

Filip J R Meysman

List of Publications by Year in descending order

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121
papers

7,548
citations

57758

44
h-index

62596

80
g-index

139
all docs

139
docs citations

139
times ranked

8788
citing authors

#	ARTICLE	IF	CITATIONS
1	Anthropogenic perturbation of the carbon fluxes from land to ocean. <i>Nature Geoscience</i> , 2013, 6, 597-607.	12.9	937
2	Bioturbation: a fresh look at Darwin's last idea. <i>Trends in Ecology and Evolution</i> , 2006, 21, 688-695.	8.7	666
3	The effect of biogeochemical processes on pH. <i>Marine Chemistry</i> , 2007, 105, 30-51.	2.3	199
4	Marine-terminating glaciers sustain high productivity in Greenland fjords. <i>Global Change Biology</i> , 2017, 23, 5344-5357.	9.5	192
5	Temperature excludes N ₂ -fixing heterocystous cyanobacteria in the tropical oceans. <i>Nature</i> , 2003, 425, 504-507.	27.8	157
6	Cold-water coral reefs and adjacent sponge grounds: hotspots of benthic respiration and organic carbon cycling in the deep sea. <i>Frontiers in Marine Science</i> , 2015, 2, .	2.5	142
7	Relations between local, nonlocal, discrete and continuous models of bioturbation. <i>Journal of Marine Research</i> , 2003, 61, 391-410.	0.3	139
8	Olivine Dissolution in Seawater: Implications for CO ₂ Sequestration through Enhanced Weathering in Coastal Environments. <i>Environmental Science & Technology</i> , 2017, 51, 3960-3972.	10.0	139
9	Cable bacteria generate a firewall against euxinia in seasonally hypoxic basins. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 13278-13283.	7.1	130
10	On the evolution and physiology of cable bacteria. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 19116-19125.	7.1	127
11	Natural occurrence of microbial sulphur oxidation by long-range electron transport in the seafloor. <i>ISME Journal</i> , 2014, 8, 1843-1854.	9.8	126
12	Bioirrigation in permeable sediments: Advective pore-water transport induced by burrow ventilation. <i>Limnology and Oceanography</i> , 2006, 51, 142-156.	3.1	117
13	Quantifying Food Web Flows Using Linear Inverse Models. <i>Ecosystems</i> , 2010, 13, 32-45.	3.4	113
14	Global maps of soil temperature. <i>Global Change Biology</i> , 2022, 28, 3110-3144.	9.5	113
15	Cable Bacteria Control Iron-Phosphorus Dynamics in Sediments of a Coastal Hypoxic Basin. <i>Environmental Science & Technology</i> , 2016, 50, 1227-1233.	10.0	112
16	Reactive transport in aquatic ecosystems: Rapid model prototyping in the open source software R. <i>Environmental Modelling and Software</i> , 2012, 32, 49-60.	4.5	106
17	Microbial carbon metabolism associated with electrogenic sulphur oxidation in coastal sediments. <i>ISME Journal</i> , 2015, 9, 1966-1978.	9.8	104
18	Long-distance electron transport in individual, living cable bacteria. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 5786-5791.	7.1	104

