Damien Faivre

List of Publications by Year
in descending order

125	6,268	76196	74018
papers	citations	40 h-index	75 g-index

143	143	143	6712
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Magnetotactic Bacteria and Magnetosomes. Chemical Reviews, 2008, 108, 4875-4898.	23.0	734
2	Nucleation and growth of magnetite from solution. Nature Materials, 2013, 12, 310-314.	13.3	583
3	An acidic protein aligns magnetosomes along a filamentous structure in magnetotactic bacteria. Nature, 2006, 440, 110-114.	13.7	486
4	Synthesis of Magnetite Nanoparticles for Bio- and Nanotechnology: Genetic Engineering and Biomimetics of Bacterial Magnetosomes. Macromolecular Bioscience, 2007, 7, 144-151.	2.1	168
5	Magnetotactic Bacteria Powered Biohybrids Target E. coli Biofilms. ACS Nano, 2017, 11, 9968-9978.	7.3	154
6	A vacuole-like compartment concentrates a disordered calcium phase in a key coccolithophorid alga. Nature Communications, 2016, 7, 11228.	5.8	144
7	Magnetotactic bacteria form magnetite from a phosphate-rich ferric hydroxide via nanometric ferric (oxyhydr)oxide intermediates. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 14883-14888.	3.3	133
8	Intracellular Magnetite Biomineralization in Bacteria Proceeds by a Distinct Pathway Involving Membraneâ€Bound Ferritin and an Iron(II) Species. Angewandte Chemie - International Edition, 2007, 46, 8495-8499.	7.2	126
9	Magnetic Actuation Methods in Bio/Soft Robotics. Advanced Functional Materials, 2021, 31, 2005137.	7.8	126
10	Diversity of Magneto-Aerotactic Behaviors and Oxygen Sensing Mechanisms in Cultured Magnetotactic Bacteria. Biophysical Journal, 2014, 107, 527-538.	0.2	122
11	Structural insight into magnetochrome-mediated magnetite biomineralization. Nature, 2013, 502, 681-684.	13.7	119
12	Synthesis and Characterization of Gelatinâ€Based Magnetic Hydrogels. Advanced Functional Materials, 2014, 24, 3187-3196.	7.8	114
13	Genetic Dissection of the mamAB and mms6 Operons Reveals a Gene Set Essential for Magnetosome Biogenesis in Magnetospirillum gryphiswaldense. Journal of Bacteriology, 2014, 196, 2658-2669.	1.0	110
14	Formation of Magnetite Nanoparticles at Low Temperature: From Superparamagnetic to Stable Single Domain Particles. PLoS ONE, 2013, 8, e57070.	1.1	105
15	Biohybrid and Bioinspired Magnetic Microswimmers. Small, 2018, 14, e1704374.	5.2	100
16	From Bacteria to Mollusks: The Principles Underlying the Biomineralization of Iron Oxide Materials. Angewandte Chemie - International Edition, 2015, 54, 4728-4747.	7.2	95
17	The magnetosome membrane protein, MmsF, is a major regulator of magnetite biomineralization in Magnetospirillum magneticum AMBâ€1. Molecular Microbiology, 2012, 85, 684-699.	1.2	93
18	Environmental parameters affect the physical properties of fast-growing magnetosomes. American Mineralogist, 2008, 93, 463-469.	0.9	90

