

# Benjamin Gilbert

## List of Publications by Year in descending order

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64  
papers

6,788  
citations

126901

33  
h-index

128286

60  
g-index

65  
all docs

65  
docs citations

65  
times ranked

10540  
citing authors

#	ARTICLE	IF	CITATIONS
1	Comparison of the Mechanism of Toxicity of Zinc Oxide and Cerium Oxide Nanoparticles Based on Dissolution and Oxidative Stress Properties. ACS Nano, 2008, 2, 2121-2134.	14.6	2,145
2	Formation of Sphalerite (ZnS) Deposits in Natural Biofilms of Sulfate-Reducing Bacteria. , 2000, 290, 1744-1747.		554
3	Use of a Rapid Cytotoxicity Screening Approach To Engineer a Safer Zinc Oxide Nanoparticle through Iron Doping. ACS Nano, 2010, 4, 15-29.	14.6	464
4	Water-driven structure transformation in nanoparticles at room temperature. Nature, 2003, 424, 1025-1029.	27.8	427
5	Nanoparticles: Strained and Stiff. Science, 2004, 305, 651-654.	12.6	420
6	Transformation mechanism of amorphous calcium carbonate into calcite in the sea urchin larval spicule. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 17362-17366.	7.1	380
7	Electron Small Polarons and Their Mobility in Iron (Oxyhydr)oxide Nanoparticles. Science, 2012, 337, 1200-1203.	12.6	166
8	The effects of nanoparticle aggregation processes on aggregate structure and metal uptake. Journal of Colloid and Interface Science, 2009, 339, 285-295.	9.4	157
9	Complexation and Redox Buffering of Iron(II) by Dissolved Organic Matter. Environmental Science & Technology, 2017, 51, 11096-11104.	10.0	157
10	The Fate of ZnO Nanoparticles Administered to Human Bronchial Epithelial Cells. ACS Nano, 2012, 6, 4921-4930.	14.6	146
11	Stable cluster formation in aqueous suspensions of iron oxyhydroxide nanoparticles. Journal of Colloid and Interface Science, 2007, 313, 152-159.	9.4	123
12	Silver Nanowire Exposure Results in Internalization and Toxicity to Daphnia magna. ACS Nano, 2013, 7, 10681-10694.	14.6	117
13	Biom mineralization: Integrating mechanism and evolutionary history. Science Advances, 2022, 8, eabl9653.	10.3	86
14	Rate and mechanism of the photoreduction of birnessite (MnO <sub>2</sub> ) nanosheets. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4600-4605.	7.1	82
15	Surface Chemistry Controls Crystallinity of ZnS Nanoparticles. Nano Letters, 2006, 6, 605-610.	9.1	80
16	Early Stage Formation of Iron Oxyhydroxides during Neutralization of Simulated Acid Mine Drainage Solutions. Environmental Science & Technology, 2012, 46, 8140-8147.	10.0	74
17	Reversible, Surface-Controlled Structure Transformation in Nanoparticles Induced by an Aggregation State. Physical Review Letters, 2004, 92, 155501.	7.8	69
18	Influence of Size on Reductive Dissolution of Six-Line Ferrihydrite. Journal of Physical Chemistry C, 2008, 112, 12127-12133.	3.1	64