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19	Quantification of sediment reworking rates in bioturbation research: a review. <i>Aquatic Biology</i> , 2008, 2, 219-238.	1.4	103
20	The geochemical fingerprint of microbial long-distance electron transport in the seafloor. <i>Geochimica Et Cosmochimica Acta</i> , 2015, 152, 122-142.	3.9	94
21	Dead or alive? Viability assessment of micro- and mesoplankton. <i>Journal of Plankton Research</i> , 2012, 34, 493-509.	1.8	93
22	A highly conductive fibre network enables centimetre-scale electron transport in multicellular cable bacteria. <i>Nature Communications</i> , 2019, 10, 4120.	12.8	91
23	Long-distance electron transport occurs globally in marine sediments. <i>Biogeosciences</i> , 2017, 14, 683-701.	3.3	84
24	Distribution, origin and cycling of carbon in the Tana River (Kenya): a dry season basin-scale survey from headwaters to the delta. <i>Biogeosciences</i> , 2009, 6, 2475-2493.	3.3	80
25	Variable Importance of Macrofaunal Functional Biodiversity for Biogeochemical Cycling in Temperate Coastal Sediments. <i>Ecosystems</i> , 2014, 17, 720.	3.4	78
26	Modeling reactive transport in sediments subject to bioturbation and compaction. <i>Geochimica Et Cosmochimica Acta</i> , 2005, 69, 3601-3617.	3.9	77
27	Quantification of denitrification in permeable sediments: Insights from a two-dimensional simulation analysis and experimental data. <i>Limnology and Oceanography: Methods</i> , 2006, 4, 294-307.	2.0	77
28	AquaEnv : An Aquatic Acid-Base Modelling Environment in R. <i>Aquatic Geochemistry</i> , 2010, 16, 507-546.	1.3	77
29	The Influence of Bioturbation on Iron and Sulphur Cycling in Marine Sediments: A Model Analysis. <i>Aquatic Geochemistry</i> , 2016, 22, 469-504.	1.3	76
30	Negative CO ₂ emissions via enhanced silicate weathering in coastal environments. <i>Biology Letters</i> , 2017, 13, 20160905.	2.3	74
31	The impact of electrogenic sulfide oxidation on elemental cycling and solute fluxes in coastal sediment. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 172, 265-286.	3.9	73
32	Cable Bacteria Take a New Breath Using Long-Distance Electricity. <i>Trends in Microbiology</i> , 2018, 26, 411-422.	7.7	73
33	Impact of cable bacteria on sedimentary iron and manganese dynamics in a seasonally-hypoxic marine basin. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 192, 49-69.	3.9	70
34	Reprint of "The effect of biogeochemical processes on pH". <i>Marine Chemistry</i> , 2007, 106, 380-401.	2.3	68
35	Reactive transport in surface sediments. II. Media: an object-oriented problem-solving environment for early diagenesis. <i>Computers and Geosciences</i> , 2003, 29, 301-318.	4.2	67
36	Rapid Sediment Accumulation Results in High Methane Effluxes from Coastal Sediments. <i>PLoS ONE</i> , 2016, 11, e0161609.	2.5	67

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37	OCEAN SCIENCE: Burial at Sea. <i>Science</i> , 2007, 316, 1294-1295.	12.6	65
38	Ecosystem functioning and maximum entropy production: a quantitative test of hypotheses. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2010, 365, 1405-1416.	4.0	63
39	Multicomponent ionic diffusion in porewaters: Coulombic effects revisited. <i>Earth and Planetary Science Letters</i> , 2004, 222, 653-666.	4.4	60
40	Early Palaeozoic ocean anoxia and global warming driven by the evolution of shallow burrowing. <i>Nature Communications</i> , 2018, 9, 2554.	12.8	56
41	The impact of electrogenic sulfur oxidation on the biogeochemistry of coastal sediments: A field study. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 194, 211-232.	3.9	54
42	Division of labor and growth during electrical cooperation in multicellular cable bacteria. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 5478-5485.	7.1	54
43	Spring bloom dynamics in a subarctic fjord influenced by tidewater outlet glaciers (Godthåbsfjord, Greenland). <i>Overton</i> , 2020, 1, 1-14.	0.78	14
44	The Cell Envelope Structure of Cable Bacteria. <i>Frontiers in Microbiology</i> , 2018, 9, 3044.	3.5	53
45	Predicted tortuosity of muds. <i>Geology</i> , 2006, 34, 693.	4.4	50
46	Carbonate compensation dynamics. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	50
47	The impact of scrubber discharge on the water quality in estuaries and ports. <i>Environmental Sciences Europe</i> , 2020, 32, .	5.5	48
48	Integrating sediment biogeochemistry into 3D oceanic models: A study of benthic-pelagic coupling in the Black Sea. <i>Ocean Modelling</i> , 2016, 101, 83-100.	2.4	47
49	Bio-irrigation in permeable sediments: An assessment of model complexity. <i>Journal of Marine Research</i> , 2006, 64, 589-627.	0.3	46
50	The influence of pore-water advection, benthic photosynthesis, and respiration on calcium carbonate dynamics in reef sands. <i>Limnology and Oceanography</i> , 2012, 57, 809-825.	3.1	46
51	Electrogenic Sulfur Oxidation by Cable Bacteria in Bivalve Reef Sediments. <i>Frontiers in Marine Science</i> , 2017, 4, .	2.5	44
52	Alkalinity production in intertidal sands intensified by lugworm bioirrigation. <i>Estuarine, Coastal and Shelf Science</i> , 2014, 148, 36-47.	2.1	43
53	Anthropogenic disturbance keeps the coastal seafloor biogeochemistry in a transient state. <i>Scientific Reports</i> , 2018, 8, 5582.	3.3	43
54	Abundance and Biogeochemical Impact of Cable Bacteria in Baltic Sea Sediments. <i>Environmental Science & Technology</i> , 2019, 53, 7494-7503.	10.0	43