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19	Macromolecular recognition directs calcium ions to coccolith mineralization sites. Science, 2016, 353, 590-593.	6.0	86
20	A Direct Biocombinatorial Strategy toward Next Generation, Mussel-Glue Inspired Saltwater Adhesives. Journal of the American Chemical Society, 2014, 136, 12667-12674.	6.6	82
21	Structural purity of magnetite nanoparticles in magnetotactic bacteria. Journal of the Royal Society Interface, 2011, 8, 1011-1018.	1.5	72
22	The influence of temperature and seawater composition on calcite crystal growth mechanisms and kinetics: Implications for Mg incorporation in calcite lattice. Geochimica Et Cosmochimica Acta, 2009, 73, 337-347.	1.6	71
23	Correlative Electron and Fluorescence Microscopy of Magnetotactic Bacteria in Liquid: Toward In Vivo Imaging. Scientific Reports, 2014, 4, 6854.	1.6	65
24	Selecting for Function: Solution Synthesis of Magnetic Nanopropellers. Nano Letters, 2013, 13, 5373-5378.	4.5	61
25	Fast Magnetic Micropropellers with Random Shapes. Nano Letters, 2015, 15, 7064-7070.	4.5	61
26	Simultaneous Raman Microspectroscopy and Fluorescence Imaging of Bone Mineralization in Living Zebrafish Larvae. Biophysical Journal, 2014, 106, L17-L19.	0.2	59
27	Nanoparticles for intravascular applications: physicochemical characterization and cytotoxicity testing. Nanomedicine, 2016, 11, 597-616.	1.7	57
28	Ectosymbiotic bacteria at the origin of magnetoreception in a marine protist. Nature Microbiology, 2019, 4, 1088-1095.	5.9	57
29	Swimming with magnets: From biological organisms to synthetic devices. Physics Reports, 2019, 789, 1-54.	10.3	57
30	Development of Cellular Magnetic Dipoles in Magnetotactic Bacteria. Biophysical Journal, 2010, 99, 1268-1273.	0.2	54
31	Biomimetic Magnetite Formation: From Biocombinatorial Approaches to Mineralization Effects. Langmuir, 2014, 30, 2129-2136.	1.6	54
32	Native-state imaging of calcifying and noncalcifying microalgae reveals similarities in their calcium storage organelles. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 11000-11005.	3.3	49
33	Influence of Magnetic Fields on Magneto-Aerotaxis. PLoS ONE, 2014, 9, e101150.	1.1	49
34	Peptide-Mediated Nanoengineering of Inorganic Particle Surfaces: A General Route toward Surface Functionalization via Peptide Adhesion Domains. Journal of the American Chemical Society, 2012, 134, 2385-2391.	6.6	48
35	Magnetite Crystal Orientation in Magnetosome Chains. Advanced Functional Materials, 2014, 24, 3926-3932.	7.8	48
36	Single crystalline superstructured stable single domain magnetite nanoparticles. Scientific Reports, 2017, 7, 45484.	1.6	48

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37	Distinguishing magnetic particle size of iron oxide nanoparticles with first-order reversal curves. Journal of Applied Physics, 2014, 116, .	1.1	47
38	Iron solubility, colloids and their impact on iron (oxyhydr)oxide formation from solution. Earth-Science Reviews, 2015, 150, 520-530.	4.0	47
39	The influence of dissolved humic acids on the kinetics of calcite precipitation from seawater solutions. Chemical Geology, 2003, 201, 91-101.	1.4	43
40	Mineralogical and isotopic properties of inorganic nanocrystalline magnetites. Geochimica Et Cosmochimica Acta, 2004, 68, 4395-4403.	1.6	41
41	Structureâ€"function studies of the magnetite-biomineralizing magnetosome-associated protein MamC. Journal of Structural Biology, 2016, 194, 244-252.	1.3	40
42	An integrated approach for determining the origin of magnetite nanoparticles. Earth and Planetary Science Letters, 2006, 243, 53-60.	1.8	35
43	Magnetic nanoparticles line up. Nature, 2016, 535, 235-236.	13.7	35
44	Probing the Mechanical Properties of Magnetosome Chains in Living Magnetotactic Bacteria. Nano Letters, 2014, 14, 4653-4659.	4.5	34
45	The giant keyhole limpet radular teeth: A naturally-grown harvest machine. Journal of Structural Biology, 2015, 192, 392-402.	1.3	34
46	The triathlon of magnetic actuation: Rolling, propelling, swimming with a single magnetic material. Scientific Reports, 2015, 5, 9364.	1.6	34
47	Biologically controlled synthesis and assembly of magnetite nanoparticles. Faraday Discussions, 2015, 181, 71-83.	1.6	34
48	Pattern formation and collective effects in populations of magnetic microswimmers. Journal Physics D: Applied Physics, 2017, 50, 11LT03.	1.3	34
49	Insight into the Assembly Properties and Functional Organisation of the Magnetotactic Bacterial Actin-like Homolog, MamK. PLoS ONE, 2012, 7, e34189.	1.1	33
50	Interplay of Magnetic Interactions and Active Movements in the Formation of Magnetosome Chains. PLoS ONE, 2012, 7, e33562.	1.1	33
51	Morphology of nanomagnetite crystals: Implications for formation conditions. American Mineralogist, 2005, 90, 1793-1800.	0.9	32
52	Elastic properties of magnetosome chains. New Journal of Physics, 2015, 17, 043007.	1.2	32
53	Interaction of Proteins Associated with the Magnetosome Assembly in Magnetotactic Bacteria As Revealed by Two-Hybrid Two-Photon Excitation Fluorescence Lifetime Imaging Microscopy FÃ¶rster Resonance Energy Transfer. Journal of Physical Chemistry B, 2013, 117, 14642-14648.	1.2	30
54	Biologically encoded magnonics. Nature Communications, 2019, 10, 4345.	5.8	30

