

# MÃ©lanie Auffan

## List of Publications by Year in descending order

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90  
papers

8,443  
citations

81900

39  
h-index

49909

87  
g-index

91  
all docs

91  
docs citations

91  
times ranked

11202  
citing authors

#	ARTICLE	IF	CITATIONS
1	Towards a definition of inorganic nanoparticles from an environmental, health and safety perspective. <i>Nature Nanotechnology</i> , 2009, 4, 634-641.	31.5	1,586
2	Cytotoxicity of CeO <sub>2</sub> Nanoparticles for <i>Escherichia coli</i> . Physico-Chemical Insight of the Cytotoxicity Mechanism. <i>Environmental Science &amp; Technology</i> , 2006, 40, 6151-6156.	10.0	723
3	Mechanism of Silver Nanoparticle Toxicity Is Dependent on Dissolved Silver and Surface Coating in <i>Caenorhabditis elegans</i> . <i>Environmental Science &amp; Technology</i> , 2012, 46, 1119-1127.	10.0	535
4	More than the Ions: The Effects of Silver Nanoparticles on <i>Lolium multiflorum</i> . <i>Environmental Science &amp; Technology</i> , 2011, 45, 2360-2367.	10.0	494
5	Relation between the Redox State of Iron-Based Nanoparticles and Their Cytotoxicity toward <i>Escherichia coli</i> . <i>Environmental Science &amp; Technology</i> , 2008, 42, 6730-6735.	10.0	487
6	Chemical stability of metallic nanoparticles: A parameter controlling their potential cellular toxicity in vitro. <i>Environmental Pollution</i> , 2009, 157, 1127-1133.	7.5	473
7	Intracellular uptake and associated toxicity of silver nanoparticles in <i>Caenorhabditis elegans</i> . <i>Aquatic Toxicology</i> , 2010, 100, 140-150.	4.0	327
8	Aging of TiO <sub>2</sub> nanocomposites used in sunscreen. Dispersion and fate of the degradation products in aqueous environment. <i>Environmental Pollution</i> , 2010, 158, 3482-3489.	7.5	203
9	In Vitro Interactions between DMSA-Coated Maghemite Nanoparticles and Human Fibroblasts: A Physicochemical and Cyto-Genotoxic Study. <i>Environmental Science &amp; Technology</i> , 2006, 40, 4367-4373.	10.0	195
10	Structural Degradation at the Surface of a TiO <sub>2</sub> -Based Nanomaterial Used in Cosmetics. <i>Environmental Science &amp; Technology</i> , 2010, 44, 2689-2694.	10.0	193
11	Enhanced Adsorption of Arsenic onto Maghemites Nanoparticles: As(III) as a Probe of the Surface Structure and Heterogeneity. <i>Langmuir</i> , 2008, 24, 3215-3222.	3.5	185
12	CeO <sub>2</sub> nanoparticles induce DNA damage towards human dermal fibroblasts in vitro. <i>Nanotoxicology</i> , 2009, 3, 161-171.	3.0	179
13	TiO <sub>2</sub> -based nanoparticles released in water from commercialized sunscreens in a life-cycle perspective: Structures and quantities. <i>Environmental Pollution</i> , 2011, 159, 1543-1550.	7.5	166
14	Direct and indirect CeO <sub>2</sub> nanoparticles toxicity for <i>Escherichia coli</i> and <i>Synechocystis</i> . <i>Nanotoxicology</i> , 2009, 3, 284-295.	3.0	146
15	Protein corona formation for nanomaterials and proteins of a similar size: hard or soft corona?. <i>Nanoscale</i> , 2013, 5, 1658.	5.6	134
16	Two-Photon Excitation of Porphyrin-Functionalized Porous Silicon Nanoparticles for Photodynamic Therapy. <i>Advanced Materials</i> , 2014, 26, 7643-7648.	21.0	131
17	Environmental release, fate and ecotoxicological effects of manufactured ceria nanomaterials. <i>Environmental Science: Nano</i> , 2014, 1, 533-548.	4.3	110
18	Uptake of silver nanoparticles and toxicity to early life stages of Japanese medaka ( <i>Oryzias latipes</i> ): Effect of coating materials. <i>Aquatic Toxicology</i> , 2012, 120-121, 59-66.	4.0	105