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55	A thermodynamic perspective on food webs: Quantifying entropy production within detrital-based ecosystems. <i>Journal of Theoretical Biology</i> , 2007, 249, 124-139.	1.7	41
56	Influence of advective bio-irrigation on carbon and nitrogen cycling in sandy sediments. <i>Journal of Marine Research</i> , 2008, 66, 691-722.	0.3	39
57	Improved methodology for measuring pore patterns in the benthic foraminiferal genus <i>Ammonia</i> . <i>Marine Micropaleontology</i> , 2016, 128, 1-13.	1.2	38
58	Biological rejuvenation of iron oxides in bioturbated marine sediments. <i>ISME Journal</i> , 2018, 12, 1389-1394.	9.8	38
59	Cable bacteria promote DNRA through iron sulfide dissolution. <i>Limnology and Oceanography</i> , 2019, 64, 1228-1238.	3.1	38
60	Transient bottom water oxygenation creates a niche for cable bacteria in long-term anoxic sediments of the Eastern Gotland Basin. <i>Environmental Microbiology</i> , 2018, 20, 3031-3041.	3.8	37
61	When and why does bioturbation lead to diffusive mixing?. <i>Journal of Marine Research</i> , 2010, 68, 881-920.	0.3	36
62	Steady-state tracer dynamics in a lattice-automaton model of bioturbation. <i>Geochimica Et Cosmochimica Acta</i> , 2006, 70, 5855-5867.	3.9	35
63	A generalized stochastic approach to particle dispersal in soils and sediments. <i>Geochimica Et Cosmochimica Acta</i> , 2008, 72, 3460-3478.	3.9	35
64	An Assessment of the Precision and Confidence of Aquatic Eddy Correlation Measurements. <i>Journal of Atmospheric and Oceanic Technology</i> , 2015, 32, 642-655.	1.3	35
65	Diffusion in a lattice-automaton model of bioturbation by small deposit feeders. <i>Journal of Marine Research</i> , 2001, 59, 749-768.	0.3	33
66	Reactive transport in surface sediments. I. Model complexity and software quality. <i>Computers and Geosciences</i> , 2003, 29, 291-300.	4.2	33
67	Acid-volatile sulfide (AVS) – A comment. <i>Marine Chemistry</i> , 2005, 97, 206-212.	2.3	33
68	Molybdenum dynamics in sediments of a seasonally-hypoxic coastal marine basin. <i>Chemical Geology</i> , 2017, 466, 627-640.	3.3	33
69	Mn-Ca intra- and inter-test variability in the benthic foraminifer <i>Ammonia tepida</i> . <i>Biogeosciences</i> , 2018, 15, 331-348.	3.3	33
70	Ongoing transients in carbonate compensation. <i>Global Biogeochemical Cycles</i> , 2010, 24, .	4.9	32
71	Gas hydrate dissociation prolongs acidification of the Anthropocene oceans. <i>Geophysical Research Letters</i> , 2015, 42, 9337.	4.0	32
72	Impact of electrogenic sulfur oxidation on trace metal cycling in a coastal sediment. <i>Chemical Geology</i> , 2017, 452, 9-23.	3.3	32