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55	Manganese incorporation into the magnetosome magnetite: magnetic signature of doping. European Journal of Mineralogy, 2014, 26, 457-471.	0.4	29
56	Polysaccharide stabilized nanoparticles for deacidification and strengthening of paper. RSC Advances, 2015, 5, 32950-32961.	1.7	28
57	Control of Biogenic Nanocrystal Formation in Biomineralization. Israel Journal of Chemistry, 2016, 56, 227-241.	1.0	28
58	Traceâ€Element Incorporation into Intracellular Pools Uncovers Calciumâ€Pathways in a Coccolithophore. Advanced Science, 2017, 4, 1700088.	5.6	28
59	Materials Nanoarchitecturing via Cationâ€Mediated Protein Assembly: Making Limpet Teeth without Mineral. Advanced Materials, 2017, 29, 1701171.	11.1	27
60	High-speed motility originates from cooperatively pushing and pulling flagella bundles in bilophotrichous bacteria. ELife, 2020, 9, .	2.8	27
61	Formation of magnetite in Magnetospirillum gryphiswaldense studied with FORC diagrams. Earth, Planets and Space, 2009, 61, 143-150.	0.9	26
62	Keeping Nanoparticles Fully Functional: Longâ€Term Storage and Alteration of Magnetite. ChemPlusChem, 2014, 79, 1225-1233.	1.3	26
63	Magnetotactic bacteria. European Physical Journal: Special Topics, 2016, 225, 2173-2188.	1.2	26
64	A Bacteriaâ€Based Remotely Tunable Photonic Device. Advanced Optical Materials, 2017, 5, 1600617.	3.6	26
65	Magnetic Nanoparticle Chains in Gelatin Ferrogels: Bioinspiration from Magnetotactic Bacteria. Advanced Functional Materials, 2019, 29, 1905996.	7.8	23
66	Evolution of magnetic anisotropy and thermal stability during nanocrystal-chain growth. Applied Physics Letters, 2011, 99, .	1.5	22
67	Multifunctional layered magnetic composites. Beilstein Journal of Nanotechnology, 2015, 6, 134-148.	1.5	22
68	Intracellular biomineralization in bacteria. Frontiers in Microbiology, 2014, 5, 293.	1.5	21
69	Lattice distortions in coccolith calcite crystals originate from occlusion of biomacromolecules. Journal of Structural Biology, 2016, 196, 147-154.	1.3	21
70	Elongated magnetite nanoparticle formation from a solid ferrous precursor in a magnetotactic bacterium. Journal of the Royal Society Interface, 2016, 13, 20160665.	1.5	20
71	Steering magnetic micropropellers along independent trajectories. Journal Physics D: Applied Physics, 2016, 49, 065003.	1.3	20
72	Magnetic force imaging of a chain of biogenic magnetite and Monte Carlo analysis of tipâ€“particle interaction. Journal Physics D: Applied Physics, 2014, 47, 235403.	1.3	18

