Maria Dittrich

List of Publications by Year
in descending order

65 papers	3,009 citations	147801 31 h-index	161849 54 g-index
69 all docs	69 docs citations	69 times ranked	3221 citing authors

#	Article	IF	Citations
1	Carbonate Precipitation through Microbial Activities in Natural Environment, and Their Potential in Biotechnology: A Review. Frontiers in Bioengineering and Biotechnology, 2016, 4, 4.	4.1	411
2	Aerobic microbial dolomite at the nanometer scale: Implications for the geologic record. Geology, 2008, 36, 879.	4.4	213
3	Cell surface groups of two picocyanobacteria strains studied by zeta potential investigations, potentiometric titration, and infrared spectroscopy. Journal of Colloid and Interface Science, 2005, 286, 487-495.	9.4	156
4	Scientistsâ€™ Warning to Humanity: Rapid degradation of the worldâ€™s large lakes. Journal of Great Lakes Research, 2020, 46, 686-702.	1.9	140
5	Are Picoplankton Responsible for Calcite Precipitation in Lakes?. Ambio, 2004, 33, 559-564.	5.5	125
6	CaCO₃ nucleation by cyanobacteria: laboratory evidence for a passive, surfaceâ€induced mechanism. Geobiology, 2009, 7, 324-347.	2.4	101
7	The Role of Autotrophic Picocyanobacteria in Calcite Precipitation in an Oligotrophic Lake. Geomicrobiology Journal, 2004, 21, 45-53.	2.0	95
8	Internal loading of phosphorus in western Lake Erie. Journal of Great Lakes Research, 2016, 42, 775-788.	1.9	92
9	Phosphorus retention in a mesotrophic lake under transient loading conditions: Insights from a sediment phosphorus binding form study. Water Research, 2013, 47, 1433-1447.	11.3	75
10	Lake restoration by hypolimnetic Ca(OH)2 treatment: Impact on phosphorus sedimentation and release from sediment. Science of the Total Environment, 2011, 409, 1504-1515.	8.0	70
11	Atomic force microscope (AFM) combined with the ultramicrotome: a novel device for the serial section tomography and AFM/TEM complementary structural analysis of biological and polymer samples. Journal of Microscopy, 2007, 226, 207-216.	1.8	66
12	Induced Calcite Precipitation by CyanobacteriumSynechococcus. Clean - Soil, Air, Water, 2003, 31, 162-169.	0.6	65
13	Potential application of biomineralization by Synechococcus PCC8806 for concrete restoration. Ecological Engineering, 2015, 82, 459-468.	3.6	64
14	TEM-specimen preparation of cell/mineral interfaces by Focused Ion Beam milling. American Mineralogist, 2005, 90, 1270-1277.	1.9	61
15	Fourier Transform Infrared Spectroscopy for Molecular Analysis of Microbial Cells. Methods in Molecular Biology, 2012, 881, 187-211.	0.9	60
16	Title is missing!. Hydrobiologia, 2002, 469, 49-57.	2.0	57
17	Modeling of decadal scale phosphorus retention in lake sediment under varying redox conditions. Ecological Modelling, 2013, 251, 246-259.	2.5	57
18	Calcium carbonate precipitation by cyanobacterial polysaccharides. Geological Society Special Publication, 2010, 336, 51-63.	1.3	56

