James Byrne

List of Publications by Year
in descending order

71	3,386	136950 32	149698 56
papers	citations	h-index	g-index

71	71	71	4002
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Microbial Fe cycling in a simulated Precambrian ocean environment: Implications for secondary mineral (trans)formation and deposition during BIF genesis. Geochimica Et Cosmochimica Acta, 2022, 331, 165-191.	3.9	8
2	Mercury Reduction by Nanoparticulate Vivianite. Environmental Science & Technology, 2021, 55, 3399-3407.	10.0	18
3	An evolving view on biogeochemical cycling of iron. Nature Reviews Microbiology, 2021, 19, 360-374.	28.6	299
4	Iron mineral transformations and their impact on As (im)mobilization at redox interfaces in As-contaminated aquifers. Geochimica Et Cosmochimica Acta, 2021, 296, 189-209.	3.9	24
5	Vertical redox zones of Feâ€"Sâ€"As coupled mineralogy in the sediments of Hetao Basin â€" Constraints for groundwater As contamination. Journal of Hazardous Materials, 2021, 408, 124924.	12.4	15
6	A biogeochemicalâ€"hydrological framework for the role of redox-active compounds in aquatic systems. Nature Geoscience, 2021, 14, 264-272.	12.9	67
7	Imaging and Ion-Beam Milling of Biological Specimens with the Helium-Ion Microscope. Microscopy and Microanalysis, 2021, 27, 768-769.	0.4	0
8	Nitrate Removal by a Novel Lithoautotrophic Nitrate-Reducing, Iron(II)-Oxidizing Culture Enriched from a Pyrite-Rich Limestone Aquifer. Applied and Environmental Microbiology, 2021, 87, e0046021.	3.1	22
9	Anaerobic Neutrophilic Pyrite Oxidation by a Chemolithoautotrophic Nitrate-Reducing Iron(II)-Oxidizing Culture Enriched from a Fractured Aquifer. Environmental Science & Technology, 2021, 55, 9876-9884.	10.0	25
10	Organic Matter from Redoximorphic Soils Accelerates and Sustains Microbial Fe(III) Reduction. Environmental Science & Technology, 2021, 55, 10821-10831.	10.0	22
11	Chromium (VI) removal kinetics by magnetite-coated sand: Small-scale flow-through column experiments. Journal of Hazardous Materials, 2021, 415, 125648.	12.4	9
12	Using Zn and Ni behavior during magnetite precipitation in banded iron formations to determine its biological or abiotic origin. Earth and Planetary Science Letters, 2021, 568, 117052.	4.4	7
13	Bio-imaging with the helium-ion microscope: A review. Beilstein Journal of Nanotechnology, 2021, 12, 1-23.	2.8	20
14	Effect of Fe-metabolizing bacteria and humic substances on magnetite nanoparticle reactivity towards arsenic and chromium. Journal of Hazardous Materials, 2020, 384, 121450.	12.4	18
15	Redox cycling of Fe(II) and Fe(III) in magnetite accelerates aceticlastic methanogenesis by <i>Methanosarcina mazei</i>. Environmental Microbiology Reports, 2020, 12, 97-109.	2.4	28
16	Complexation by cysteine and iron mineral adsorption limit cadmium mobility during metabolic activity of <i>Geobacter sulfurreducens</i>. Environmental Sciences: Processes and Impacts, 2020, 22, 1877-1887.	3.5	7
17	Humidity related magnetite alteration in an experimental setup. Geophysical Journal International, 2020, 224, 69-85.	2.4	7
18	Interactions of ferrous iron with clay mineral surfaces during sorption and subsequent oxidation. Environmental Sciences: Processes and Impacts, 2020, 22, 1355-1367.	3.5	25

