

David T Welsh

List of Publications by Year in descending order

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99
papers

4,294
citations

101543

36
h-index

118850

62
g-index

100
all docs

100
docs citations

100
times ranked

4215
citing authors

#	ARTICLE	IF	CITATIONS
1	Ecological significance of compatible solute accumulation by micro-organisms: from single cells to global climate. <i>FEMS Microbiology Reviews</i> , 2000, 24, 263-290.	8.6	489
2	Removing ammonium from water and wastewater using cost-effective adsorbents: A review. <i>Journal of Environmental Sciences</i> , 2018, 63, 174-197.	6.1	205
3	Influence of jellyfish blooms on carbon, nitrogen and phosphorus cycling and plankton production. <i>Hydrobiologia</i> , 2009, 616, 133-149.	2.0	189
4	It's a dirty job but someone has to do it: The role of marine benthic macrofauna in organic matter turnover and nutrient recycling to the water column. <i>Chemistry and Ecology</i> , 2003, 19, 321-342.	1.6	145
5	Sulphate reduction and nitrogen fixation rates associated with roots, rhizomes and sediments from <i>Zostera noltii</i> and <i>Spartina maritima</i> meadows. <i>Environmental Microbiology</i> , 2001, 3, 63-71.	3.8	138
6	New Diffusive Gradients in a Thin Film Technique for Measuring Inorganic Arsenic and Selenium(IV) Using a Titanium Dioxide Based Adsorbent. <i>Analytical Chemistry</i> , 2010, 82, 7401-7407.	6.5	123
7	ROBUST: The Role of Buffering capacities in Stabilising coastal lagoon ecosystems. <i>Continental Shelf Research</i> , 2001, 21, 2021-2041.	1.8	118
8	Iron, sulphur and phosphorus cycling in the rhizosphere sediments of a eutrophic <i>Ruppia cirrhosa</i> meadow (Valle Smarlacca, Italy). <i>Journal of Sea Research</i> , 2001, 45, 15-26.	1.6	110
9	Implications for oxygen, nutrient fluxes and denitrification rates during the early stage of sediment colonisation by the polychaete <i>Nereis</i> spp. in four estuaries. <i>Estuarine, Coastal and Shelf Science</i> , 2007, 75, 125-134.	2.1	104
10	Titanium Dioxide-Based DGT Technique for In Situ Measurement of Dissolved Reactive Phosphorus in Fresh and Marine Waters. <i>Environmental Science & Technology</i> , 2010, 44, 9419-9424.	10.0	97
11	Speciation of Dissolved Inorganic Arsenic by Diffusive Gradients in Thin Films: Selective Binding of As ^{III} by 3-Mercaptopropyl-Functionalized Silica Gel. <i>Analytical Chemistry</i> , 2011, 83, 8293-8299.	6.5	92
12	Impacts of mussel (<i>Mytilus galloprovincialis</i>) farming on oxygen consumption and nutrient recycling in a eutrophic coastal lagoon. <i>Hydrobiologia</i> , 2005, 550, 183-198.	2.0	86
13	Impacts of shrimp farm effluent on water quality, benthic metabolism and N-dynamics in a mangrove forest (New Caledonia). <i>Estuarine, Coastal and Shelf Science</i> , 2013, 117, 12-21.	2.1	85
14	Diffusive Gradients in Thin Films Reveals Differences in Antimony and Arsenic Mobility in a Contaminated Wetland Sediment during an Oxidic-Anoxic Transition. <i>Environmental Science & Technology</i> , 2018, 52, 1118-1127.	10.0	84
15	Investigating the distribution and sources of organic matter in surface sediment of Coombabah Lake (Australia) using elemental, isotopic and fatty acid biomarkers. <i>Continental Shelf Research</i> , 2008, 28, 2535-2549.	1.8	80
16	Representative measurement of two-dimensional reactive phosphate distributions and co-distributed iron(II) and sulfide in seagrass sediment porewaters. <i>Chemosphere</i> , 2011, 85, 1256-1261.	8.2	79
17	Investigating Arsenic Speciation and Mobilization in Sediments with DGT and DET: A Mesocosm Evaluation of Oxidic-Anoxic Transitions. <i>Environmental Science & Technology</i> , 2012, 46, 3981-3989.	10.0	72
18	Titanium dioxide-based DGT for measuring dissolved As(V), V(V), Sb(V), Mo(VI) and W(VI) in water. <i>Talanta</i> , 2013, 105, 80-86.	5.5	72

