David J Spurgeon

List of Publications by Year
in descending order

123 papers	10,216 citations	38660 50 h-index	34900 98 g-index
126 all docs	126 docs citations	126 times ranked	10221 citing authors

#	Article	IF	Citations
1	Microplastics in freshwater and terrestrial environments: Evaluating the current understanding to identify the knowledge gaps and future research priorities. Science of the Total Environment, 2017, 586, 127-141.	3.9	2,188
2	Large microplastic particles in sediments of tributaries of the River Thames, UK â€“ Abundance, sources and methods for effective quantification. Marine Pollution Bulletin, 2017, 114, 218-226.	2.3	651
3	Interactions between effects of environmental chemicals and natural stressors: A review. Science of the Total Environment, 2010, 408, 3746-3762.	3.9	621
4	Nanopesticides: Guiding Principles for Regulatory Evaluation of Environmental Risks. Journal of Agricultural and Food Chemistry, 2014, 62, 4227-4240.	2.4	308
5	Extrapolation of the laboratory-based OECD earthworm toxicity test to metal-contaminated field sites. Ecotoxicology, 1995, 4, 190-205.	1.1	224
6	Systems toxicology approaches for understanding the joint effects of environmental chemical mixtures. Science of the Total Environment, 2010, 408, 3725-3734.	3.9	198
7	Deriving Soil Critical Limits for Cu, Zn, Cd, and Pb:Â A Method Based on Free Ion Concentrations. Environmental Science & Technology, 2004, 38, 3623-3631.	4.6	188
8	'Systems toxicology' approach identifies coordinated metabolic responses to copper in a terrestrial non-model invertebrate, the earthworm Lumbricus rubellus. BMC Biology, 2008, 6, 25.	1.7	168
9	An assessment of the fate, behaviour and environmental risk associated with sunscreen TiO2 nanoparticles in UK field scenarios. Science of the Total Environment, 2011, 409, 2503-2510.	3.9	150
10	Microplastic particles reduce reproduction in the terrestrial worm Enchytraeus crypticus in a soil exposure. Environmental Pollution, 2019, 255, 113174.	3.7	150
11	A summary of eleven years progress in earthworm ecotoxicologyThe 7th international symposium on earthworm ecology Â· Cardiff Â· Wales Â· 2002. Pedobiologia, 2003, 47, 588-606.	0.5	147
12	The effects of metal contamination on earthworm populations around a smelting works: quantifying species effects. Applied Soil Ecology, 1996, 4, 147-160.	2.1	137
13	Effects of Metal-Contaminated Soils on the Growth, Sexual Development, and Early Cocoon Production of the EarthwormEisenia fetida,with Particular Reference to Zinc. Ecotoxicology and Environmental Safety, 1996, 35, 86-95.	2.9	133
14	Environmental Metabonomics: Applying Combination Biomarker Analysis in Earthworms at a Metal Contaminated Site. Ecotoxicology, 2004, 13, 797-806.	1.1	128
15	Relative sensitivity of lifeâ€cycle and biomarker responses in four earthworm species exposed to zinc. Environmental Toxicology and Chemistry, 2000, 19, 1800-1808.	2.2	125
16	A metabolomics based approach to assessing the toxicity of the polyaromatic hydrocarbon pyrene to the earthworm Lumbricus rubellus. Chemosphere, 2008, 71, 601-609.	4.2	122
17	Metabolic profiling detects early effects of environmental and lifestyle exposure to cadmium in a human population. BMC Medicine, 2012, 10, 61.	2.3	121
18	Land-use and land-management change: relationships with earthworm and fungi communities and soil structural properties. BMC Ecology, 2013, 13, 46.	3.0	118

#	Article	IF	Citations
19	Factors Influencing the National Distribution of Polycyclic Aromatic Hydrocarbons and Polychlorinated Biphenyls in British Soils. Environmental Science & Technology, 2006, 40, 7629-7635.	4.6	113