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19	Immobilizing magnetite onto quartz sand for chromium remediation. Journal of Hazardous Materials, 2020, 400, 123139.	12.4	13
20	Role of Iron Sulfide Phases in the Stability of Noncrystalline Tetravalent Uranium in Sediments. Environmental Science & Technology, 2020, 54, 4840-4846.	10.0	17
21	Effect of Microbial Biomass and Humic Acids on Abiotic and Biotic Magnetite Formation. Environmental Science & Technology, 2020, 54, 4121-4130.	10.0	32
22	Arsenic sequestration in pyrite and greigite in the buried peat of As-contaminated aquifers. Geochimica Et Cosmochimica Acta, 2020, 284, 107-119.	3.9	22
23	Effect of Natural Organic Matter on the Fate of Cadmium During Microbial Ferrihydrite Reduction. Environmental Science & Technology, 2020, 54, 9445-9453.	10.0	39
24	Impact of reactive surfaces on the abiotic reaction between nitrite and ferrous iron and associated nitrogen and oxygen isotope dynamics. Biogeosciences, 2020, 17, 4355-4374.	3.3	8
25	Mineral Defects Enhance Bioavailability of Goethite toward Microbial Fe(III) Reduction. Environmental Science & Technology, 2019, 53, 8883-8891.	10.0	42
26	MÃ¶ssbauer Spectroscopy. , 2019, , 314-338.		5
27	H2-fuelled microbial metabolism in Opalinus Clay. Applied Clay Science, 2019, 174, 69-76.	5.2	14
28	Formation of green rust and elemental sulfur in an analogue for oxygenated ferro-euxinic transition zones of Precambrian oceans. Geology, 2019, 47, 211-214.	4.4	22
29	Pyrite formation from FeS and H ₂ S is mediated through microbial redox activity. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 6897-6902.	7.1	106
30	Analytical Geomicrobiology. , 2019, , .		4
31	Magnetite and Green Rust: Synthesis, Properties, and Environmental Applications of Mixed-Valent Iron Minerals. Chemical Reviews, 2018, 118, 3251-3304.	47.7	319
32	Imaging Organicâ€“Mineral Aggregates Formed by Fe(II)-Oxidizing Bacteria Using Helium Ion Microscopy. Environmental Science and Technology Letters, 2018, 5, 209-213.	8.7	21
33	The potential of magnetic hyperthermia for triggering the differentiation of cancer cells. Nanoscale, 2018, 10, 20519-20525.	5.6	55
34	Impact of Organic Matter on Iron(II)-Catalyzed Mineral Transformations in Ferrihydriteâ€“Organic Matter Coprecipitates. Environmental Science & Technology, 2018, 52, 12316-12326.	10.0	139
35	Microbial anaerobic Fe(II) oxidation â€“ Ecology, mechanisms and environmental implications. Environmental Microbiology, 2018, 20, 3462-3483.	3.8	165
36	Soil magnetism and climatic variation across the Shanxi Loess Plateau, China. Arid Land Research and Management, 2018, 32, 367-378.	1.6	0

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37	A case study for late Archean and Proterozoic biogeochemical ironâ€•and sulphur cycling in a modern habitatâ€”the Arvadi Spring. Geobiology, 2018, 16, 353-368.	2.4	5
38	Proteome Response of a Metabolically Flexible Anoxygenic Phototroph to Fe(II) Oxidation. Applied and Environmental Microbiology, 2018, 84, .	3.1	5
39	The cellular magnetic response and biocompatibility of biogenic zinc- and cobalt-doped magnetite nanoparticles. Scientific Reports, 2017, 7, 39922.	3.3	54
40	Iron Isotope Fractionation during Fe(II) Oxidation Mediated by the Oxygen-Producing Marine Cyanobacterium <i>Synechococcus</i> PCC 7002. Environmental Science & Technology, 2017, 51, 4897-4906.	10.0	34
41	Physiological characterization of a halotolerant anoxygenic phototrophic Fe(II)-oxidizing green-sulfur bacterium isolated from a marine sediment. FEMS Microbiology Ecology, 2017, 93, .	2.7	23
42	Insights into Nitrate-Reducing Fe(II) Oxidation Mechanisms through Analysis of Cell-Mineral Associations, Cell Encrustation, and Mineralogy in the Chemolithoautotrophic Enrichment Culture KS. Applied and Environmental Microbiology, 2017, 83, .	3.1	64
43	Iron(II)-Catalyzed Iron Atom Exchange and Mineralogical Changes in Iron-rich Organic Freshwater Flocs: An Iron Isotope Tracer Study. Environmental Science & Technology, 2017, 51, 6897-6907.	10.0	69
44	Abiotic versus biotic iron mineral transformation studied by a miniaturized backscattering MÃ¶ssbauer spectrometer (MIMOS II), X-ray diffraction and Raman spectroscopy. Icarus, 2017, 296, 49-58.	2.5	19
45	Current and future microbiological strategies to remove As and Cd from drinking water. Microbial Biotechnology, 2017, 10, 1098-1101.	4.2	8
46	Interactions between magnetite and humic substances: redox reactions and dissolution processes. Geochemical Transactions, 2017, 18, 6.	0.7	27
47	Anaerobic microbial Fe(II) oxidation and Fe(III) reduction in coastal marine sediments controlled by organic carbon content. Environmental Microbiology, 2016, 18, 3159-3174.	3.8	42
48	Evaluation of semi-arid arable soil heavy metal pollution by magnetic susceptibility in the Linfen basin of China. Arid Land Research and Management, 2016, 30, 258-268.	1.6	9
49	Binding of heavy metal ions in aggregates of microbial cells, EPS and biogenic iron minerals measured in-situ using metal- and glycoconjugates-specific fluorophores. Geochimica Et Cosmochimica Acta, 2016, 180, 66-96.	3.9	72
50	Geochemistry and Mineralogy of Western Australian Salt Lake Sediments: Implications for Meridiani Planum on Mars. Astrobiology, 2016, 16, 525-538.	3.0	14
51	Time and temperature dependency of carbon dioxide triggered metal(loid) mobilization in soil. Applied Geochemistry, 2016, 74, 122-137.	3.0	24
52	Size dependent microbial oxidation and reduction of magnetite nano- and micro-particles. Scientific Reports, 2016, 6, 30969.	3.3	34
53	Influence of organics and silica on Fe(II) oxidation rates and cellâ€"mineral aggregate formation by the green-sulfur Fe(II)-oxidizing bacterium Chlorobium ferrooxidans KoFox â€" Implications for Fe(II) oxidation in ancient oceans. Earth and Planetary Science Letters, 2016, 443, 81-89.	4.4	36
54	Spatial variability of soil magnetic susceptibility, organic carbon and total nitrogen from farmland in northern China. Catena, 2016, 145, 92-98.	5.0	44