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19	A novel gel-based technique for the high resolution, two-dimensional determination of iron (II) and sulfide in sediment. <i>Limnology and Oceanography: Methods</i> , 2008, 6, 502-512.	2.0	66
20	A sensitive, rapid ferricyanide-mediated toxicity bioassay developed using <i>Escherichia coli</i> . <i>Talanta</i> , 2010, 82, 751-757.	5.5	61
21	Direct contribution of clams (<i>Ruditapes philippinarum</i>) to benthic fluxes, nitrification, denitrification and nitrous oxide emission in a farmed sediment. <i>Estuarine, Coastal and Shelf Science</i> , 2015, 154, 84-93.	2.1	57
22	Biogeochemical indicators as tools for assessing sediment quality/vulnerability in transitional aquatic ecosystems. <i>Aquatic Conservation: Marine and Freshwater Ecosystems</i> , 2004, 14, S19-S29.	2.0	56
23	Simultaneous Measurement of Trace Metal and Oxyanion Concentrations in Water using Diffusive Gradients in Thin Films with a Chelex-Metsorb Mixed Binding Layer. <i>Analytical Chemistry</i> , 2014, 86, 427-434.	6.5	54
24	Diel fluctuations in solute distributions and biogeochemical cycling in a hypersaline microbial mat from Shark Bay, WA. <i>Marine Chemistry</i> , 2014, 167, 102-112.	2.3	51
25	Investigating biogenic heterogeneity in coastal sediments with two-dimensional measurements of iron(II) and sulfide. <i>Environmental Chemistry</i> , 2009, 6, 60.	1.5	50
26	Title is missing!. <i>Hydrobiologia</i> , 2000, 431, 165-174.	2.0	49
27	Benthic metabolism and nitrogen dynamics in an urbanised tidal creek: Domination of DNRA over denitrification as a nitrate reduction pathway. <i>Estuarine, Coastal and Shelf Science</i> , 2013, 131, 271-281.	2.1	49
28	Top-down and bottom-up influences of jellyfish on primary productivity and planktonic assemblages. <i>Limnology and Oceanography</i> , 2009, 54, 2058-2071.	3.1	48
29	Diurnal shifts in co-distributions of sulfide and iron(II) and profiles of phosphate and ammonium in the rhizosphere of <i>Zostera capricorni</i> . <i>Estuarine, Coastal and Shelf Science</i> , 2012, 115, 282-290.	2.1	48
30	Antimony and arsenic exhibit contrasting spatial distributions in the sediment and vegetation of a contaminated wetland. <i>Chemosphere</i> , 2017, 180, 388-395.	8.2	46
31	Benthic metabolism and nitrogen dynamics in a sub-tropical coastal lagoon: Microphytobenthos stimulate nitrification and nitrate reduction through photosynthetic oxygen evolution. <i>Estuarine, Coastal and Shelf Science</i> , 2012, 113, 272-282.	2.1	45
32	Identification of trehalose and glycine betaine as compatible solutes in the moderately halophilic sulfate reducing bacterium, <i>Desulfovibrio halophilus</i> . <i>FEMS Microbiology Letters</i> , 1996, 140, 203-207.	1.8	44
33	Oxygen and nutrient dynamics of the upside down jellyfish (<i>Cassiopea</i> sp.) and its influence on benthic nutrient exchanges and primary production. <i>Hydrobiologia</i> , 2009, 635, 351-362.	2.0	44
34	There's more to the picture than meets the eye: Sampling microphytobenthos in a heterogeneous environment. <i>Estuarine, Coastal and Shelf Science</i> , 2011, 95, 470-476.	2.1	42
35	<i>Symbiodinium</i> mitigate the combined effects of hypoxia and acidification on a noncalcifying cnidarian. <i>Global Change Biology</i> , 2017, 23, 3690-3703.	9.5	41
36	Relationship between porewater organic carbon content, sulphate reduction and nitrogen fixation (acetylene reduction) in the rhizosphere of <i>Zostera noltii</i> . <i>Hydrobiologia</i> , 1996, 329, 175-183.	2.0	40

