Roberto De Philippis

List of Publications by Year
in descending order

126 papers	7,054 citations	57719 44 h-index	64755 79 g-index
134 all docs	134 docs citations	134 times ranked	5551 citing authors

#	Article	IF	Citations
1	Complexity of cyanobacterial exopolysaccharides: composition, structures, inducing factors and putative genes involved in their biosynthesis and assembly. FEMS Microbiology Reviews, 2009, 33, 917-941.	3.9	522
2	Exocellular polysaccharides from cyanobacteria and their possible applications. FEMS Microbiology Reviews, 1998, 22, 151-175.	3.9	346
3	Role of Cyanobacterial Exopolysaccharides in Phototrophic Biofilms and in Complex Microbial Mats. Life, 2015, 5, 1218-1238.	1.1	291
4	Exocellular polysaccharides from cyanobacteria and their possible applications. FEMS Microbiology Reviews, 1998, 22, 151-175.	3.9	272
5	Exopolysaccharide-producing cyanobacteria in heavy metal removal from water: molecular basis and practical applicability of the biosorption process. Applied Microbiology and Biotechnology, 2011, 92, 697-708.	1.7	246
6	Exopolysaccharide-producing cyanobacteria and their possible exploitation: A review. Journal of Applied Phycology, 2001, 13, 293-299.	1.5	240
7	Generation of superoxide anion and SOD activity in haemocytes and muscle of American white shrimp () Tj ETQq1 1 0.784314 rgBT /Ov 353-366.	1.6	217
8	Microbial secreted exopolysaccharides affect the hydrological behavior of induced biological soil crusts in desert sandy soils. Soil Biology and Biochemistry, 2014, 68, 62-70.	4.2	199
9	Cyanobacterial inoculation (cyanobacterisation): Perspectives for the development of a standardized multifunctional technology for soil fertilization and desertification reversal. Earth-Science Reviews, 2017, 171, 28-43.	4.0	159
10	Cyanobacteria Inoculation Improves Soil Stability and Fertility on Different Textured Soils: Gaining Insights for Applicability in Soil Restoration. Frontiers in Environmental Science, 2018, 6, .	1.5	159
11	The role of the exopolysaccharides in enhancing hydraulic conductivity of biological soil crusts. Soil Biology and Biochemistry, 2012, 46, 33-40.	4.2	148
12	Microbial extracellular polymeric substances improve water retention in dryland biological soil crusts. Soil Biology and Biochemistry, 2018, 116, 67-69.	4.2	144
13	Potential of Unicellular Cyanobacteria from Saline Environments as Exopolysaccharide Producers. Applied and Environmental Microbiology, 1998, 64, 1130-1132.	1.4	125
14	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?. Microbiology (United Kingdom), 2011, 157, 451-458.	0.7	118
15	Complex role of the polymeric matrix in biological soil crusts. Plant and Soil, 2018, 429, 19-34.	1.8	116
16	Exopolysaccharide production by a unicellular cyanobacterium isolated from a hypersaline habitat. Journal of Applied Phycology, 1993, 5, 387-394.	1.5	114
17	Photobioreactor design and illumination systems for H2 production with anoxygenic photosynthetic bacteria: A review. International Journal of Hydrogen Energy, 2014, 39, 3127-3141.	3.8	109
18	Characteristics and role of the exocellular polysaccharides produced by five cyanobacteria isolated from phototrophic biofilms growing on stone monuments. Biofouling, 2012, 28, 215-224.	0.8	104

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19	Effects of heavy metals on Cyanothece sp. CCY 0110 growth, extracellular polymeric substances (EPS) production, ultrastructure and protein profiles. Journal of Proteomics, 2015, 120, 75-94.	1.2	95
20	Selectivity in the heavy metal removal by exopolysaccharide-producing cyanobacteria. Journal of Applied Microbiology, 2008, 105, 88-94.	1.4	91