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19	Molecular Insights of Oxidation Process of Iron Nanoparticles: Spectroscopic, Magnetic, and Microscopic Evidence. <i>Environmental Science &amp; Technology</i> , 2014, 48, 13888-13894.	10.0	97
20	Theory and Methodology for Determining Nanoparticle Affinity for Heteroaggregation in Environmental Matrices Using Batch Measurements. <i>Environmental Engineering Science</i> , 2014, 31, 421-427.	1.6	74
21	High-Resolution Fluorescence Detected X-ray Absorption Spectroscopy: A Powerful New Structural Tool in Environmental Biogeochemistry Sciences. <i>Journal of Environmental Quality</i> , 2017, 46, 1146-1157.	2.0	72
22	Inorganic manufactured nanoparticles: how their physicochemical properties influence their biological effects in aqueous environments. <i>Nanomedicine</i> , 2010, 5, 999-1007.	3.3	69
23	Physico-chemical Control over the Single- or Double-Wall Structure of Aluminogermanate Imogolite-like Nanotubes. <i>Journal of the American Chemical Society</i> , 2012, 134, 3780-3786.	13.7	69
24	Intestinal toxicity evaluation of TiO <sub>2</sub> degraded surface-treated nanoparticles: a combined physico-chemical and toxicogenomics approach in caco-2 cells. <i>Particle and Fibre Toxicology</i> , 2012, 9, 18.	6.2	67
25	Exposure to Cerium Dioxide Nanoparticles Differently Affect Swimming Performance and Survival in Two Daphnid Species. <i>PLoS ONE</i> , 2013, 8, e71260.	2.5	67
26	Filter-Feeding Bivalves Store and Biodeposit Colloidally Stable Gold Nanoparticles. <i>Environmental Science &amp; Technology</i> , 2011, 45, 6592-6599.	10.0	65
27	Antimicrobial effects of commercial silver nanoparticles are attenuated in natural streamwater and sediment. <i>Ecotoxicology</i> , 2012, 21, 1867-1877.	2.4	64
28	Comparative Toxicity of C <sub>60</sub> Aggregates toward Mammalian Cells: Role of Tetrahydrofuran (THF) Decomposition. <i>Environmental Science &amp; Technology</i> , 2009, 43, 6378-6384.	10.0	61
29	Transformation of Pristine and Citrate-Functionalized CeO <sub>2</sub> Nanoparticles in a Laboratory-Scale Activated Sludge Reactor. <i>Environmental Science &amp; Technology</i> , 2014, 48, 7289-7296.	10.0	61
30	Long-term aging of a CeO <sub>2</sub> based nanocomposite used for wood protection. <i>Environmental Pollution</i> , 2014, 188, 1-7.	7.5	59
31	DNA damage and oxidative stress induced by CeO <sub>2</sub> nanoparticles in human dermal fibroblasts: Evidence of a clastogenic effect as a mechanism of genotoxicity. <i>Nanotoxicology</i> , 2015, 9, 696-705.	3.0	59
32	Reactivity at (nano)particle-water interfaces, redox processes, and arsenic transport in the environment. <i>Comptes Rendus - Geoscience</i> , 2011, 343, 123-139.	1.2	58
33	Ultrastructural Interactions and Genotoxicity Assay of Cerium Dioxide Nanoparticles on Mouse Oocytes. <i>International Journal of Molecular Sciences</i> , 2013, 14, 21613-21628.	4.1	56
34	Evidence that Soil Properties and Organic Coating Drive the Phytoavailability of Cerium Oxide Nanoparticles. <i>Environmental Science &amp; Technology</i> , 2017, 51, 9756-9764.	10.0	49
35	Cerium dioxide nanoparticles affect in vitro fertilization in mice. <i>Nanotoxicology</i> , 2015, 10, 1-7.	3.0	48
36	Heteroaggregation, transformation and fate of CeO <sub>2</sub> nanoparticles in wastewater treatment. <i>Environmental Pollution</i> , 2015, 203, 122-129.	7.5	48