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37	Comparing dissolved reactive phosphorus measured by DGT with ferrihydrite and titanium dioxide adsorbents: Anionic interferences, adsorbent capacity and deployment time. <i>Analytica Chimica Acta</i> , 2011, 698, 20-26.	5.4	40
38	DGT Measurement of Dissolved Aluminum Species in Waters: Comparing Chelex-100 and Titanium Dioxide-Based Adsorbents. <i>Environmental Science & Technology</i> , 2012, 46, 2267-2275.	10.0	40
39	A systematic determination of diffusion coefficients of trace elements in open and restricted diffusive layers used by the diffusive gradients in a thin film technique. <i>Analytica Chimica Acta</i> , 2015, 888, 146-154.	5.4	37
40	Development and evaluation of the diffusive gradients in thin films technique for measuring nitrate in freshwaters. <i>Analytica Chimica Acta</i> , 2016, 923, 74-81.	5.4	37
41	Influence of natural amphipod (<i>Victoriopisa australiensis</i>) (Chilton, 1923) population densities on benthic metabolism, nutrient fluxes, denitrification and DNRA in sub-tropical estuarine sediment. <i>Hydrobiologia</i> , 2009, 628, 95-109.	2.0	36
42	Development and evaluation of a diffusive gradients in a thin film technique for measuring ammonium in freshwaters. <i>Analytica Chimica Acta</i> , 2016, 904, 83-91.	5.4	36
43	Decomposition dynamics of the bloom forming macroalga <i>Ulva rigida</i> C. Agardh determined using a -carbon radio-tracer technique. <i>Aquatic Botany</i> , 2003, 75, 111-122.	1.6	33
44	Influence of <i>Trypaea australiensis</i> population density on benthic metabolism and nitrogen dynamics in sandy estuarine sediment: A mesocosm simulation. <i>Journal of Sea Research</i> , 2009, 61, 144-152.	1.6	33
45	The impact of suspended oyster farming on nitrogen cycling and nitrous oxide production in a sub-tropical Australian estuary. <i>Estuarine, Coastal and Shelf Science</i> , 2017, 192, 117-127.	2.1	32
46	Optimization of colorimetric DET technique for the in situ, two-dimensional measurement of iron(II) distributions in sediment porewaters. <i>Talanta</i> , 2012, 88, 490-495.	5.5	28
47	Characterizing microbial communities and processes in a modern stromatolite (<i>Scytonema</i>) <i>Environmental Microbiology</i> , 2014, 16, 2458-2474.	3.8	28
48	A modified DGT technique for the simultaneous measurement of dissolved inorganic nitrogen and phosphorus in freshwaters. <i>Analytica Chimica Acta</i> , 2017, 988, 17-26.	5.4	28
49	Influence of <i>Potamogeton pectinatus</i> and microphytobenthos on benthic metabolism, nutrient fluxes and denitrification in a freshwater littoral sediment in an agricultural landscape: N assimilation versus N removal. <i>Hydrobiologia</i> , 2014, 737, 183-200.	2.0	27
50	Seasonal variation in rates of heterotrophic nitrogen fixation (acetylene reduction) in <i>Zostera noltii</i> meadows and uncolonised sediments of the Bassin d'Arcachon, south-west France. <i>Hydrobiologia</i> , 1996, 329, 161-174.	2.0	26
51	High resolution spatial mapping of brominated pyrrole-2-aminoimidazole alkaloids distributions in the marine sponge <i>Stylissa flabellata</i> via MALDI-mass spectrometry imaging. <i>Molecular BioSystems</i> , 2012, 8, 2249.	2.9	25
52	Lipid Biomarker and Isotopic Study of Community Distribution and Biomarker Preservation in a Laminated Microbial Mat from Shark Bay, Western Australia. <i>Microbial Ecology</i> , 2015, 70, 459-472.	2.8	25
53	Diffusive Gradients in Thin Films Techniques Provide Representative Time-Weighted Average Measurements of Inorganic Nutrients in Dynamic Freshwater Systems. <i>Environmental Science & Technology</i> , 2016, 50, 13446-13454.	10.0	24
54	Decomposition of jellyfish carrion in situ: Short-term impacts on infauna, benthic nutrient fluxes and sediment redox conditions. <i>Science of the Total Environment</i> , 2016, 566-567, 929-937.	8.0	24