21	Production and characterization of extracellular carbohydrate polymer from Cyanothece sp. CCY 0110. Carbohydrate Polymers, 2013, 92, 1408-1415.	5.1	89
22	Macromolecular and chemical features of the excreted extracellular polysaccharides in induced biological soil crusts of different ages. Soil Biology and Biochemistry, 2014, 78, 1-9.	4.2	89
23	Glycogen and poly-Â-hydroxybutyrate synthesis in Spirulina maxima. Journal of General Microbiology, 1992, 138, 1623-1628.	2.3	84
24	Heavy metal sorption by released polysaccharides and whole cultures of two exopolysaccharide-producing cyanobacteria. Biodegradation, 2007, 18, 181-187.	1.5	77
25	Use of cyanobacterial polysaccharides to promote shrub performances in desert soils: a potential approach for the restoration of desertified areas. Biology and Fertility of Soils, 2013, 49, 143-152.	2.3	77
26	Occurrence of poly-beta-hydroxybutyrate in Spirulina species. Journal of Bacteriology, 1990, 172, 2791-2792.	1.0	74
27	Released polysaccharides (RPS) from Cyanothece sp. CCY 0110 as biosorbent for heavy metals bioremediation: interactions between metals and RPS binding sites. Applied Microbiology and Biotechnology, 2016, 100, 7765-7775.	1.7	72
28	Development of the polysaccharidic matrix in biocrusts induced by a cyanobacterium inoculated in sand microcosms. Biology and Fertility of Soils, 2018, 54, 27-40.	2.3	72
29	Assessment of the metal removal capability of two capsulated cyanobacteria, Cyanospira capsulata and Nostoc PCC7936. Journal of Applied Phycology, 2003, 15, 155-161.	1.5	69
30	Sustained outdoor H2 production with Rhodopseudomonas palustris cultures in a 50L tubular photobioreactor. International Journal of Hydrogen Energy, 2012, 37, 8840-8849.	3.8	65
31	Studies on exopolysaccharide release by diazotrophic batch cultures of Cyanospira capsulata. Applied Microbiology and Biotechnology, 1990, 34, 392-396.	1.7	64
32	Characterization of exopolysaccharides produced by seven biofilm-forming cyanobacterial strains for biotechnological applications. Journal of Applied Phycology, 2013, 25, 1697-1708.	1.5	64
33	Hydrogen production during stationary phase in purple photosynthetic bacteria. International Journal of Hydrogen Energy, 2008, 33, 6525-6534.	3.8	63
34	The potential of the cyanobacterium Leptolyngbya ohadii as inoculum for stabilizing bare sandy substrates. Soil Biology and Biochemistry, 2018, 127, 318-328.	4.2	61
35	Microbial fixation of CO2 in water bodies and in drylands to combat climate change, soil loss and desertification. New Biotechnology, 2015, 32, 109-120.	2.4	59
36	Exocellular Polysaccharides in Microalgae and Cyanobacteria: Chemical Features, Role and Enzymes and Genes Involved in Their Biosynthesis. , 2016, , 565-590.		59

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37	Hydrogen-producing purple non-sulfur bacteria isolated from the trophic lake Averno (Naples, Italy). International Journal of Hydrogen Energy, 2010, 35, 12216-12223.	3.8	56
38	Effects of growth conditions on exopolysaccharide production by Cyanospira capsulata. Bioresource Technology, 1991, 38, 101-104.	4.8	54
39	H and poly-Î²-hydroxybutyrate, two alternative chemicals from purple non sulfur bacteria. Biotechnology Letters, 1997, 19, 759-762.	1.1	51
40	Control of Lunar and Martian Dustâ€”Experimental Insights from Artificial and Natural Cyanobacterial and Algal Crusts in the Desert of Inner Mongolia, China. Astrobiology, 2008, 8, 75-86.	1.5	51
41	Bread wastes to energy: Sequential lactic and photo-fermentation for hydrogen production. International Journal of Hydrogen Energy, 2018, 43, 9569-9576.	3.8	51