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73	Efficient long-range conduction in cable bacteria through nickel protein wires. <i>Nature Communications</i> , 2021, 12, 3996.	12.8	32
74	Bioturbation, short-lived radioisotopes, and the tracer-dependence of biodiffusion coefficients. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 6049-6063.	3.9	31
75	Sediment and carbon fluxes along a longitudinal gradient in the lower Tana River (Kenya). <i>Journal of Geophysical Research C: Biogeosciences</i> , 2014, 119, 1340-1353.	3.0	31
76	Abundance and Diversity of Denitrifying and Anammox Bacteria in Seasonally Hypoxic and Sulfidic Sediments of the Saline Lake Grevelingen. <i>Frontiers in Microbiology</i> , 2016, 7, 1661.	3.5	30
77	The influence of Cu contamination on <i>Nereis diversicolor</i> bioturbation. <i>Marine Chemistry</i> , 2006, 102, 148-158.	2.3	29
78	Direct Visualization of Mucus Production by the Cold-Water Coral <i>Lophelia pertusa</i> with Digital Holographic Microscopy. <i>PLoS ONE</i> , 2016, 11, e0146766.	2.5	29
79	Impact of Seasonal Hypoxia on Activity and Community Structure of Chemolithoautotrophic Bacteria in a Coastal Sediment. <i>Applied and Environmental Microbiology</i> , 2017, 83, .	3.1	28
80	Development of a host-microbiome model of the small intestine. <i>FASEB Journal</i> , 2019, 33, 3985-3996.	0.5	28
81	Research challenges at the land-sea interface. <i>Estuarine, Coastal and Shelf Science</i> , 2003, 58, 699-702.	2.1	27
82	Cadmium transport in sediments by tubificid bioturbation: An assessment of model complexity. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 844-862.	3.9	26
83	An Ordered and Fail-Safe Electrical Network in Cable Bacteria. <i>Advanced Biology</i> , 2020, 4, e2000006.	3.0	26
84	Quantification of sediment-water interactions in a polluted tropical river through biogeochemical modeling. <i>Global Biogeochemical Cycles</i> , 2012, 26, .	4.9	25
85	Imaging-in-Flow: Digital holographic microscopy as a novel tool to detect and classify nanoplanktonic organisms. <i>Limnology and Oceanography: Methods</i> , 2014, 12, 757-775.	2.0	25
86	Burrowing fauna mediate alternative stable states in the redox cycling of salt marsh sediments. <i>Geochimica Et Cosmochimica Acta</i> , 2020, 276, 31-49.	3.9	24
87	Elevated sedimentary removal of Fe, Mn, and trace elements following a transient oxygenation event in the Eastern Gotland Basin, central Baltic Sea. <i>Geochimica Et Cosmochimica Acta</i> , 2020, 271, 16-32.	3.9	23
88	The effect of oxygen availability on long-distance electron transport in marine sediments. <i>Limnology and Oceanography</i> , 2018, 63, 1799-1816.	3.1	22
89	Modification of wheat bran particle size and tissue composition affects colonisation and metabolism by human faecal microbiota. <i>Food and Function</i> , 2019, 10, 379-396.	4.6	22
90	Sedimentary oxygen dynamics in a seasonally hypoxic basin. <i>Limnology and Oceanography</i> , 2017, 62, 452-473.	3.1	20