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55	A ferricyanide-mediated activated sludge bioassay for fast determination of the biochemical oxygen demand of wastewaters. <i>Water Research</i> , 2010, 44, 5981-5988.	11.3	22
56	Identification of the food sources of sympatric ghost shrimp (<i>Trypaea australiensis</i>) and soldier crab (<i>Mictyris longicarpus</i>) populations using a lipid biomarker, dual stable isotope approach. <i>Austral Ecology</i> , 2009, 34, 878-888.	1.5	21
57	A sensitive ferricyanide-mediated biochemical oxygen demand assay for analysis of wastewater treatment plant influents and treated effluents. <i>Water Research</i> , 2013, 47, 841-849.	11.3	21
58	Comparing in situ colorimetric DET and DGT techniques with ex situ core slicing and centrifugation for measuring ferrous iron and dissolved sulfide in coastal sediment pore waters. <i>Chemosphere</i> , 2017, 188, 119-129.	8.2	20
59	Distribution of nutrients in surface and sub-surface sediments of Coombabah Lake, southern Moreton Bay (Australia). <i>Marine Pollution Bulletin</i> , 2007, 54, 606-614.	5.0	18
60	Evaluating use of ferricyanide-mediated respiration bioassays to quantify stimulatory and inhibitory effects on <i>Escherichia coli</i> populations. <i>Talanta</i> , 2010, 80, 1980-1985.	5.5	18
61	Inorganic arsenic and iron(II) distributions in sediment porewaters investigated by a combined DGT-colourimetric DET technique. <i>Environmental Chemistry</i> , 2012, 9, 31.	1.5	18
62	In situ evaluation of DGT techniques for measurement of trace metals in estuarine waters: a comparison of four binding layers with open and restricted diffusive layers. <i>Environmental Sciences: Processes and Impacts</i> , 2016, 18, 51-63.	3.5	18
63	Trophic transfer of microbeads to jellyfish and the importance of aging microbeads for microplastic experiments. <i>Marine Pollution Bulletin</i> , 2021, 172, 112867.	5.0	18
64	Biogeochemical implications of decomposing jellyfish blooms in a changing climate. <i>Estuarine, Coastal and Shelf Science</i> , 2015, 154, 77-83.	2.1	17
65	Limited ingestion, rapid egestion and no detectable impacts of microbeads on the moon jellyfish, <i>Aurelia aurita</i> . <i>Marine Pollution Bulletin</i> , 2020, 156, 111208.	5.0	17
66	Oxygen and carbon metabolism of <i>Zostera muelleri</i> across a depth gradient – Implications for resilience and blue carbon. <i>Estuarine, Coastal and Shelf Science</i> , 2017, 187, 216-230.	2.1	16
67	Assessment of microplastics in discharged treated wastewater and the utility of <i>Chrysaora pentastoma medusae</i> as bioindicators of microplastics. <i>Science of the Total Environment</i> , 2021, 790, 148076.	8.0	16
68	Determining time-weighted average concentrations of nitrate and ammonium in freshwaters using DGT with ion exchange membrane-based binding layers. <i>Environmental Sciences: Processes and Impacts</i> , 2016, 18, 1530-1539.	3.5	15
69	In situ speciation of dissolved inorganic antimony in surface waters and sediment porewaters: development of a thiol-based diffusive gradients in thin films technique for Sb(III). <i>Environmental Sciences: Processes and Impacts</i> , 2016, 18, 992-998.	3.5	15
70	A new colorimetric DET technique for determining mm-resolution sulfide porewater distributions and allowing improved interpretation of iron(II) co-distributions. <i>Chemosphere</i> , 2020, 244, 125388.	8.2	14
71	Denitrification, anammox, and dissimilatory nitrate reduction to ammonium across a mosaic of estuarine benthic habitats. <i>Limnology and Oceanography</i> , 2021, 66, 1281-1297.	3.1	14
72	Ecological significance of compatible solute accumulation by micro-organisms: from single cells to global climate. <i>FEMS Microbiology Reviews</i> , 2000, 24, 263-290.	8.6	13

