# David L Valentine

List of Publications by Year
in descending order

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| 106 | 10,020 | 57631 | 35952 |
|---|---|---|---|
| papers | citations | 44 h-index | 97 g-index |

| 115 | 115 | 115 | 10047 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Functional metagenomic profiling of nine biomes. Nature, 2008, 452, 629-632. | 13.7 | 842 |
| 2 | Fate of Dispersants Associated with the Deepwater Horizon Oil Spill. Environmental Science & Technology, 2011, 45, 1298-1306. | 4.6 | 771 |
| 3 | Adaptations to energy stress dictate the ecology and evolution of the Archaea. Nature Reviews Microbiology, 2007, 5, 316-323. | 13.6 | 661 |
| 4 | Propane Respiration Jump-Starts Microbial Response to a Deep Oil Spill. Science, 2010, 330, 208-211. | 6.0 | 444 |
| 5 | A Persistent Oxygen Anomaly Reveals the Fate of Spilled Methane in the Deep Gulf of Mexico. Science, 2011, 331, 312-315. | 6.0 | 420 |
| 6 | New perspectives on anaerobic methane oxidation. Environmental Microbiology, 2000, 2, 477-484. | 1.8 | 410 |
| 7 | Natural gas and temperature structured a microbial community response to the Deepwater Horizon oil spill. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 20292-20297. | 3.3 | 373 |
| 8 | Biogeochemistry and microbial ecology of methane oxidation in anoxic environments: a review. Antonie Van Leeuwenhoek, 2002, 81, 271-282. | 0.7 | 301 |
| 9 | Oil Weathering after the Deepwater Horizon Disaster Led to the Formation of Oxygenated Residues. Environmental Science & Technology, 2012, 46, 8799-8807. | 4.6 | 290 |
| 10 | Carbon and hydrogen isotope fractionation by moderately thermophilic methanogens 1 1Associate editor: N. E. Ostrom. Geochimica Et Cosmochimica Acta, 2004, 68, 1571-1590. | 1.6 | 284 |
| 11 | Chemical data quantify Deepwater Horizon hydrocarbon flow rate and environmental distribution. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 20246-20253. | 3.3 | 258 |
| 12 | Biodiversity and biogeography of phages in modern stromatolites and thrombolites. Nature, 2008, 452, 340-343. | 13.7 | 251 |
| 13 | Water column methane oxidation adjacent to an area of active hydrate dissociation, Eel river Basin. Geochimica Et Cosmochimica Acta, 2001, 65, 2633-2640. | 1.6 | 247 |
| 14 | Fallout plume of submerged oil from Deepwater Horizon. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 15906-15911. | 3.3 | 242 |
| 15 | Omega-3 fatty acids in cellular membranes: a unified concept. Progress in Lipid Research, 2004, 43, 383-402. | 5.3 | 219 |
| 16 | Carbon and hydrogen isotope fractionation associated with the aerobic microbial oxidation of methane, ethane, propane and butane. Geochimica Et Cosmochimica Acta, 2007, 71, 271-283. | 1.6 | 173 |
| 17 | Dynamic autoinoculation and the microbial ecology of a deep water hydrocarbon irruption. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 20286-20291. | 3.3 | 156 |
| 18 | Recalcitrance and Degradation of Petroleum Biomarkers upon Abiotic and Biotic Natural Weathering of Deepwater Horizon Oil. Environmental Science & Technology, 2014, 48, 6726-6734. | 4.6 | 148 |