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19	Biogeochemical mechanisms controlling phosphorus diagenesis and internal loading in a remediated hard water eutrophic embayment. Chemical Geology, 2019, 514, 122-137.	3.3	52
20	Influence of organic carbon decomposition on calcite dissolution in surficial sediments of a freshwater lake. Water Research, 2003, 37, 4524-4532.	11.3	46
21	Improving the representation of internal nutrient recycling with phosphorus mass balance models: A case study in the Bay of Quinte, Ontario, Canada. Ecological Modelling, 2013, 256, 53-68.	2.5	45
22	Use of GC and equilibrium calculations of CO 2 saturation index to indicate whether freshwater bodies in north-eastern Germany are net sources or sinks for atmospheric CO 2. Fresenius' Journal of Analytical Chemistry, 1998, 361, 47-53.	1.5	42
23	A balance analysis of phosphorus elimination by artificial calcite precipitation in a stratified hardwater lake. Water Research, 1997, 31, 237-248.	11.3	41
24	Calcite dissolution in two deep eutrophic lakes. Geochimica Et Cosmochimica Acta, 1999, 63, 3349-3356.	3.9	39
25	New organic matter degradation proxies: Valid in lake systems?. Limnology and Oceanography, 2004, 49, 2023-2033.	3.1	39
26	Silicon: The key element in early stages of biocalcification. Journal of Structural Biology, 2011, 174, 180-186.	2.8	38
27	Dynamic polyphosphate metabolism in cyanobacteria responding to phosphorus availability. Environmental Microbiology, 2019, 21, 572-583.	3.8	38
28	Microbial community composition and dolomite formation in the hypersaline microbial mats of the Khor Al-Adaid sabkhas, Qatar. Extremophiles, 2019, 23, 201-218.	2.3	37
29	Influence of H+ and Calcium Ions on Surface Functional Groups of Synechococcus PCC 7942 Cells. Langmuir, 2006, 22, 5435-5442.	3.5	35
30	2D Raman spectroscopy study of dolomite and cyanobacterial extracellular polymeric substances from Khor Alâ€Adaid sabkha (Qatar). Journal of Raman Spectroscopy, 2013, 44, 1563-1569.	2.5	35
31	Lake sediments during the transient eutrophication period: Reactive-transport model and identifiability study. Ecological Modelling, 2009, 220, 2751-2769.	2.5	32
32	CaCO3 biomineralization on cyanobacterial surfaces: Insights from experiments with three Synechococcus strains. Colloids and Surfaces B: Biointerfaces, 2013, 111, 600-608.	5.0	32
33	Assessment of cyanobacterial species for carbonate precipitation on mortar surface under different conditions. Ecological Engineering, 2018, 120, 154-163.	3.6	31
34	Characterization of the extracellular polymeric substances (EPS) of Virgibacillus strains capable of mediating the formation of high Mg-calcite and protodolomite. Marine Chemistry, 2019, 216, 103693.	2.3	31
35	Calcium adsorption and changes of the surface microtopography of cyanobacteria studied by AFM, CFM, and TEM with respect to biogenic calcite nucleation. Geochemistry, Geophysics, Geosystems, 2006, 7, n/a-n/a.	2.5	30
36	Phosphorus retention and internal loading in the Bay of Quinte, Lake Ontario, using diagenetic modelling. Science of the Total Environment, 2018, 636, 39-51.	8.0	30