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73	Evaluation of a simple, inexpensive, in situ sampler for measuring time-weighted average concentrations of suspended sediment in rivers and streams. <i>Hydrological Processes</i> , 2019, 33, 678-686.	2.6	12
74	A colorimetric DET technique for the high-resolution measurement of two-dimensional alkalinity distributions in sediment porewaters. <i>Chemosphere</i> , 2015, 119, 547-552.	8.2	11
75	Contrasting effects of bioturbation on metal toxicity of contaminated sediments results in misleading interpretation of the AVS-SEM metal-sulfide paradigm. <i>Environmental Sciences: Processes and Impacts</i> , 2018, 20, 1285-1296.	3.5	11
76	Denitrification and benthic metabolism in lowland pit lakes: The role of trophic conditions. <i>Science of the Total Environment</i> , 2020, 703, 134804.	8.0	11
77	Ubiquity of activated sludge ferricyanide-mediated BOD methods: A comparison of sludge seeds across wastewater treatment plants. <i>Talanta</i> , 2014, 125, 293-300.	5.5	10
78	Loss of benthic macrofauna functional traits correlates with changes in sediment biogeochemistry along an extreme salinity gradient in the Coorong lagoon, Australia. <i>Marine Pollution Bulletin</i> , 2022, 174, 113202.	5.0	10
79	Comparison of DET, DGT and conventional porewater extractions for determining nutrient profiles and cycling in stream sediments. <i>Environmental Sciences: Processes and Impacts</i> , 2019, 21, 2128-2140.	3.5	9
80	Glycine betaine transport in a halotolerant <i>Chromatium</i> species. <i>FEMS Microbiology Letters</i> , 1995, 128, 27-32.	1.8	8
81	Drivers of sulfide intrusion in <i>Zostera muelleri</i> in a moderately affected estuary in south-eastern Australia. <i>Marine and Freshwater Research</i> , 2017, 68, 2134.	1.3	8
82	Restoration of benthic macrofauna promotes biogeochemical remediation of hostile sediments; An in situ transplantation experiment in a eutrophic estuarine-hypersaline lagoon system. <i>Science of the Total Environment</i> , 2022, 833, 155201.	8.0	8
83	Interactive influences of the marine yabby (<i>Trypaea australiensis</i>) and mangrove (<i>Avicennia marina</i>) leaf litter on benthic metabolism and nitrogen cycling in sandy estuarine sediment. <i>Hydrobiologia</i> , 2012, 693, 117-129.	2.0	7
84	Macroinfauna Dynamics and Sediment Parameters of a Subtropical Estuarine Lake—Coomabah Lake (Southern Moreton Bay, Australia). <i>Journal of Coastal Research</i> , 2013, 291, 156-167.	0.3	6
85	Assisted natural recovery of hypersaline sediments: salinity thresholds for the establishment of a community of bioturbating organisms. <i>Environmental Sciences: Processes and Impacts</i> , 2018, 20, 1244-1253.	3.5	6
86	Osmotically induced intracellular trehalose, but not glycine betaine accumulation promotes desiccation tolerance in <i>Escherichia coli</i> . <i>FEMS Microbiology Letters</i> , 1999, 174, 57-63.	1.8	6
87	Evaluation of the DGT technique for selective measurement of aluminium and trace metal concentrations in an acid drainage-impacted coastal waterway. <i>Environmental Sciences: Processes and Impacts</i> , 2017, 19, 742-751.	3.5	5
88	Effects of the Bioturbating Marine Yabby <i>Trypaea australiensis</i> on Sediment Properties in Sandy Sediments Receiving Mangrove Leaf Litter. <i>Journal of Marine Science and Engineering</i> , 2019, 7, 426.	2.6	5
89	Evaluation of the Chelex-DGT technique for the measurement of rare earth elements in the porewater of estuarine and marine sediments. <i>Talanta</i> , 2021, 230, 122315.	5.5	5
90	Suspended sediment monitoring in alluvial gullies: A laboratory and field evaluation of available measurement techniques. <i>Hydrological Processes</i> , 2020, 34, 3426-3438.	2.6	5

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91	N and C Isotope Variations Along an Extreme Eutrophication and Salinity Gradient in the Coorong Lagoon, South Australia. <i>Frontiers in Earth Science</i> , 2022, 9, .	1.8	5
92	Short-Term Nitrogen and Phosphorus Release during the Disturbance of Surface Sediments: A Case Study in an Urbanised Estuarine System (Gold Coast Broadwater, Australia). <i>Journal of Marine Science and Engineering</i> , 2017, 5, 16.	2.6	4
93	Intensive landscape-scale remediation improves water quality of an alluvial gully located in a Great Barrier Reef catchment. <i>Hydrology and Earth System Sciences</i> , 2021, 25, 867-883.	4.9	4
94	Binding Layer Properties. , 2016, , 66-92.		2
95	Relationship between porewater organic carbon content, sulphate reduction and nitrogen fixation (acetylene reduction) in the rhizosphere of <i>Zostera noltii</i> . , 1996, , 175-183.		2
96	Identification of trehalose and glycine betaine as compatible solutes in the moderately halophilic sulfate reducing bacterium, <i>Desulfovibrio halophilus</i> . <i>FEMS Microbiology Letters</i> , 1996, 140, 203-207.	1.8	2
97	Utilization of the compatible solutes sucrose and trehalose by purple sulfur and nonsulfur bacteria. <i>Canadian Journal of Microbiology</i> , 1998, 44, 974-979.	1.7	1
98	Comments on "Determination of total arsenic using a novel Zn-ferrite binding gel for DGT techniques: Application to the redox speciation of arsenic in river sediments" by Gorny et al.. <i>Talanta</i> , 2016, 149, 156-157.	5.5	1
99	Identification of organic solutes accumulated by purple and green sulphur bacteria during osmotic stress using natural abundance ¹³ C nuclear magnetic resonance spectroscopy. <i>FEMS Microbiology Ecology</i> , 1993, 13, 145-149.	2.7	1