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|---|---|---|---|
| 19 | Distinguishing and understanding thermogenic and biogenic sources of methane using multiply substituted isotopologues. Geochimica Et Cosmochimica Acta, 2015, 161, 219-247. | 1.6 | 141 |
| 20 | Emerging Topics in Marine Methane Biogeochemistry. Annual Review of Marine Science, 2011, 3, 147-171. | 5.1 | 138 |
| 21 | Combined 13Câ€“D and Dâ€“D clumping in methane: Methods and preliminary results. Geochimica Et Cosmochimica Acta, 2014, 126, 169-191. | 1.6 | 129 |
| 22 | Identification of Novel Methane-, Ethane-, and Propane-Oxidizing Bacteria at Marine Hydrocarbon Seeps by Stable Isotope Probing. Applied and Environmental Microbiology, 2010, 76, 6412-6422. | 1.4 | 124 |
| 23 | Genomic and functional analyses of fungal and bacterial consortia that enable lignocellulose breakdown in goat gut microbiomes. Nature Microbiology, 2021, 6, 499-511. | 5.9 | 116 |
| 24 | Archaeal and Bacterial Communities Respond Differently to Environmental Gradients in Anoxic Sediments of a California Hypersaline Lake, the Salton Sea. Applied and Environmental Microbiology, 2010, 76, 757-768. | 1.4 | 115 |
| 25 | Methane clumped isotopes: Progress and potential for a new isotopic tracer. Organic Geochemistry, 2017, 113, 262-282. | 0.9 | 100 |
| 26 | Diversity of Archaea in Marine Sediments from Skan Bay, Alaska, Including Cultivated Methanogens, and Description of Methanogenium boonei sp. nov.. Applied and Environmental Microbiology, 2007, 73, 407-414. | 1.4 | 99 |
| 27 | Partial Photochemical Oxidation Was a Dominant Fate of Deepwater Horizon Surface Oil. Environmental Science & Technology, 2018, 52, 1797-1805. | 4.6 | 94 |
| 28 | Persistence and biodegradation of oil at the ocean floor following Deepwater Horizon. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E9-E18. | 3.3 | 93 |
| 29 | Isotopic evidence for the incorporation of methane-derived carbon into foraminifera from modern methane seeps, Hydrate Ridge, Northeast Pacific. Geochimica Et Cosmochimica Acta, 2004, 68, 4619-4627. | 1.6 | 89 |
| 30 | Unprecedented Ultrahigh Resolution FT-ICR Mass Spectrometry and Parts-Per-Billion Mass Accuracy Enable Direct Characterization of Nickel and Vanadyl Porphyrins in Petroleum from Natural Seeps. Energy & Fuels, 2014, 28, 2454-2464. | 2.5 | 88 |
| 31 | Dissolved methane distributions and airâ€sea flux in the plume of a massive seep field, Coal Oil Point, California. Geophysical Research Letters, 2007, 34, . | 1.5 | 82 |
| 32 | Short-chain alkanes fuel mussel and sponge Cycloclasticus symbionts from deep-sea gas and oil seeps. Nature Microbiology, 2017, 2, 17093. | 5.9 | 80 |
| 33 | Methanogenium marinum sp. nov., a H2-using methanogen from Skan Bay, Alaska, and kinetics of H2 utilization. Antonie Van Leeuwenhoek, 2002, 81, 263-270. | 0.7 | 79 |
| 34 | Top-Down Enrichment Guides in Formation of Synthetic Microbial Consortia for Biomass Degradation. ACS Synthetic Biology, 2019, 8, 2174-2185. | 1.9 | 74 |
| 35 | Hydrogen-isotopic variability in lipids from Santa Barbara Basin sediments. Geochimica Et Cosmochimica Acta, 2009, 73, 4803-4823. | 1.6 | 73 |
| 36 | Disentangling Oil Weathering at a Marine Seep Using GCÃ—GC: Broad Metabolic Specificity Accompanies Subsurface Petroleum Biodegradation. Environmental Science & Technology, 2008, 42, 7166-7173. | 4.6 | 69 |