42	Effect of light and temperature on biomass, photosynthesis and capsular polysaccharides in cultured phototrophic biofilms. Journal of Applied Phycology, 2012, 24, 211-220.	1.5	50
43	Soil Type and Cyanobacteria Species Influence the Macromolecular and Chemical Characteristics of the Polysaccharidic Matrix in Induced Biocrusts. Microbial Ecology, 2019, 78, 482-493.	1.4	48
44	Sheathless Mutant of Cyanobacterium <i>Gloeothece</i> sp. Strain PCC 6909 with Increased Capacity To Remove Copper Ions from Aqueous Solutions. Applied and Environmental Microbiology, 2008, 74, 2797-2804.	1.4	47
45	A Rhodopseudomonas palustris nifA* mutant produces H2 from -containing vegetable wastes. International Journal of Hydrogen Energy, 2012, 37, 15893-15900.	3.8	46
46	Capsular polysaccharides of cultured phototrophic biofilms. Biofouling, 2009, 25, 495-504.	0.8	45
47	Energy conversion of biomass crops and agroindustrial residues by combined biohydrogen/biomethane system and anaerobic digestion. Bioresource Technology, 2016, 211, 509-518.	4.8	45
48	Response of an exopolysaccharide-producing heterocystous cyanobacterium to changes in metabolic carbon flux. Journal of Applied Phycology, 1996, 8, 275-281.	1.5	42
49	Rhizosphere effect and salinity competing to shape microbial communities in<i>Phragmites australis</i>(Cav.) Trin. ex-Steud. FEMS Microbiology Letters, 2014, 359, 193-200.	0.7	41
50	Title is missing!. Journal of Applied Phycology, 2000, 12, 401-407.	1.5	38
51	Characterizing cultivable soil microbial communities from copper fungicide-amended olive orchard and vineyard soils. World Journal of Microbiology and Biotechnology, 2008, 24, 309-318.	1.7	38
52	Chemical composition of volatile oil from Artemisia ordosica and its allelopathic effects on desert soil microalgae, Palmellococcus miniatus. Plant Physiology and Biochemistry, 2012, 51, 153-158.	2.8	38
53	Optimization of copper sorbing?desorbing cycles with confined cultures of the exopolysaccharide-producing cyanobacterium Cyanospira capsulata. Journal of Applied Microbiology, 2006, 101, 1351-1356.	1.4	37
54	Cyanoflan: A cyanobacterial sulfated carbohydrate polymer with emulsifying properties. Carbohydrate Polymers, 2020, 229, 115525.	5.1	36

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55	Anti-Inflammatory Activity of Exopolysaccharides from Phormidium sp. ETS05, the Most Abundant Cyanobacterium of the Therapeutic Euganean Thermal Muds, Using the Zebrafish Model. Biomolecules, 2020, 10, 582.	1.8	35
56	Populations of exopolysaccharide-producing cyanobacteria and diatoms in the mucilaginous benthic aggregates of the Tyrrhenian Sea (Tuscan Archipelago). Science of the Total Environment, 2005, 353, 360-368.	3.9	34
57	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.	4.8	34
58	Cyanobacteria inoculation as a potential tool for stabilization of burned soils. Restoration Ecology, 2020, 28, S106.	1.4	34
59	Induced biological soil crusts and soil properties varied between slope aspect, slope gradient and plant canopy in the Hobq desert of China. Catena, 2020, 190, 104559.	2.2	34
60	Leptolyngbya strains from Roman hypogea: cytochemical and physico-chemical characterisation of exopolysaccharides. Journal of Applied Phycology, 2003, 15, 193-200.	1.5	33
61	Treatment of Cr(VI)-containing wastewaters with exopolysaccharide-producing cyanobacteria in pilot flow through and batch systems. Applied Microbiology and Biotechnology, 2010, 87, 1953-1961.	1.7	33