20	Metabonomic assessment of toxicity of 4â€fluoroaniline, 3,5â€difluoroaniline and 2â€fluoroâ€4â€methylaniline to the earthworm<i>Eisenia veneta</i>(rosa): Identification of new endogenous biomarkers. Environmental Toxicology and Chemistry, 2002, 21, 1966-1972.	2.2	110
21	Soil pH effects on the comparative toxicity of dissolved zinc, non-nano and nano ZnO to the earthworm<i>Eisenia fetida</i>. Nanotoxicology, 2014, 8, 559-572.	1.6	108
22	Comparative toxicity of pesticides and environmental contaminants in bees: Are honey bees a useful proxy for wild bee species?. Science of the Total Environment, 2017, 578, 357-365.	3.9	106
23	Measuring and modelling mixture toxicity of imidacloprid and thiacloprid on Caenorhabditis elegans and Eisenia fetida. Ecotoxicology and Environmental Safety, 2009, 72, 71-79.	2.9	98
24	A critical review of current methods in earthworm ecology: From individuals to populations. European Journal of Soil Biology, 2010, 46, 67-73.	1.4	98
25	Toward sustainable environmental quality: Priority research questions for Europe. Environmental Toxicology and Chemistry, 2018, 37, 2281-2295.	2.2	98
26	Comparative chronic toxicity of nanoparticulate and ionic zinc to the earthworm Eisenia veneta in a soil matrix. Environment International, 2011, 37, 1111-1117.	4.8	97
27	Metabolic Profile Biomarkers of Metal Contamination in a Sentinel Terrestrial Species Are Applicable Across Multiple Sites. Environmental Science & Technology, 2007, 41, 4458-4464.	4.6	96
28	Transcriptome profiling of developmental and xenobiotic responses in a keystone soil animal, the oligochaete annelid Lumbricus rubellus. BMC Genomics, 2008, 9, 266.	1.2	93
29	Short-term soil bioassays may not reveal the full toxicity potential for nanomaterials; bioavailability and toxicity of silver ions (AgNO3) and silver nanoparticles to earthworm Eisenia fetida in long-term aged soils. Environmental Pollution, 2015, 203, 191-198.	3.7	93
30	Toxicogenomic Responses of the Model Organism Caenorhabditis elegans to Gold Nanoparticles. Environmental Science & Technology, 2012, 46, 4115-4124.	4.6	92
31	Risk assessment of the threat of secondary poisoning by metals to predators of earthworms in the vicinity of a primary smelting works. Science of the Total Environment, 1996, 187, 167-183.	3.9	79
32	Metabolomics and its use in ecology. Austral Ecology, 2013, 38, 713-720.	0.7	79
33	Soil pH effects on the interactions between dissolved zinc, non-nano- and nano-ZnO with soil bacterial communities. Environmental Science and Pollution Research, 2016, 23, 4120-4128.	2.7	79
34	Acute toxicity of organic pesticides to Daphnia magna is unchanged by co-exposure to polystyrene microplastics. Ecotoxicology and Environmental Safety, 2018, 166, 26-34.	2.9	76
35	EFFECT OF pH ON METAL SPECIATION AND RESULTING METAL UPTAKE AND TOXICITY FOR EARTHWORMS. Environmental Toxicology and Chemistry, 2006, 25, 788.	2.2	74
36	Geographical and pedological drivers of distribution and risks to soil fauna of seven metals (Cd, Cu,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	3.7	71

#	Article	IF	Citations
37	Unique metabolites protect earthworms against plant polyphenols. Nature Communications, 2015, 6, 7869.	5.8	71
38	DNA sequence variation and methylation in an arsenic tolerant earthworm population. Soil Biology and Biochemistry, 2013, 57, 524-532.	4.2	68
39	Responses of earthworms (Lumbricus rubellus) to copper and cadmium as determined by measurement of juvenile traits in a specifically designed test system. Ecotoxicology and Environmental Safety, 2004, 57, 54-64.	2.9	66
40	Key principles and operational practices for improved nanotechnology environmental exposure assessment. Nature Nanotechnology, 2020, 15, 731-742.	15.6	66