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|---|---|---|---|
| 37 | Methanogens rapidly transition from methane production to iron reduction. Geobiology, 2016, 14, 190-203. | 1.1 | 65 |
| 38 | Targeted diversity generation by intraterrestrial archaea and archaeal viruses. Nature Communications, 2015, 6, 6585. | 5.8 | 63 |
| 39 | Retroelement-guided protein diversification abounds in vast lineages of Bacteria and Archaea. Nature Microbiology, 2017, 2, 17045. | 5.9 | 62 |
| 40 | Hydrogen production by methanogens under low-hydrogen conditions. Archives of Microbiology, 2000, 174, 415-421. | 1.0 | 57 |
| 41 | Weathering and the Fallout Plume of Heavy Oil from Strong Petroleum Seeps Near Coal Oil Point, CA. Environmental Science & Technology, 2009, 43, 3542-3548. | 4.6 | 57 |
| 42 | Microbial production and consumption of hydrocarbons in the global ocean. Nature Microbiology, 2021, 6, 489-498. | 5.9 | 56 |
| 43 | Asphalt volcanoes as a potential source of methane to late Pleistocene coastal waters. Nature Geoscience, 2010, 3, 345-348. | 5.4 | 55 |
| 44 | The first decade of scientific insights from the Deepwater Horizon oil release. Nature Reviews Earth & Environment, 2020, 1, 237-250. | 12.2 | 52 |
| 45 | Hydrogen isotope fractionation during H2/CO2 acetogenesis: hydrogen utilization efficiency and the origin of lipid-bound hydrogen. Geobiology, 2004, 2, 179-188. | 1.1 | 51 |
| 46 | Important roles for membrane lipids in haloarchaeal bioenergetics. Biochimica Et Biophysica Acta - Biomembranes, 2016, 1858, 2940-2956. | 1.4 | 49 |
| 47 | A comparison of isotope fractionation of carbon and hydrogen from paddy field rice roots and soil bacterial enrichments during CO2/H2 methanogenesis. Geochimica Et Cosmochimica Acta, 2002, 66, 983-995. | 1.6 | 46 |
| 48 | Hydrogen isotopic fractionation in lipid biosynthesis by H2-consuming Desulfobacterium autotrophicum. Geochimica Et Cosmochimica Acta, 2009, 73, 2744-2757. | 1.6 | 45 |
| 49 | Rapid rates of aerobic methane oxidation at the feather edge of gas hydrate stability in the waters of Hudson Canyon, US Atlantic Margin. Geochimica Et Cosmochimica Acta, 2017, 204, 375-387. | 1.6 | 43 |
| 50 | Genomic analysis ofÂmethanogenic archaeaÂreveals a shift towards energy conservation. BMC Genomics, 2017, 18, 639. | 1.2 | 41 |
| 51 | Biogeochemical investigations of marine methane seeps, Hydrate Ridge, Oregon. Journal of Geophysical Research, 2005, 110, n/a-n/a. | 3.3 | 40 |
| 52 | Quantification of CH4 loss and transport in dissolved plumes of the Santa Barbara Channel, California. Continental Shelf Research, 2012, 32, 110-120. | 0.9 | 40 |
| 53 | Starvation and recovery in the deepâ€sea methanotroph <scp>M</scp>ethyloprofundus sedimenti. Molecular Microbiology, 2017, 103, 242-252. | 1.2 | 40 |
| 54 | Pure-Culture Growth of Fermentative Bacteria, Facilitated by H 2 Removal: Bioenergetics and H 2 Production. Applied and Environmental Microbiology, 2006, 72, 1079-1085. | 1.4 | 39 |

