James Byrne

List of Publications by Year
in descending order

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

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

#	Article	IF	Citations
1	Magnetite and Green Rust: Synthesis, Properties, and Environmental Applications of Mixed-Valent Iron Minerals. Chemical Reviews, 2018, 118, 3251-3304.	47.7	319
2	An evolving view on biogeochemical cycling of iron. Nature Reviews Microbiology, 2021, 19, 360-374.	28.6	299
3	Redox cycling of Fe(II) and Fe(III) in magnetite by Fe-metabolizing bacteria. Science, 2015, 347, 1473-1476.	12.6	239
4	Microbial anaerobic Fe(II) oxidation â€“ Ecology, mechanisms and environmental implications. Environmental Microbiology, 2018, 20, 3462-3483.	3.8	165
5	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
6	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
7	Biotechnological synthesis of functional nanomaterials. Current Opinion in Biotechnology, 2011, 22, 509-515.	6.6	106
8	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
9	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
10	Biosynthesis of Zinc Substituted Magnetite Nanoparticles with Enhanced Magnetic Properties. Advanced Functional Materials, 2014, 24, 2518-2529.	14.9	87
11	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
12	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
13	A biogeochemicalâ€“hydrological framework for the role of redox-active compounds in aquatic systems. Nature Geoscience, 2021, 14, 264-272.	12.9	67
14	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
15	Controlled cobalt doping in biogenic magnetite nanoparticles. Journal of the Royal Society Interface, 2013, 10, 20130134.	3.4	61
16	Bacterially synthesized ferrite nanoparticles for magnetic hyperthermia applications. Nanoscale, 2014, 6, 12958-12970.	5.6	60
17	Mineral precipitation during production of geothermal fluid from a Permian Rotliegend reservoir. Geothermics, 2015, 54, 122-135.	3.4	57
18	The potential of magnetic hyperthermia for triggering the differentiation of cancer cells. Nanoscale, 2018, 10, 20519-20525.	5.6	55

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19	The cellular magnetic response and biocompatibility of biogenic zinc- and cobalt-doped magnetite nanoparticles. Scientific Reports, 2017, 7, 39922.	3.3	54
20	Microbial Reduction of Fe(III) under Alkaline Conditions Relevant to Geological Disposal. Applied and Environmental Microbiology, 2013, 79, 3320-3326.	3.1	52
21	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
22	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
23	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
24	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
25	Spatial variability of soil magnetic susceptibility, organic carbon and total nitrogen from farmland in northern China. Catena, 2016, 145, 92-98.	5.0	44
26	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
27	Mineral Defects Enhance Bioavailability of Goethite toward Microbial Fe(III) Reduction. Environmental Science & Technology, 2019, 53, 8883-8891.	10.0	42
28	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
29	Effect of Natural Organic Matter on the Fate of Cadmium During Microbial Ferrihydrite Reduction. Environmental Science & Technology, 2020, 54, 9445-9453.	10.0	39
30	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
31	Size dependent microbial oxidation and reduction of magnetite nano- and micro-particles. Scientific Reports, 2016, 6, 30969.	3.3	34
32	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
33	Effect of Microbial Biomass and Humic Acids on Abiotic and Biotic Magnetite Formation. Environmental Science & Technology, 2020, 54, 4121-4130.	10.0	32
34	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
35	Interactions between magnetite and humic substances: redox reactions and dissolution processes. Geochemical Transactions, 2017, 18, 6.	0.7	27
36	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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37	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
38	Time and temperature dependency of carbon dioxide triggered metal(loid) mobilization in soil. Applied Geochemistry, 2016, 74, 122-137.	3.0	24
39	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
40	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
41	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
42	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
43	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
44	Organic Matter from Redoximorphic Soils Accelerates and Sustains Microbial Fe(III) Reduction. Environmental Science & Technology, 2021, 55, 10821-10831.	10.0	22
45	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
46	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
47	Bio-imaging with the helium-ion microscope: A review. Beilstein Journal of Nanotechnology, 2021, 12, 1-23.	2.8	20
48	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
49	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
50	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
51	Mercury Reduction by Nanoparticulate Vivianite. Environmental Science & Technology, 2021, 55, 3399-3407.	10.0	18
52	Role of Iron Sulfide Phases in the Stability of Noncrystalline Tetravalent Uranium in Sediments. Environmental Science & Technology, 2020, 54, 4840-4846.	10.0	17
53	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
54	Geochemistry and Mineralogy of Western Australian Salt Lake Sediments: Implications for Meridiani Planum on Mars. Astrobiology, 2016, 16, 525-538.	3.0	14

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55	H2-fuelled microbial metabolism in Opalinus Clay. Applied Clay Science, 2019, 174, 69-76.	5.2	14
56	Immobilizing magnetite onto quartz sand for chromium remediation. Journal of Hazardous Materials, 2020, 400, 123139.	12.4	13
57	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
58	Chromium (VI) removal kinetics by magnetite-coated sand: Small-scale flow-through column experiments. Journal of Hazardous Materials, 2021, 415, 125648.	12.4	9
59	Current and future microbiological strategies to remove As and Cd from drinking water. Microbial Biotechnology, 2017, 10, 1098-1101.	4.2	8
60	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
61	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
62	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
63	Humidity related magnetite alteration in an experimental setup. Geophysical Journal International, 2020, 224, 69-85.	2.4	7
64	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
65	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
66	Proteome Response of a Metabolically Flexible Anoxygenic Phototroph to Fe(II) Oxidation. Applied and Environmental Microbiology, 2018, 84, .	3.1	5
67	MÃ¶ssbauer Spectroscopy. , 2019, , 314-338.		5
68	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:msub Physical Review B, 2008, 78, .	3.2	4
69	Analytical Geomicrobiology. , 2019, , .		4
70	Soil magnetism and climatic variation across the Shanxi Loess Plateau, China. Arid Land Research and Management, 2018, 32, 367-378.	1.6	0
71	Imaging and Ion-Beam Milling of Biological Specimens with the Helium-Ion Microscope. Microscopy and Microanalysis, 2021, 27, 768-769.	0.4	0