
3	Monosaccharide composition of primary cell wall polysaccharides as a developmental level indicator of biological soil crusts. <i>Catena</i> , 2020 , 195, 104782	5.8	1
2	Comment on Kidron, G. J. (2018). Biocrust research: A critical view on eight common hydrological-related paradigms and dubious theses. Ecohydrology, e2061[[Ecohydrology, 2020, 13, e221]	15 ^{2.5}	1
1	New and traditional energy resources from microbial activities in the agroindustrial system. <i>Italian Journal of Agronomy</i> , 2009 , 4, 141	1.4	