62	Factors affecting poly-ÃŽÂ²-hydroxybutyrate accumulation in cyanobacteria and in purple non-sulfur bacteria. FEMS Microbiology Letters, 1992, 103, 187-194.	0.7	32
63	UV-B resistance as a criterion for the selection of desert microalgae to be utilized for inoculating desert soils. Journal of Applied Phycology, 2013, 25, 1009-1015.	1.5	32
64	Acclimation strategy of Rhodopseudomonas palustris to high light irradiance. Microbiological Research, 2017, 197, 49-55.	2.5	32
65	Selective biosorption and recovery of Ruthenium from industrial effluents with Rhodopseudomonas palustris strains. Applied Microbiology and Biotechnology, 2012, 95, 381-387.	1.7	30
66	The alternative sigma factor SigF is a key player in the control of secretion mechanisms in <i>Synechocystis</i> sp. PCC 6803. Environmental Microbiology, 2019, 21, 343-359.	1.8	29
67	Assembly and Export of Extracellular Polymeric Substances (EPS) in Cyanobacteria. Advances in Botanical Research, 2013, 65, 235-279.	0.5	28
68	Shifting Species Interaction in Soil Microbial Community and Its Influence on Ecosystem Functions Modulating. Microbial Ecology, 2013, 65, 700-708.	1.4	28
69	Agroindustrial residues and energy crops for the production of hydrogen and poly-Î²-hydroxybutyrate via photofermentation. Bioresource Technology, 2016, 216, 941-947.	4.8	28
70	Seasonal succession of phototrophic biofilms in an Italian wastewater treatment plant: biovolume, spatial structure and exopolysaccharides. Aquatic Microbial Ecology, 2006, 45, 301-312.	0.9	28
71	Title is missing!. World Journal of Microbiology and Biotechnology, 2000, 16, 655-661.	1.7	27
72	The role of grain size and inoculum amount on biocrust formation by Leptolyngbya ohadii. Catena, 2020, 184, 104248.	2.2	27

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73	Hydrogen production under salt stress conditions by a freshwater Rhodopseudomonas palustris strain. Applied Microbiology and Biotechnology, 2016, 100, 2917-2926.	1.7	26
74	The role of the tyrosine kinase Wzc (Sll0923) and the phosphatase Wzb (Slr0328) in the production of extracellular polymeric substances (EPS) by <i>Synechocystis</i> PCC 6803. MicrobiologyOpen, 2019, 8, e00753.	1.2	26
75	Exopolysaccharides of Two Cyanobacterial Strains from Roman Hypogea. Geomicrobiology Journal, 2006, 23, 301-310.	1.0	25
76	Stability of molecular and rheological properties of the exopolysaccharide produced byCyanospira capsulata cultivated under different growth conditions. Journal of Applied Phycology, 1993, 5, 539-541.	1.5	24
77	Rheology of culture broths and exopolysaccharide of Cyanospira capsulata at different stages of growth. Carbohydrate Polymers, 1992, 17, 1-10.	5.1	23
78	Gold biosorption by exopolysaccharide producing cyanobacteria and purple nonsulphur bacteria. Journal of Applied Microbiology, 2012, 113, 1380-1388.	1.4	23
79	Differentiation of the characteristics of excreted extracellular polysaccharides reveals the heterogeneous primary succession of induced biological soil crusts. Journal of Applied Phycology, 2015, 27, 1935-1944.	1.5	23
80	Cyanobacterial biocrust induction: A comprehensive review on a soil rehabilitation-effective biotechnology. Geoderma, 2022, 415, 115766.	2.3	23
81	H2 production in Rhodopseudomonas palustris as a way to cope with high light intensities. Research in Microbiology, 2016, 167, 350-356.	1.0	22
82	Mixotrophic cultivation of Chlorococcum sp. under non-controlled conditions using a digestate from pig manure within a biorefinery. Journal of Applied Phycology, 2018, 30, 2847-2857.	1.5	22