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73	Combined Experimental and Theoretical Approach to the Kinetics of Magnetite Crystal Growth from Primary Particles. Journal of Physical Chemistry Letters, 2017, 8, 1132-1136.	2.1	17
74	Magnetosome Organization in Magnetotactic Bacteria Unraveled by Ferromagnetic Resonance Spectroscopy. Biophysical Journal, 2017, 113, 637-644.	0.2	17
75	Self-Confined Nucleation of Iron Oxide Nanoparticles in a Nanostructured Amorphous Precursor. Nano Letters, 2020, 20, 5001-5007.	4.5	17
76	Diversity of Microbial Metal Sulfide Biomineralization. ChemPlusChem, 2022, 87, .	1.3	17
77	Templated and self-limiting calcite formation directed by coccolith organic macromolecules. Chemical Communications, 2017, 53, 7740-7743.	2.2	16
78	Selective Actuation and Tomographic Imaging of Swarming Magnetite Nanoparticles. ACS Applied Nano Materials, 2021, 4, 6752-6759.	2.4	16
79	Magnetic Nanoparticles in Human Cervical Skin. Frontiers in Medicine, 2019, 6, 123.	1.2	15
80	Using Shape Diversity on the Way to Structure-Function Designs for Magnetic Micropropellers. Physical Review Applied, 2019, 11, .	1.5	15
81	Wettability of Magnetite Nanoparticles Guides Growth from Stabilized Amorphous Ferrihydrite. Journal of the American Chemical Society, 2021, 143, 10963-10969.	6.6	15
82	Following iron speciation in the early stages of magnetite magnetosome biomineralization. Journal of Materials Research, 2016, 31, 547-555.	1.2	14
83	Positioning the Flagellum at the Center of a Dividing Cell To Combine Bacterial Division with Magnetic Polarity. MBio, 2015, 6, e02286.	1.8	13
84	Shaping Magnetite with Poly-<scp>l</scp>-arginine and pH: From Small Single Crystals to Large Mesocrystals. Journal of Physical Chemistry Letters, 2019, 10, 5514-5518.	2.1	13
85	Reducing Conditions Favor Magnetosome Production in Magnetospirillum magneticum AMB-1. Frontiers in Microbiology, 2019, 10, 582.	1.5	13
86	Chemotaxis in external fields: Simulations for active magnetic biological matter. PLoS Computational Biology, 2019, 15, e1007548.	1.5	13
87	Tiny particles building huge ore deposits â€“ Particle-based crystallisation in banded iron formation-hosted iron ore deposits (Hamersley Province, Australia). Ore Geology Reviews, 2019, 104, 160-174.	1.1	13
88	Magnetite Biomineralization in Bacteria. Progress in Molecular and Subcellular Biology, 2011, 52, 3-27.	0.9	12
89	Formation of magnetic nanoparticle chains in bacterial systems. MRS Bulletin, 2015, 40, 509-515.	1.7	12
90	Navigation with magnetic nanoparticles: magnetotactic bacteria and magnetic micro-robots. Physica Scripta, 2015, T165, 014044.	1.2	12

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91	The importance of the helical structure of a MamC-derived magnetite-interacting peptide for its function in magnetite formation. Acta Crystallographica Section D: Structural Biology, 2018, 74, 10-20.	1.1	10
92	Self-organization and stability of magnetosome chainsâ€"A simulation study. PLoS ONE, 2018, 13, e0190265.	1.1	10
93	Dry but flexible magnetic materials. Nature Nanotechnology, 2010, 5, 562-563.	15.6	9
94	Decoding Biomineralization: Interaction of a Mad10-Derived Peptide with Magnetite Thin Films. Nano Letters, 2019, 19, 8207-8215.	4.5	9
95	Magnetite Nucleation and Growth. , 2017, , 275-291.		9
96	Synchrotronâ€Based Nanoâ€Xâ€Ray Absorption Nearâ€Edge Structure Revealing Intracellular Heterogeneity of Iron Species in Magnetotactic Bacteria. Small Science, 2022, 2, .	5.8	9
97	Magnetite-Arginine Nanoparticles as a Multifunctional Biomedical Tool. Nanomaterials, 2020, 10, 2014.	1.9	8
98	Identification and elimination of genomic regions irrelevant for magnetosome biosynthesis by large-scale deletion in Magnetospirillum gryphiswaldense. BMC Microbiology, 2021, 21, 65.	1.3	8
99	Bead-Based Hydrodynamic Simulations of Rigid Magnetic Micropropellers. Frontiers in Robotics and AI, 2018, 5, 109.	2.0	7
100	The in vivo mechanics of the magnetotactic backbone as revealed by correlative FLIM-FRET and STED microscopy. Scientific Reports, 2019, 9, 19615.	1.6	7
101	The Combination of Random Mutagenesis and Sequencing Highlight the Role of Unexpected Genes in an Intractable Organism. PLoS Genetics, 2015, 11, e1004895.	1.5	6
102	Anomalous magnetic properties of brain tissue at low temperature: The 50 K anomaly. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	5
103	Genetically Engineered Organization: Protein Template, Biological Recognition Sites, and Nanoparticles. Advanced Materials Interfaces, 2017, 4, 1600285.	1.9	5
104	Bioinspired multifunctional layered magnetic hybrid materials. Bioinspired, Biomimetic and Nanobiomaterials, 2019, 8, 28-46.	0.7	5
105	Opportunities and utilization of branching and step-out behavior in magnetic microswimmers with a nonlinear response. Applied Physics Letters, 2021, 118, .	1.5	5
106	Magnetite-binding proteins from the magnetotactic bacterium Desulfamplus magnetovallimortis BW-1. Nanoscale, 2021, 13, 20396-20400.	2.8	4
107	Biomimetic Formation of Magnetite Nanoparticles. , 0, , 159-171.		3
108	Stokesian dynamics simulations of a magnetotactic bacterium. European Physical Journal E, 2021, 44, 40.	0.7	3