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37	An adaptable mesocosm platform for performing integrated assessments of nanomaterial risk in complex environmental systems. <i>Scientific Reports</i> , 2014, 4, 5608.	3.3	45
38	Manufactured metal and metal-oxide nanoparticles: Properties and perturbing mechanisms of their biological activity in ecosystems. <i>Comptes Rendus - Geoscience</i> , 2011, 343, 168-176.	1.2	43
39	Chronic dosing of a simulated pond ecosystem in indoor aquatic mesocosms: fate and transport of CeO <sub>2</sub> nanoparticles. <i>Environmental Science: Nano</i> , 2015, 2, 653-663.	4.3	42
40	Aged TiO <sub>2</sub> -Based Nanocomposite Used in Sunscreens Produces Singlet Oxygen under Long-Wave UV and Sensitizes <i>Escherichia coli</i> to Cadmium. <i>Environmental Science &amp; Technology</i> , 2014, 48, 5245-5253.	10.0	40
41	Toxicity evaluation of manufactured CeO <sub>2</sub> nanoparticles before and after alteration: combined physicochemical and whole-genome expression analysis in Caco-2 cells. <i>BMC Genomics</i> , 2014, 15, 700.	2.8	37
42	Integrated assessment of ceria nanoparticle impacts on the freshwater bivalve <i>Dreissena polymorpha</i> . <i>Nanotoxicology</i> , 2016, 10, 935-944.	3.0	37
43	Role of molting on the biodistribution of CeO <sub>2</sub> nanoparticles within <i>Daphnia pulex</i> . <i>Water Research</i> , 2013, 47, 3921-3930.	11.3	36
44	Monte Carlo simulations of the transformation and removal of Ag, TiO <sub>2</sub> , and ZnO nanoparticles in wastewater treatment and land application of biosolids. <i>Science of the Total Environment</i> , 2015, 511, 535-543.	8.0	36
45	The influence of salinity on the fate and behavior of silver standardized nanomaterial and toxicity effects in the estuarine bivalve <i>Scrobicularia plana</i> . <i>Environmental Toxicology and Chemistry</i> , 2016, 35, 2550-2561.	4.3	35
46	Toxicity of CeO <sub>2</sub> nanoparticles on a freshwater experimental trophic chain: A study in environmentally relevant conditions through the use of mesocosms. <i>Nanotoxicology</i> , 2016, 10, 1-11.	3.0	32
47	Very low concentration of cerium dioxide nanoparticles induce DNA damage, but no loss of vitality, in human spermatozoa. <i>Toxicology in Vitro</i> , 2018, 50, 236-241.	2.4	32
48	Salinity-dependent silver nanoparticle uptake and transformation by Atlantic killifish ( <i>Fundulus heteroclitus</i> ). <i>Environmental Toxicology and Chemistry</i> , 2016, 35, 2550-2561.	3.0	26
49	Contribution of mesocosm testing to a single-step and exposure-driven environmental risk assessment of engineered nanomaterials. <i>NanoImpact</i> , 2019, 13, 66-69.	4.5	26
50	Redox Reactivity of Cerium Oxide Nanoparticles Induces the Formation of Disulfide Bridges in Thiol-Containing Biomolecules. <i>Chemical Research in Toxicology</i> , 2015, 28, 2304-2312.	3.3	24
51	Biological Fate of Fe <sub>3</sub> O <sub>4</sub> Core-Shell Mesoporous Silica Nanoparticles Depending on Particle Surface Chemistry. <i>Nanomaterials</i> , 2017, 7, 162.	4.1	23
52	Anthropogenic Release and Distribution of Titanium Dioxide Particles in a River Downstream of a Nanomaterial Manufacturer Industrial Site. <i>Frontiers in Environmental Science</i> , 2020, 8, .	3.3	23
53	Influence of the Length of Imogolite-Like Nanotubes on Their Cytotoxicity and Genotoxicity toward Human Dermal Cells. <i>Chemical Research in Toxicology</i> , 2012, 25, 2513-2522.	3.3	22
54	Enhanced transportability of zero valent iron nanoparticles in aquifer sediments: surface modifications, reactivity, and particle traveling distances. <i>Environmental Science and Pollution Research</i> , 2017, 24, 9269-9277.	5.3	22