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91	Foraminiferal community response to seasonal anoxia in Lake Grevelingen (the Netherlands). <i>Biogeosciences</i> , 2020, 17, 1415-1435.	3.3	20
92	Using Large-Scale NO ₂ Data from Citizen Science for Air-Quality Compliance and Policy Support. <i>Environmental Science & Technology</i> , 2020, 54, 11070-11078.	10.0	19
93	Solving Differential Equations in R. <i>AIP Conference Proceedings</i> , 2010, , .	0.4	18
94	Digital holographic microscopy: a novel tool to study the morphology, physiology and ecology of diatoms. <i>Diatom Research</i> , 2016, 31, 1-16.	1.2	18
95	A Cross-System Comparison of Dark Carbon Fixation in Coastal Sediments. <i>Global Biogeochemical Cycles</i> , 2020, 34, e2019GB006298.	4.9	18
96	Bistability in the redox chemistry of sediments and oceans. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 33043-33050.	7.1	18
97	Intrinsic electrical properties of cable bacteria reveal an Arrhenius temperature dependence. <i>Scientific Reports</i> , 2020, 10, 19798.	3.3	17
98	Mineral formation induced by cable bacteria performing long-distance electron transport in marine sediments. <i>Biogeosciences</i> , 2019, 16, 811-829.	3.3	16
99	Biogeochemical impact of cable bacteria on coastal Black Sea sediment. <i>Biogeosciences</i> , 2020, 17, 5919-5938.	3.3	15
100	Reduced TCA cycle rates at high hydrostatic pressure hinder hydrocarbon degradation and obligate oil degraders in natural, deep-sea microbial communities. <i>ISME Journal</i> , 2019, 13, 1004-1018.	9.8	14
101	Quantification of Cable Bacteria in Marine Sediments via qPCR. <i>Frontiers in Microbiology</i> , 2020, 11, 1506.	3.5	14
102	Dissolved inorganic and organic nitrogen uptake in the coastal North Sea: A seasonal study. <i>Estuarine, Coastal and Shelf Science</i> , 2014, 147, 78-86.	2.1	13
103	Estimating primary production from oxygen time series: A novel approach in the frequency domain. <i>Limnology and Oceanography: Methods</i> , 2015, 13, 529-552.	2.0	13
104	Phosphorus Cycling and Burial in Sediments of a Seasonally Hypoxic Marine Basin. <i>Estuaries and Coasts</i> , 2018, 41, 921-939.	2.2	13
105	Modelling biological interactions in aquatic sediments as coupled reactive transport. <i>Coastal and Estuarine Studies</i> , 2005, , 359-388.	0.4	11
106	Pore water conditions driving calcium carbonate dissolution in reef sands. <i>Geochimica Et Cosmochimica Acta</i> , 2020, 279, 16-28.	3.9	11
107	The influence of porosity gradients on mixing coefficients in sediments. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 961-973.	3.9	10
108	Experimental assessment of particle mixing fingerprints in the deposit-feeding bivalve <i>Abra alba</i> (Wood). <i>Journal of Marine Research</i> , 2012, 70, 689-718.	0.3	10

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109	Carbon, iron and sulphur cycling in the sediments of a Mediterranean lagoon (Ghar El Melh, Tunisia). <i>Estuarine, Coastal and Shelf Science</i> , 2019, 221, 156-169.	2.1	10
110	Isolation of wheat bran-colonizing and metabolizing species from the human fecal microbiota. <i>PeerJ</i> , 2019, 7, e6293.	2.0	9
111	Cell Cycle, Filament Growth and Synchronized Cell Division in Multicellular Cable Bacteria. <i>Frontiers in Microbiology</i> , 2021, 12, 620807.	3.5	8
112	Mn/Ca ratios of <i>Ammonia tepida</i> as a proxy for seasonal coastal hypoxia. <i>Chemical Geology</i> , 2019, 518, 55-66.	3.3	7
113	Combining citizen science and deep learning for large-scale estimation of outdoor nitrogen dioxide concentrations. <i>Environmental Research</i> , 2021, 196, 110389.	7.5	6
114	Enhanced Laterally Resolved ToF-SIMS and AFM Imaging of the Electrically Conductive Structures in Cable Bacteria. <i>Analytical Chemistry</i> , 2021, 93, 7226-7234.	6.5	6
115	Cable Bacteria Activity Modulates Arsenic Release From Sediments in a Seasonally Hypoxic Marine Basin. <i>Frontiers in Microbiology</i> , 0, 13, .	3.5	6
116	Oxygen burrowed away. <i>Nature Geoscience</i> , 2014, 7, 620-621.	12.9	5
117	Bioturbation has a limited effect on phosphorus burial in salt marsh sediments. <i>Biogeosciences</i> , 2021, 18, 1451-1461.	3.3	5
118	Bacterial chemoautotrophic reoxidation in sub-Arctic sediments: a seasonal study in Kobbefjord, Greenland. <i>Marine Ecology - Progress Series</i> , 2018, 601, 33-39.	1.9	3
119	Modeling effects of patchiness and biological variability on transport rates within bioturbated sediments. <i>Journal of Marine Research</i> , 2008, 66, 191-218.	0.3	2
120	Different proxies for the reactivity of aquatic sediments towards oxygen: A model assessment. <i>Ecological Modelling</i> , 2010, 221, 2054-2067.	2.5	2
121	Polyphosphate Dynamics in Cable Bacteria. <i>Frontiers in Microbiology</i> , 2022, 13, .	3.5	2