41	Glutathione transferase (GST) as a candidate molecular-based biomarker for soil toxin exposure in the earthworm Lumbricus rubellus. Environmental Pollution, 2009, 157, 2459-2469.	3.7	65
42	Species Sensitivity to Toxic Substances: Evolution, Ecology and Applications. Frontiers in Environmental Science, 2020, 8, .	1.5	65
43	Toxicity of cerium oxide nanoparticles to the earthworm Eisenia fetida: subtle effects. Environmental Chemistry, 2014, 11, 268.	0.7	60
44	Different routes, same pathways: Molecular mechanisms under silver ion and nanoparticle exposures in the soil sentinel Eisenia fetida. Environmental Pollution, 2015, 205, 385-393.	3.7	60
45	Metal Effects on Soil Invertebrate Feeding: Measurements Using the Bait Lamina Method. Ecotoxicology, 2004, 13, 807-816.	1.1	58
46	Earthworm Uptake Routes and Rates of Ionic Zn and ZnO Nanoparticles at Realistic Concentrations, Traced Using Stable Isotope Labeling. Environmental Science & Technology, 2016, 50, 412-419.	4.6	57
47	Multigenerational exposure to silver ions and silver nanoparticles reveals heightened sensitivity and epigenetic memory in <i>Caenorhabditis elegans</i>. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20152911.	1.2	54
48	Investigating combined toxicity of binary mixtures in bees: Meta-analysis of laboratory tests, modelling, mechanistic basis and implications for risk assessment. Environment International, 2019, 133, 105256.	4.8	54
49	Comparing bee species responses to chemical mixtures: Common response patterns?. PLoS ONE, 2017, 12, e0176289.	1.1	54
50	Pedological Characterisation of Sites Along a Transect from a Primary Cadmium/Lead/Zinc Smelting Works. Ecotoxicology, 2004, 13, 725-737.	1.1	53
51	Earthworm responses to Cd and Cu under fluctuating environmental conditions: a comparison with results from laboratory exposures. Environmental Pollution, 2005, 136, 443-452.	3.7	53
52	Measurement and modeling of the toxicity of binary mixtures in the nematode <i>Caenorhabditis elegans</i>â€"a test of independent action. Environmental Toxicology and Chemistry, 2009, 28, 97-104.	2.2	52
53	Uptake routes and toxicokinetics of silver nanoparticles and silver ions in the earthworm <i>Lumbricus rubellus</i>. Environmental Toxicology and Chemistry, 2015, 34, 2263-2270.	2.2	52
54	What Is on the Outside Mattersâ€"Surface Charge and Dissolve Organic Matter Association Affect the Toxicity and Physiological Mode of Action of Polystyrene Nanoplastics to <i>C. elegans</i>. Environmental Science & Technology, 2021, 55, 6065-6075.	4.6	52

#	Article	IF	Citations
55	Modelling the joint effects of a metal and a pesticide on reproduction and toxicokinetics in Lumbricid earthworms. Environment International, 2011, 37, 663-670.	4.8	50
56	Hierarchical Responses of Soil Invertebrates (Earthworms) to Toxic Metal Stress. Environmental Science & Technology, 2005, 39, 5327-5334.	4.6	49
57	Analytical approaches to support current understanding of exposure, uptake and distributions of engineered nanoparticles by aquatic and terrestrial organisms. Ecotoxicology, 2015, 24, 239-261.	1.1	49
58	Validation of metabolomics for toxic mechanism of action screening with the earthworm Lumbricus rubellus. Metabolomics, 2009, 5, 72-83.	1.4	48
59	Potential New Method of Mixture Effects Testing Using Metabolomics and <i>Caenorhabditis elegans</i>. Journal of Proteome Research, 2012, 11, 1446-1453.	1.8	48
60	Strategies for robust and accurate experimental approaches to quantify nanomaterial bioaccumulation across a broad range of organisms. Environmental Science: Nano, 2019, 6, 1619-1656.	2.2	48