83	Introducing capnophilic lactic fermentation in a combined dark-photo fermentation process: a route to unparalleled H2 yields. Applied Microbiology and Biotechnology, 2015, 99, 1001-1010.	1.7	21
84	Pore characteristics in biological soil crusts are independent of extracellular polymeric substances. Soil Biology and Biochemistry, 2016, 103, 294-299.	4.2	21
85	Exopolysaccharide Features Influence Growth Success in Biocrust-forming Cyanobacteria, Moving From Liquid Culture to Sand Microcosms. Frontiers in Microbiology, 2020, 11, 568224.	1.5	21
86	A novel method to evaluate nutrient retention by biological soil crust exopolymeric matrix. Plant and Soil, 2018, 429, 53-64.	1.8	20
87	Increased algicidal activity ofAeromonas veroniiin response toMicrocystis aeruginosa: interspecies crosstalk and secondary metabolites synergism. Environmental Microbiology, 2019, 21, 1140-1150.	1.8	20
88	Effectiveness ofCyanothece spp. andCyanospira capsulata exocellular polysaccharides as antiadhesive agents for blocking attachment ofHelicobacter pylori to human gastric cells. Folia Microbiologica, 2004, 49, 64-70.	1.1	19
89	Cyanobacteria in biofilms on stone temples of Bhubaneswar, Eastern India. Algological Studies (Stuttgart, Germany: 2007), 2015, 147, 67-93.	0.4	18
90	Overcoming field barriers to restore dryland soils by cyanobacteria inoculation. Soil and Tillage Research, 2021, 207, 104799.	2.6	18

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91	Two halophilic Ectothiorhodospira strains with unusual morphological, physiological and biochemical characters. Archives of Microbiology, 1988, 149, 273-279.	1.0	17
92	Biosorption of Copper by Cyanobacterial Bloom-Derived Biomass Harvested from the Eutrophic Lake Dianchi in China. Current Microbiology, 2010, 61, 340-345.	1.0	17
93	Characterization and antitumor activity of the extracellular carbohydrate polymer from the cyanobacterium Synechocystis Î”sigF mutant. International Journal of Biological Macromolecules, 2019, 136, 1219-1227.	3.6	17
94	Identification of aqueous extracts from Artemisia ordosica and their allelopathic effects on desert soil algae. Chemoecology, 2019, 29, 61-71.	0.6	17
95	Multiple diversity facets of crucial microbial groups in biological soil crusts promote soil multifunctionality. Global Ecology and Biogeography, 2021, 30, 1204-1217.	2.7	16
96	The facilitative effects of shrub on induced biological soil crust development and soil properties. Applied Soil Ecology, 2019, 137, 129-138.	2.1	15
97	Heterotrophic metabolism and diazotrophic growth ofNostoc sp. fromCycas circinalis. Plant and Soil, 1988, 110, 199-206.	1.8	14
98	Hydrogen Production: Photofermentation. , 2012, , 53-75.		14
99	Differentiation of microbial activity and functional diversity between various biocrust elements in a heterogeneous crustal community. Catena, 2016, 147, 138-145.	2.2	14
100	Drought-tolerant cyanobacteria and mosses as biotechnological tools to attain land degradation neutrality. Web Ecology, 2021, 21, 65-78.	0.4	14
101	Ammonia photoproduction byCyanospira rippkae cells â€˜entrappedâ€™ in dialysis tube. Experientia, 1986, 42, 1040-1043.	1.2	13
102	Rhizosheathâ€“root system changes exopolysaccharide content but stabilizes bacterial community across contrasting seasons in a desert environment. Environmental Microbiomes, 2022, 17, 14.	2.2	13
103	Draft genome sequence and overview of the purple non sulfur bacterium Rhodopseudomonas palustris 42OL. Standards in Genomic Sciences, 2016, 11, 24.	1.5	12
104	Photosynthetic Purple Non Sulfur Bacteria in Hydrogen Producing Systems: New Approaches in the Use of Well Known and Innovative Substrates. , 2017, , 321-350.		11