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55	Nanotechnology, global development in the frame of environmental risk forecasting. A necessity of interdisciplinary researches. <i>Comptes Rendus - Geoscience</i> , 2015, 347, 35-42.	1.2	21
56	Early-stage precipitation kinetics of zinc sulfide nanoclusters forming in the presence of cysteine. <i>Chemical Geology</i> , 2012, 329, 10-17.	3.3	20
57	Effect of field site hydrogeochemical conditions on the corrosion of milled zerovalent iron particles and their dechlorination efficiency. <i>Science of the Total Environment</i> , 2018, 618, 1619-1627.	8.0	20
58	Environmental exposure of a simulated pond ecosystem to a CuO nanoparticle-based wood stain throughout its life cycle. <i>Environmental Science: Nano</i> , 2018, 5, 2579-2589.	4.3	19
59	Non-linear release dynamics for a CeO <sub>2</sub> nanomaterial embedded in a protective wood stain, due to matrix photo-degradation. <i>Environmental Pollution</i> , 2018, 241, 182-193.	7.5	19
60	Contrasted microbial community colonization of a bauxite residue deposit marked by a complex geochemical context. <i>Journal of Hazardous Materials</i> , 2022, 424, 127470.	12.4	18
61	Structural and physical-chemical behavior of a CeO <sub>2</sub> nanoparticle based diesel additive during combustion and environmental release. <i>Environmental Science: Nano</i> , 2017, 4, 1974-1980.	4.3	16
62	Is There a Trojan-Horse Effect during Magnetic Nanoparticles and Metalloid Cocontamination of Human Dermal Fibroblasts?. <i>Environmental Science &amp; Technology</i> , 2012, 46, 10789-10796.	10.0	13
63	Nanotoxicology in the environment. <i>Environmental Science: Nano</i> , 2015, 2, 561-563.	4.3	12
64	Effects of metallic and metal oxide nanoparticles in aquatic and terrestrial food chains. Biomarkers responses in invertebrates and bacteria. <i>International Journal of Nanotechnology</i> , 2012, 9, 181.	0.2	10
65	Monitoring the Environmental Aging of Nanomaterials: An Opportunity for Mesocosm Testing?. <i>Materials</i> , 2019, 12, 2447.	2.9	10
66	Ontology-based NLP information extraction to enrich nanomaterial environmental exposure database. <i>Procedia Computer Science</i> , 2020, 176, 360-369.	2.0	10
67	Aquatic Mesocosm Strategies for the Environmental Fate and Risk Assessment of Engineered Nanomaterials. <i>Environmental Science &amp; Technology</i> , 2021, 55, 16270-16282.	10.0	10
68	Ecotoxicology: Nanoparticle Reactivity and Living Organisms. , 2011, , 325-357.		9
69	The shape and speciation of Ag nanoparticles drive their impacts on organisms in a lotic ecosystem. <i>Environmental Science: Nano</i> , 2020, 7, 3167-3177.	4.3	9
70	Cytotoxicity and genotoxicity of lanthanides for <i>Vicia faba</i> L. are mediated by their chemical speciation in different exposure media. <i>Science of the Total Environment</i> , 2021, 790, 148223.	8.0	9
71	Potential of Ligand-Promoted Dissolution at Mild pH for the Selective Recovery of Rare Earth Elements in Bauxite Residues. <i>ACS Sustainable Chemistry and Engineering</i> , 2022, 10, 6942-6951.	6.7	9
72	A new approach for the oocyte genotoxicity assay: adaptation of comet assay on mouse cumulus-oocyte complexes. <i>Laboratory Animals</i> , 2015, 49, 251-254.	1.0	8