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37	Modern dolomite formation caused by seasonal cycling of oxygenic phototrophs and anoxygenic phototrophs in a hypersaline sabkha. Scientific Reports, 2021, 11, 4170.	3.3	30
38	The role of chitin-rich skeletal organic matrix on the crystallization of calcium carbonate in the crustose coralline alga Leptophytum foecundum. Scientific Reports, 2019, 9, 11869.	3.3	28
39	Continuous Bayesian Network for Studying the Causal Links between Phosphorus Loading and Plankton Patterns in Lake Simcoe, Ontario, Canada. Environmental Science & Technology, 2012, 46, 7283-7292.	10.0	27
40	Evidence of microbiocoenosis in the formation of laminae in modern stromatolites. Facies, 2014, 60, 3-13.	1.4	25
41	Dynamics of P-binding forms in sediments of a mesotrophic hard-water lake: Insights from non-steady state reactive-transport modeling, sensitivity and identifiability analysis. Chemical Geology, 2013, 354, 216-232.	3.3	23
42	Integration of best management practices in the Bay of Quinte watershed with the phosphorus dynamics in the receiving waterbody: What do the models predict?. Aquatic Ecosystem Health and Management, 2016, 19, 1-18.	0.6	22
43	Can simple phosphorus mass balance models guide management decisions? A case study in the Bay of Quinte, Ontario, Canada. Ecological Modelling, 2013, 257, 66-79.	2.5	21
44	Examination of the role of dreissenids and macrophytes in the phosphorus dynamics of Lake Simcoe, Ontario, Canada. Ecological Informatics, 2015, 26, 36-53.	5.2	17
45	Picoplankton accumulate and recycle polyphosphate to support high primary productivity in coastal Lake Ontario. Scientific Reports, 2019, 9, 19563.	3.3	16
46	Geochemical controls on internal phosphorus loading in Lake of the Woods. Chemical Geology, 2020, 558, 119873.	3.3	16
47	Calcification on mortar by live and UV-killed biofilm-forming cyanobacterial Gloeocapsa PCC73106. Construction and Building Materials, 2017, 146, 43-53.	7.2	15
48	Effects of Phosphorus in Growth Media on Biomineralization and Cell Surface Properties of Marine Cyanobacteria Synechococcus. Geosciences (Switzerland), 2018, 8, 471.	2.2	15
49	Living under an atomic force microscope. An optimized approach for in vivo investigations on surface alterations towards biomineral nucleation on cyanobacterial cells. Geobiology, 2005, 3, 179-193.	2.4	12
50	Microorganisms, mineral surfaces, and aquatic environments: Learning from the past for future progress. Geobiology, 2008, 6, 201-213.	2.4	12
51	Reduction of industrial iron pollution promotes phosphorus internal loading in eutrophic Hamilton Harbour, Lake Ontario, Canada. Environmental Pollution, 2019, 252, 697-705.	7.5	11
52	Lake Malawi sediment and pore water chemistry: Proposition of a conceptual model for stratification intensification since the end of the Little Ice Age. Global and Planetary Change, 2010, 72, 321-330.	3.5	9
53	Modeling the interplay between deepwater oxygen dynamics and sediment diagenesis in a hard-water mesotrophic lake. Ecological Informatics, 2016, 31, 59-69.	5.2	9
54	Proto-dolomite formation in microbial consortia dominated by Halomonas strains. Extremophiles, 2019, 23, 765-781.	2.3	9

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55	Geomicrobiology of Iron Layers in the Sediment of Lake Superior. Aquatic Geochemistry, 2015, 21, 123-140.	1.3	8
56	Speciation and bioavailability of particulate phosphorus in forested karst watersheds of southern Ontario during rain events. Journal of Great Lakes Research, 2020, 46, 824-838.	1.9	8
57	Systematic laboratory approach to produce Mg-rich carbonates at low temperature. RSC Advances, 2021, 11, 37029-37039.	3.6	8
58	Evidence for the biogenic origin of manganeseâ€enriched layers in Lake Superior sediments. Environmental Microbiology Reports, 2016, 8, 179-186.	2.4	7
59	Organomineralization of proto-dolomite by a phototrophic microbial mat extracellular polymeric substances: Control of crystal size and its implication for carbonate depositional systems. Numerische Mathematik, 2020, 320, 72-95.	1.4	6
60	Dolomite genesis in bioturbated marine zones of an early-middle Miocene coastal mud volcano outcrop (Kuwait). Scientific Reports, 2021, 11, 6636.	3.3	6
61	Attachment on mortar surfaces by cyanobacterium Gloeocapsa PCC 73106 and sequestration of CO₂ by microbially induced calcium carbonate. MicrobiologyOpen, 2021, 10, e1243.	3.0	5
62	Utility of far-field effects from tip-assisted Raman spectroscopy for the detection of a monolayer of diblock copolymer reverse micelles for nanolithography. Physical Chemistry Chemical Physics, 2021, 23, 11065-11074.	2.8	3
63	Examining the Ability of Aerobic Halophilic Heterotrophic Microbial Consortia to Replace Ca by Mg in Different CaCO3 Precursors. Frontiers in Microbiology, 2022, 13, 791286.	3.5	2
64	Microbial Mats from the Khor Al-Adaid Sabkha, Qatar: Morphotypes and Association with Authigenic Minerals. , 2016, , .		1
65	Environmentally friendly antibiofilm strategy based on cationized phytoglycogen nanoparticles. Colloids and Surfaces B: Biointerfaces, 2021, 207, 111975.	5.0	1