105	The role of hydrogen metabolism in photoheterotrophic cultures of the cyanobacterium Nostoc sp. strain Cc isolated from Cycas circinalis L.. Journal of General Microbiology, 1990, 136, 1009-1015.	2.3	10
106	Use of quantitative PCR with the chloroplast gene rps4 to determine moss abundance in the early succession stage of biological soil crusts. Biology and Fertility of Soils, 2016, 52, 595-599.	2.3	9
107	Biotransformation of water lettuce (Pistia stratiotes) to biohydrogen by Rhodopseudomonas palustris. Journal of Applied Microbiology, 2017, 123, 1438-1446.	1.4	9
108	Biosorption and Recovery of Chromium from Industrial Wastewaters By Using Saccharomyces cerevisiae in a Flow-Through System. Industrial & Engineering Chemistry Research, 2012, 51, 4452-4457.	1.8	8

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109	Monosaccharide composition of primary cell wall polysaccharides as a developmental level indicator of biological soil crusts. Catena, 2020, 195, 104782.	2.2	8
110	Carbohydrate synthesis by two Navicula strains isolated from benthic and pelagic mucilages in the Tyrrhenian Sea (Tuscan Archipelago). Journal of Applied Phycology, 2003, 15, 259-261.	1.5	7
111	Exopolysaccharides in cyanobacterial biofilms from Roman catacombs. Algological Studies, 2005, 117, 117-132.	0.1	7
112	Combined Systems for Maximum Substrate Conversion. , 2012, , 107-126.		7
113	Photosynthesis and Hydrogen Production in Purple Non Sulfur Bacteria: Fundamental and Applied Aspects. Advances in Photosynthesis and Respiration, 2014, , 269-290.	1.0	7
114	In vivo anti-inflammatory and antioxidant effects of microbial polysaccharides extracted from Euganean therapeutic muds. International Journal of Biological Macromolecules, 2022, 209, 1710-1719.	3.6	7
115	Purple Bacteria: Electron Acceptors and Donors. , 2013, , 693-699.		5
116	Marine Cyanobacteria as a Potential Source of Biomass and Chemicals. International Journal of Solar Energy, 1988, 6, 235-246.	0.2	4
117	Heavy Metal Removal with Exopolysaccharide-Producing Cyanobacteria. Advances in Industrial and Hazardous Wastes Treatment Series, 2009, , .	0.0	4
118	High Arctic biocrusts: characterization of the exopolysaccharidic matrix. Polar Biology, 2020, 43, 1805-1815.	0.5	4
119	Heterotrophic metabolism and diazotrophic growth of Nostoc sp. from Cycas circinalis. , 1989, , 63-70.		4
120	Differential proteomes of the cyanobacterium Cyanothece sp. CCY 0110 upon exposure to heavy metals. Data in Brief, 2015, 4, 152-158.	0.5	3
121	Factors affecting poly-Î²-hydroxybutyrate accumulation in cyanobacteria and in purple non-sulfur bacteria. FEMS Microbiology Letters, 1992, 103, 187-194.	0.7	2
122	Phylogenetic, morphological and biochemical studies on <i>Thermospirulina andreolii gen</i>. & <i>sp. nov</i>. (Cyanophyta) from the Euganean Thermal District (Italy). Phycologia, 2021, 60, 487-496.	0.6	2
123	Sheathless Mutant of Cyanobacterium <i>Gloeothece</i> sp. Strain PCC 6909 with Increased Capacity To Remove Copper Ions from Aqueous Solutions. Applied and Environmental Microbiology, 2008, 74, 5266-5266.	1.4	1
124	Comment on â€˜Kidron, G. J. (2018). Biocrust research: A critical view on eight common hydrologicalâ€related paradigms and dubious theses. <i>Ecohydrology</i>, e2061â€™. Ecohydrology, 2020, 13, e2215.	1.1	1
125	New and traditional energy resources from microbial activities in the agroindustrial system. Italian Journal of Agronomy, 2009, 4, 141.	0.4	0
126	Microbial fixation of CO2 in water bodies and in drylands to combat climate change, soil loss and desertification. New Biotechnology, 2014, 31, S25.	2.4	0