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55	Impact of Long-Term Irrigation with Treated Sewage on Soil Magnetic Susceptibility and Organic Matter Content in North China. Bulletin of Environmental Contamination and Toxicology, 2015, 95, 102-107.	2.7	19
56	Fe(III) mineral reduction followed by partial dissolution and reactive oxygen species generation during 2,4,6-trinitrotoluene transformation by the aerobic yeast Yarrowia lipolytica. AMB Express, 2015, 5, 8.	3.0	20
57	Mineral precipitation during production of geothermal fluid from a Permian Rotliegend reservoir. Geothermics, 2015, 54, 122-135.	3.4	57
58	Fractionation of Fe isotopes during Fe(II) oxidation by a marine photoferrotroph is controlled by the formation of organic Fe-complexes and colloidal Fe fractions. Geochimica Et Cosmochimica Acta, 2015, 165, 44-61.	3.9	48
59	Redox cycling of Fe(II) and Fe(III) in magnetite by Fe-metabolizing bacteria. Science, 2015, 347, 1473-1476.	12.6	239
60	Scale-up of the production of highly reactive biogenic magnetite nanoparticles using <i>Geobacter sulfurreducens</i>. Journal of the Royal Society Interface, 2015, 12, 20150240.	3.4	49
61	Arsenic removal from drinking water by a household sand filter in Vietnam â€" Effect of filter usage practices on arsenic removal efficiency and microbiological water quality. Science of the Total Environment, 2015, 502, 526-536.	8.0	50
62	Biosynthesis of Zinc Substituted Magnetite Nanoparticles with Enhanced Magnetic Properties. Advanced Functional Materials, 2014, 24, 2518-2529.	14.9	87
63	Bacterially synthesized ferrite nanoparticles for magnetic hyperthermia applications. Nanoscale, 2014, 6, 12958-12970.	5.6	60
64	Iron and Arsenic Speciation and Distribution in Organic Flocs from Streambeds of an Arsenic-Enriched Peatland. Environmental Science & Technology, 2014, 48, 13218-13228.	10.0	52
65	Controlled cobalt doping in biogenic magnetite nanoparticles. Journal of the Royal Society Interface, 2013, 10, 20130134.	3.4	61
66	Fate of Cd during Microbial Fe(III) Mineral Reduction by a Novel and Cd-Tolerant <i>Geobacter</i> Species. Environmental Science & Technology, 2013, 47, 14099-14109.	10.0	113
67	Microbial Reduction of Fe(III) under Alkaline Conditions Relevant to Geological Disposal. Applied and Environmental Microbiology, 2013, 79, 3320-3326.	3.1	52
68	Characterisation of the dissimilatory reduction of Fe(III)â€oxyhydroxide at the microbe â€" mineral interface: the application of STXMâ€"XMCD. Geobiology, 2012, 10, 347-354.	2.4	39
69	Control of nanoparticle size, reactivity and magnetic properties during the bioproduction of magnetite by<i>Geobacter sulfurreducens</i>. Nanotechnology, 2011, 22, 455709.	2.6	103
70	Biotechnological synthesis of functional nanomaterials. Current Opinion in Biotechnology, 2011, 22, 509-515.	6.6	106
71	Microwave enhancement of superconductivity in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>Bi</mml:mtext></mml:mrow><mml:mn>2</mml:mn></mml:ms Physical Review B, 2008, 78, .	3.2	4