61	Linking toxicant physiological mode of action with induced gene expression changes in Caenorhabditis elegans. BMC Systems Biology, 2010, 4, 32.	3.0	46
62	Quantifying copper and cadmium impacts on intrinsic rate of population increase in the terrestrial oligochaete<i>Lumbricus rubellus</i>. Environmental Toxicology and Chemistry, 2003, 22, 1465-1472.	2.2	40
63	Accumulation of polybrominated diphenyl ethers and microbiome response in the great pond snail Lymnaea stagnalis with exposure to nylon (polyamide) microplastics. Ecotoxicology and Environmental Safety, 2020, 188, 109882.	2.9	40
64	Toxicological, cellular and gene expression responses in earthworms exposed to copper and cadmium. Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology, 2004, 138, 11-21.	1.3	39
65	Similarity, independence, or interaction for binary mixture effects of nerve toxicants for the nematode <i>Caenorhabditis elegans</i>. Environmental Toxicology and Chemistry, 2010, 29, 1182-1191.	2.2	39
66	Current evidence for a role of epigenetic mechanisms in response to ionizing radiation in an ecotoxicological context. Environmental Pollution, 2019, 251, 469-483.	3.7	39
67	Nanomaterial Transformations in the Environment: Effects of Changing Exposure Forms on Bioaccumulation and Toxicity. Small, 2020, 16, e2000618.	5.2	37
68	Metalloproteins and phytochelatin synthase may confer protection against zinc oxide nanoparticle induced toxicity in Caenorhabditis elegans. Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology, 2014, 160, 75-85.	1.3	35
69	Addressing Nanomaterial Immunosafety by Evaluating Innate Immunity across Living Species. Small, 2020, 16, e2000598.	5.2	35
70	Modelling the effects of copper on soil organisms and processes using the free ion approach: Towards a multi-species toxicity model. Environmental Pollution, 2013, 178, 244-253.	3.7	34
71	Hormesis depends upon the life-stage and duration of exposure: Examples for a pesticide and a nanomaterial. Ecotoxicology and Environmental Safety, 2015, 120, 117-123.	2.9	34
72	Plasticisers in the terrestrial environment: sources, occurrence and fate. Environmental Chemistry, 2021, 18, 111-130.	0.7	34

#	Article	IF	Citations
73	Explaining density-dependent regulation in earthworm populations using life-history analysis. Oikos, 2003, 100, 89-95.	1.2	33
74	A new medium for <i>Caenorhabditis elegans</i> toxicology and nanotoxicology studies designed to better reflect natural soil solution conditions. Environmental Toxicology and Chemistry, 2013, 32, 1711-1717.	2.2	33
75	The gut barrier and the fate of engineered nanomaterials: a view from comparative physiology. Environmental Science: Nano, 2020, 7, 1874-1898.	2.2	32
76	Critical Analysis of Soil Invertebrate Biomarkers: A Field Case Study in Avonmouth, UK. Ecotoxicology, 2004, 13, 817-822.	1.1	31
77	Toxicokinetic studies reveal variability in earthworm pollutant handling. Pedobiologia, 2011, 54, S217-S222.	0.5	31
78	Genomic mutations after multigenerational exposure of Caenorhabditis elegans to pristine and sulfidized silver nanoparticles. Environmental Pollution, 2019, 254, 113078.	3.7	31
79	Life-History Patterns in Reference and Metal-Exposed Earthworm Populations. Ecotoxicology, 1999, 8, 133-141.	1.1	30
80	A summary of eleven years progress in earthworm ecotoxicology. Pedobiologia, 2003, 47, 588-606.	0.5	30
81	Three-phase metal kinetics in terrestrial invertebrates exposed to high metal concentrations. Science of the Total Environment, 2010, 408, 3794-3802.	3.9	30
82	COMBINED CHEMICAL (FLUORANTHENE) AND DROUGHT EFFECTS ON LUMBRICUS RUBELLUS DEMONSTRATE THE APPLICABILITY OF THE INDEPENDENT ACTION MODEL FOR MULTIPLE STRESSOR ASSESSMENT. Environmental Toxicology and Chemistry, 2009, 28, 629.	2.2	29