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19	Prediction of the effects of size and morphology on the structure of water around hematite nanoparticles. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 4023-4033.	3.9	64
20	Surface Enhanced Raman Spectroscopy of Organic Molecules on Magnetite (Fe <sub>3</sub> O <sub>4</sub> ) Nanoparticles. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 970-974.	4.6	62
21	Mechanism of Ferric Oxalate Photolysis. <i>ACS Earth and Space Chemistry</i> , 2017, 1, 270-276.	2.7	59
22	Soft X-ray Spectroscopy Study of the Electronic Structure of Oxidized and Partially Oxidized Magnetite Nanoparticles. <i>Journal of Physical Chemistry C</i> , 2010, 114, 21994-22001.	3.1	57
23	Diffusive transport and reaction in clay rocks: A storage (nuclear waste, CO <sub>2</sub> , H <sub>2</sub> ), energy (shale gas) and water quality issue. <i>Advances in Water Resources</i> , 2017, 106, 39-59.	3.8	56
24	Ion exchange selectivity in clay is controlled by nanoscale chemical-mechanical coupling. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 22052-22057.	7.1	54
25	Impacts of Ionic Strength on Three-Dimensional Nanoparticle Aggregate Structure and Consequences for Environmental Transport and Deposition. <i>Environmental Science &amp; Technology</i> , 2014, 48, 13703-13710.	10.0	50
26	Phase Transformation and Particle-Mediated Growth in the Formation of Hematite from 2-Line Ferrihydrite. <i>Crystal Growth and Design</i> , 2016, 16, 922-932.	3.0	48
27	Kinetically controlled formation of a novel nanoparticulate ZnS with mixed cubic and hexagonal stacking. <i>Journal of Materials Chemistry</i> , 2006, 16, 249-254.	6.7	44
28	A disordered nanoparticle model for 6-line ferrihydrite. <i>American Mineralogist</i> , 2013, 98, 1465-1476.	1.9	43
29	Analysis and simulation of the structure of nanoparticles that undergo a surface-driven structural transformation. <i>Journal of Chemical Physics</i> , 2004, 120, 11785-11795.	3.0	40
30	Short- and Long-Range Attractive Forces That Influence the Structure of Montmorillonite Osmotic Hydrates. <i>Langmuir</i> , 2016, 32, 12039-12046.	3.5	38
31	Short versus long silver nanowires: a comparison of in vivo pulmonary effects post instillation. <i>Particle and Fibre Toxicology</i> , 2014, 11, 52.	6.2	37
32	Supercritical CO <sub>2</sub> uptake by nonswelling phyllosilicates. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 873-878.	7.1	37
33	Evolution of ZnS Nanostructure Morphology under Interfacial Free-Energy Control. <i>Chemistry of Materials</i> , 2008, 20, 2438-2443.	6.7	34
34	Determination of the Three-Dimensional Structure of Ferrihydrite Nanoparticle Aggregates. <i>Langmuir</i> , 2014, 30, 9931-9940.	3.5	34
35	Observation of Transient Iron(II) Formation in Dye-Sensitized Iron Oxide Nanoparticles by Time-Resolved X-ray Spectroscopy. <i>Journal of Physical Chemistry Letters</i> , 2010, 1, 1372-1376.	4.6	31
36	Temperature-dependence of the dielectric relaxation of water using non-polarizable water models. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 1011-1018.	2.8	29