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73	Silver toxicity across salinity gradients: the role of dissolved silver chloride species (AgCl <sub>x</sub> ) in Atlantic killifish ( <i>Fundulus heteroclitus</i> ) and medaka ( <i>Oryzias latipes</i> ) early life-stage toxicity. <i>Ecotoxicology</i> , 2016, 25, 1105-1118.	2.4	8
74	Remote Biodegradation of Ge-Imogolite Nanotubes Controlled by the Iron Homeostasis of <i>Pseudomonas brassicacearum</i> . <i>Environmental Science &amp; Technology</i> , 2016, 50, 7791-7798.	10.0	8
75	MESOCOSM: A mesocosm database management system for environmental nanosafety. <i>NanoImpact</i> , 2021, 21, 100288.	4.5	8
76	Influence of structural defects of Ge-imogolite nanotubes on their toxicity towards <i>Pseudomonas brassicacearum</i> . <i>Environmental Science: Nano</i> , 2016, 3, 839-846.	4.3	7
77	Stealth Biocompatible Si-Based Nanoparticles for Biomedical Applications. <i>Nanomaterials</i> , 2017, 7, 288.	4.1	7
78	The SERENADE project; a step forward in the safe by design process of nanomaterials: The benefits of a diverse and interdisciplinary approach. <i>Nano Today</i> , 2021, 37, 101065.	11.9	7
79	Reply to comment on Fisichella et al. (2012), "Intestinal toxicity evaluation of TiO <sub>2</sub> degraded surface-treated nanoparticles: a combined physico-chemical and toxicogenomics approach in Caco-2 cells" by Faust et al.. <i>Particle and Fibre Toxicology</i> , 2012, 9, 39.	6.2	6
80	CeO <sub>2</sub> Nanomaterials from Diesel Engine Exhaust Induce DNA Damage and Oxidative Stress in Human and Rat Sperm In Vitro. <i>Nanomaterials</i> , 2020, 10, 2327.	4.1	6
81	Phytoavailability of silver at predicted environmental concentrations: does the initial ionic or nanoparticulate form matter?. <i>Environmental Science: Nano</i> , 2019, 6, 127-135.	4.3	5
82	The necessity of investigating a freshwater-marine continuum using a mesocosm approach in nanosafety: The case study of TiO <sub>2</sub> MNM-based photocatalytic cement. <i>NanoImpact</i> , 2020, 20, 100254.	4.5	5
83	In Vitro Co-Exposure to CeO <sub>2</sub> Nanomaterials from Diesel Engine Exhaust and Benzo(a)Pyrene Induces Additive DNA Damage in Sperm and Cumulus Cells but Not in Oocytes. <i>Nanomaterials</i> , 2021, 11, 478.	4.1	5
84	Surface Reactivity of Manufactured Nanoparticles. , 2011, , 269-290.		5
85	Multivariate analysis of the exposure and hazard of ceria nanomaterials in indoor aquatic mesocosms. <i>Environmental Science: Nano</i> , 2020, 7, 1661-1669.	4.3	4
86	Robustness of Indoor Aquatic Mesocosm Experimentations and Data Reusability to Assess the Environmental Risks of Nanomaterials. <i>Frontiers in Environmental Science</i> , 2021, 9, .	3.3	4
87	Ecotoxicity of Inorganic Nanoparticles: From Unicellular Organisms to Invertebrates. , 2012, , 623-636.		2
88	Environmental Sciences at the ESRF. <i>Synchrotron Radiation News</i> , 2010, 23, 28-35.	0.8	1
89	The SERENADE project " A step forward in the Safe by Design process of nanomaterials: Moving towards a product-oriented approach. <i>Nano Today</i> , 2021, 39, 101238.	11.9	1
90	Physicochemical Properties of Nanoparticles in Relation with Toxicity. , 2016, , 3183-3195.		0