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109	Bacteriophageâ€Templated Assembly of Magnetic Nanoparticles and Their Actuation Potential. ChemNanoMat, 2021, 7, 942-949.	1.5	3
110	Magnetite formation via membrane-bound ferritin and an iron(II) species at the cytoplasmic membrane and in magnetosomes ofMagnetospirillum gryphiswaldense. Journal of Physics: Conference Series, 2010, 217, 012020.	0.3	2
111	From magnetotactic bacteria to hollow spirilla-shaped silica containing a magnetic chain. RSC Advances, 2012, 2, 8007.	1.7	2
112	Crystal structure of the magnetobacterial protein MtxA C-terminal domain reveals a new sequence-structure relationship. Frontiers in Molecular Biosciences, 2015, 2, 25.	1.6	2
113	Self-assembly processes: general discussion. Faraday Discussions, 2015, 181, 299-323.	1.6	2
114	New routes to control nanoparticle synthesis: general discussion. Faraday Discussions, 2015, 181, 147-179.	1.6	2
115	Selection for Function: From Chemically Synthesized Prototypes to 3Dâ€Printed Microdevices. Advanced Intelligent Systems, 2020, 2, 2000078.	3.3	2
116	Defining Local Chemical Conditions in Magnetosomes of Magnetotactic Bacteria. Journal of Physical Chemistry B, 2022, 126, 2677-2687.	1.2	2
117	Mineralogical and Isotopic Properties of Biogenic Nanocrystalline Magnetites. , 2006, , 175-196.		1
118	Correlative Fluorescence and Liquid Cell STEM of Live Magnetotactic Bacteria. Microscopy and Microanalysis, 2014, 20, 1510-1511.	0.2	1
119	Correlative Electron and Fluorescence Microscopy of Magnetotactic Bacteria in Liquid: Toward In Vivo Imaging. Microscopy and Microanalysis, 2015, 21, 1499-1500.	0.2	1
120	Field-assisted self-assembly process: general discussion. Faraday Discussions, 2015, 181, 463-479.	1.6	1
121	Magneto-Aerotaxis: Bacterial Motility in Magnetic Fields. Biophysical Journal, 2017, 112, 567a.	0.2	1
122	Surface-Enhanced Raman Scattering Microspectroscopy Enables the Direct Characterization of Biomineral-Associated Organic Material on Single Calcareous Microskeletons. Journal of Physical Chemistry Letters, 2020, 11, 8623-8629.	2.1	1
123	CHAPTER 11. Magnetic Nanoparticles in Bacteria. RSC Smart Materials, 2013, , 235-255.	0.1	0
124	Correlative in situ Analysis of Magnetosome Magnetite Biomineralization. Microscopy and Microanalysis, 2016, 22, 12-13.	0.2	0
125	Elastic Properties of Magnetosome Chains. Biophysical Journal, 2016, 110, 469a.	0.2	0