83	Genetic variation in populations of the earthworm, Lumbricus rubellus, across contaminated mine sites. BMC Genetics, 2017, 18, 97.	2.7	29
84	Application of physiologically based modelling and transcriptomics to probe the systems toxicology of aldicarb for Caenorhabditis elegans (Maupas 1900). Ecotoxicology, 2011, 20, 397-408.	1.1	26
85	Effect of temperature and season on reproduction, neutral red retention and metallothionein responses of earthworms exposed to metals in field soils. Environmental Pollution, 2007, 147, 83-93.	3.7	25
86	Low temperatures enhance the toxicity of copper and cadmium to <i>Enchytraeus crypticus</i> through different mechanisms. Environmental Toxicology and Chemistry, 2013, 32, 2274-2283.	2.2	25
87	Evaluating environmental risk assessment models for nanomaterials according to requirements along the product innovation Stage-Gate process. Environmental Science: Nano, 2019, 6, 505-518.	2.2	24
88	The Effects of In Vivo Exposure to Copper Oxide Nanoparticles on the Gut Microbiome, Host Immunity, and Susceptibility to a Bacterial Infection in Earthworms. Nanomaterials, 2020, 10, 1337.	1.9	24
89	Fractions Affected and Probabilistic Risk Assessment of Cu, Zn, Cd, and Pb in Soils Using the Free Ion Approach. Environmental Science & Technology, 2005, 39, 8533-8540.	4.6	23
90	Closing the loop: A spatial analysis to link observed environmental damage to predicted heavy metal emissions. Environmental Toxicology and Chemistry, 2003, 22, 970-976.	2.2	22

#	Article	IF	Citations
91	DEVELOPING A CRITICAL LOAD APPROACH FOR NATIONAL RISK ASSESSMENTS OF ATMOSPHERIC METAL DEPOSITION. Environmental Toxicology and Chemistry, 2006, 25, 883.	2.2	22
92	Variable Temperature Stress in the Nematode Caenorhabditis elegans (Maupas) and Its Implications for Sensitivity to an Additional Chemical Stressor. PLoS ONE, 2016, 11, e0140277.	1.1	22
93	Worst-case ranking of organic chemicals detected in groundwaters and surface waters in England. Science of the Total Environment, 2022, 835, 155101.	3.9	22
94	Establishing principal soil quality parameters influencing earthworms in urban soils using bioassays. Environmental Pollution, 2005, 133, 199-211.	3.7	20
95	How does growth temperature affect cadmium toxicity measured on different life history traits in the soil nematode <i>Caenorhabditis elegans</i>?. Environmental Toxicology and Chemistry, 2012, 31, 787-793.	2.2	19
96	Genetic, epigenetic and microbiome characterisation of an earthworm species (Octolasion lacteum) along a radiation exposure gradient at Chernobyl. Environmental Pollution, 2019, 255, 113238.	3.7	19
97	Mechanistic Effect Modeling of Earthworms in the Context of Pesticide Risk Assessment: Synthesis of the FORESEE Workshop. Integrated Environmental Assessment and Management, 2021, 17, 352-363.	1.6	18
98	Predicting Mixture Effects over Time with Toxicokineticâ€“Toxicodynamic Models (GUTS): Assumptions, Experimental Testing, and Predictive Power. Environmental Science & Technology, 2021, 55, 2430-2439.	4.6	18
99	How to analyse and account for interactions in mixture toxicity with toxicokinetic-toxicodynamic models. Science of the Total Environment, 2022, 843, 157048.	3.9	18
100	Probing the immune responses to nanoparticles across environmental species. A perspective of the EU Horizon 2020 project PANDORA. Environmental Science: Nano, 2020, 7, 3216-3232.	2.2	17
101	Accumulation of nylon microplastics and polybrominated diphenyl ethers and effects on gut microbial community of Chironomus sancticaroli. Science of the Total Environment, 2022, 832, 155089.	3.9	17