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37	Formation and Restacking of Disordered Smectite Osmotic Hydrates. <i>Clays and Clay Minerals</i> , 2015, 63, 432-442.	1.3	26
38	Crumpling of silver nanowires by endolysosomes strongly reduces toxicity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 14893-14898.	7.1	26
39	Floquet Prethermalization with Lifetime Exceeding 90Âs in a Bulk Hyperpolarized Solid. <i>Physical Review Letters</i> , 2021, 127, 170603.	7.8	25
40	Electron Mobility and Trapping in Ferrihydrite Nanoparticles. <i>ACS Earth and Space Chemistry</i> , 2017, 1, 216-226.	2.7	21
41	Kinetics of Water Adsorption-Driven Structural Transformation of ZnS Nanoparticles. <i>Journal of Physical Chemistry C</i> , 2008, 112, 4791-4796.	3.1	20
42	Ultrafast electron and energy transfer in dye-sensitized iron oxide and oxyhydroxide nanoparticles. <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 17303.	2.8	16
43	Effects of Formation Conditions on the Physicochemical Properties, Aggregation, and Phase Transformation of Iron Oxide Nanoparticles. <i>Langmuir</i> , 2013, 29, 1069-1076.	3.5	12
44	In Vitro Dermal Safety Assessment of Silver Nanowires after Acute Exposure: Tissue vs. Cell Models. <i>Nanomaterials</i> , 2018, 8, 232.	4.1	12
45	Coupled redox transformations of catechol and cerium at the surface of a cerium(III) phosphate mineral. <i>Geochimica Et Cosmochimica Acta</i> , 2008, 72, 2454-2464.	3.9	10
46	Ion complexation waves emerge at the curved interfaces of layered minerals. <i>Nature Communications</i> , 2022, 13, .	12.8	10
47	Soft x-ray spectroscopy of high pressure liquid. <i>Review of Scientific Instruments</i> , 2018, 89, 013114.	1.3	9
48	Diffusivity of Carbon Dioxide in Aqueous Solutions under Geologic Carbon Sequestration Conditions. <i>Journal of Physical Chemistry B</i> , 2018, 122, 4566-4572.	2.6	9
49	Diverse Microorganisms in Sediment and Groundwater Are Implicated in Extracellular Redox Processes Based on Genomic Analysis of Bioanode Communities. <i>Frontiers in Microbiology</i> , 2020, 11, 1694.	3.5	9
50	Phase Transition and Liquid-like Superionic Conduction in Ag <sub>2</sub> S. <i>Journal of Physical Chemistry C</i> , 2020, 124, 10150-10158.	3.1	9
51	Layer size polydispersity in hydrated montmorillonite creates multiscale porosity networks. <i>Applied Clay Science</i> , 2020, 190, 105548.	5.2	9
52	Long-Range Interactions Restrict Water Transport in Pyrophyllite Interlayers. <i>Scientific Reports</i> , 2016, 6, 25278.	3.3	8
53	Long-Term <sup>13</sup> C Uptake by <sup>12</sup> C-Enriched Calcite. <i>ACS Earth and Space Chemistry</i> , 2021, 5, 998-1005.	2.7	7
54	Lateral water structure connects metal oxide nanoparticle faces. <i>Journal of Materials Research</i> , 2019, 34, 456-464.	2.6	4

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55	An electrochemical method to rapidly assess the environmental risk of silver release from nanowire transparent conductive films. <i>NanoImpact</i> , 2020, 18, 100217.	4.5	4
56	Atomic Structure, Defects, and Stacking of Clay Particles by Low-Dose, High Resolution (Cryo)-TEM. <i>Microscopy and Microanalysis</i> , 2018, 24, 1958-1959.	0.4	3
57	The hard x-ray nanotomography microscope at the advanced light source. <i>Review of Scientific Instruments</i> , 2022, 93, 023704.	1.3	3
58	Atomic Perspective on the Serpentineâ€“Chlorite Solid-State Transformation. <i>Chemistry of Materials</i> , 2021, 33, 6338-6345.	6.7	2
59	Direct Observations of Silver Nanowire-Induced Frustrated Phagocytosis among NR8383 Lung Alveolar Macrophages. <i>Journal of Physical Chemistry B</i> , 2020, 124, 11584-11592.	2.6	2
60	Thin Water Film Formation on Metal Oxide Crystal Surfaces. <i>Langmuir</i> , 2012, 28, 14308-14312.	3.5	1
61	Pathways for the Photoreduction of Fumarate on ZnS. <i>ACS Earth and Space Chemistry</i> , 2019, 3, 2250-2258.	2.7	1
62	Polytypism in semi-disordered lizardite and amesite by low-dose HAADF-STEM. <i>American Mineralogist</i> , 2022, 107, 221-232.	1.9	1
63	WAXS and PDF-Based Analyses of Chromium Doping in Nanocrystalline Titania (Anatase and Brookite). <i>Materials Research Society Symposia Proceedings</i> , 2006, 915, 1.	0.1	0
64	The moirÃ© the merrier. <i>Nature Materials</i> , 2021, 20, 1598-1600.	27.5	0