102	Ecological drivers influence the distributions of two cryptic lineages in an earthworm morphospecies. Applied Soil Ecology, 2016, 108, 8-15.	2.1	15
103	Influence of soil porewater properties on the fate and toxicity of silver nanoparticles to <i>Caenorhabditis elegans</i>. Environmental Toxicology and Chemistry, 2018, 37, 2609-2618.	2.2	14
104	Outdoor and indoor cadmium distributions near an abandoned smelting works and their relations to human exposure. Environmental Pollution, 2011, 159, 3425-3432.	3.7	13
105	Identifying biochemical phenotypic differences between cryptic species. Biology Letters, 2014, 10, 20140615.	1.0	13
106	Comparison of species sensitivity distribution modeling approaches for environmental risk assessment of nanomaterials â€“ A case study for silver and titanium dioxide representative materials. Aquatic Toxicology, 2020, 225, 105543.	1.9	13
107	Chemicals with increasingly complex modes of action result in greater variation in sensitivity between earthworm species. Environmental Pollution, 2021, 272, 115914.	3.7	12
108	Current research in soil invertebrate ecotoxicogenomics. Advances in Experimental Biology, 2008, 2, 133-326.	0.1	9

#	Article	IF	Citations
109	Off-Target Stoichiometric Binding Identified from Toxicogenomics Explains Why Some Species Are More Sensitive than Others to a Widely Used Neonicotinoid. Environmental Science & Technology, 2021, 55, 3059-3069.	4.6	9
110	Quantifying copper and cadmium impacts on intrinsic rate of population increase in the terrestrial oligochaete Lumbricus rubellus. Environmental Toxicology and Chemistry, 2003, 22, 1465-72.	2.2	8
111	The importance of experimental time when assessing the effect of temperature on toxicity in poikilotherms. Environmental Toxicology and Chemistry, 2014, 33, 1363-1371.	2.2	7
112	Bridging international approaches on nanoEHS. Nature Nanotechnology, 2021, 16, 608-611.	15.6	6
113	Proportional contributions to organic chemical mixture effects in groundwater and surface water. Water Research, 2022, 220, 118641.	5.3	6
114	Biological Methods for Assessing Potentially Contaminated Soils. , 0, , 163-205.		5
115	Phenotypic responses in <i>Caenorhabditis elegans</i> following chronic lowâ€level exposures to inorganic and organic compounds. Environmental Toxicology and Chemistry, 2018, 37, 920-930.	2.2	4
116	RELATIVE SENSITIVITY OF LIFE-CYCLE AND BIOMARKER RESPONSES IN FOUR EARTHWORM SPECIES EXPOSED TO ZINC. Environmental Toxicology and Chemistry, 2000, 19, 1800.	2.2	4
117	Chemical transformation and surface functionalisation affect the potential to group nanoparticles for risk assessment. Environmental Science: Nano, 2020, 7, 3100-3107.	2.2	3
118	Toxicogenomics in a soil sentinel exposure to Zn nanoparticles and ions reveals the comparative role of toxicokinetic and toxicodynamic mechanisms. Environmental Science: Nano, 2020, 7, 1464-1480.	2.2	3
119	Longâ€term cattle grazing shifts the ecological state of forest soils. Ecology and Evolution, 2022, 12, e8786.	0.8	3
120	Impacts of Life-Time Exposure of Arsenic, Cadmium and Fluoranthene on the Earthwormsâ€™ L. rubellus Global DNA Methylation as Detected by msAFLP. Genes, 2022, 13, 770.	1.0	3
121	Closing the loop: A spatial analysis to link observed environmental damage to predicted heavy metal emissions. , 2003, 22, 970.		2
122	EFSA Scientific Colloquium 22 â€“ Epigenetics and Risk Assessment: Where do we stand?. EFSA Supporting Publications, 2016, 13, 1129E.	0.3	1
123	Higher than â€¦ or lower than â€¦.? Evidence for the validity of the extrapolation of laboratory toxicity test results to predict the effects of chemicals and ionising radiation in the field. Journal of Environmental Radioactivity, 2020, 211, 105757.	0.9	1