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|---|---|---|---|
| 55 | Methane-Oxidizing Bacteria Shunt Carbon to Microbial Mats at a Marine Hydrocarbon Seep. Frontiers in Microbiology, 2017, 8, 186. | 1.5 | 39 |
| 56 | A culture apparatus for maintaining H2 at sub-nanomolar concentrations. Journal of Microbiological Methods, 2000, 39, 243-251. | 0.7 | 37 |
| 57 | Methanotrophic bacteria occupy benthic microbial mats in shallow marine hydrocarbon seeps, Coal Oil Point, California. Journal of Geophysical Research, 2008, 113, . | 3.3 | 34 |
| 58 | D/H ratios of fatty acids from marine particulate organic matter in the California Borderland Basins. Organic Geochemistry, 2008, 39, 485-500. | 0.9 | 33 |
| 59 | A method for measuring methane oxidation rates using lowlevels of 14Câ€labeled methane and accelerator mass spectrometry. Limnology and Oceanography: Methods, 2011, 9, 245-260. | 1.0 | 33 |
| 60 | A survey of methane isotope abundance (<sup>14</sup>C, <sup>13</sup>C, <sup>2</sup>H) from five nearshore marine basins that reveals unusual radiocarbon levels in subsurface waters. Journal of Geophysical Research, 2008, 113, . | 3.3 | 32 |
| 61 | Biodegradation preference for isomers of alkylated naphthalenes and benzothiophenes in marine sediment contaminated with crude oil. Organic Geochemistry, 2011, 42, 630-639. | 0.9 | 31 |
| 62 | Recurrent Oil Sheens at the Deepwater Horizon Disaster Site Fingerprinted with Synthetic Hydrocarbon Drilling Fluids. Environmental Science & Technology, 2013, 47, 8211-8219. | 4.6 | 31 |
| 63 | Methane oxidation in the eastern tropical North Pacific Ocean water column. Journal of Geophysical Research G: Biogeosciences, 2015, 120, 1078-1092. | 1.3 | 31 |
| 64 | Latent hydrocarbons from cyanobacteria. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 13434-13435. | 3.3 | 30 |
| 65 | Climatically driven emissions of hydrocarbons from marine sediments during deglaciation. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 13570-13574. | 3.3 | 28 |
| 66 | Gas flux and carbonate occurrence at a shallow seep of thermogenic natural gas. Geo-Marine Letters, 2010, 30, 355-365. | 0.5 | 27 |
| 67 | Physical control on methanotrophic potential in waters of the Santa Monica Basin, Southern California. Limnology and Oceanography, 2012, 57, 420-432. | 1.6 | 25 |
| 68 | Ocean Dumping of Containerized DDT Waste Was a Sloppy Process. Environmental Science & Technology, 2019, 53, 2971-2980. | 4.6 | 23 |
| 69 | Anaerobic propane oxidation in marine hydrocarbon seep sediments. Geochimica Et Cosmochimica Acta, 2011, 75, 2159-2169. | 1.6 | 22 |
| 70 | Applications of comprehensive two-dimensional gas chromatography (GCÂÃ—ÂGC) inÂstudying the source, transport, andÂfate of petroleum hydrocarbons inÂthe environment. , 2016, , 399-448. | | 20 |
| 71 | D/H variation in terrestrial lipids from Santa Barbara Basin over the past 1400years: A preliminary assessment of paleoclimatic relevance. Organic Geochemistry, 2011, 42, 15-24. | 0.9 | 19 |
| 72 | Determining the flux of methane into <scp>H</scp>udson <scp>C</scp>anyon at the edge of methane clathrate hydrate stability. Geochemistry, Geophysics, Geosystems, 2016, 17, 3882-3892. | 1.0 | 19 |

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| 73 | Phospholipids and glycolipids mediate proton containment and circulation along the surface of energy-transducing membranes. Progress in Lipid Research, 2016, 64, 1-15. | 5.3 | 18 |
| 74 | Oxygen Isotopes (Î´<sup>18</sup>O) Trace Photochemical Hydrocarbon Oxidation at the Sea Surface. Geophysical Research Letters, 2019, 46, 6745-6754. | 1.5 | 18 |
| 75 | Modern Assessment of Natural Hydrocarbon Gas Flux at the Coal Oil Point Seep Field, Santa Barbara, California. Journal of Geophysical Research: Oceans, 2019, 124, 2472-2484. | 1.0 | 16 |
| 76 | Ideas and perspectives: A strategic assessment of methane and nitrous oxide measurements in the marine environment. Biogeosciences, 2020, 17, 5809-5828. | 1.3 | 16 |
| 77 | Isotopic remembrance of metabolism past. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 12565-12566. | 3.3 | 15 |
| 78 | High Resolution Measurements of Methane and Carbon Dioxide in Surface Waters over a Natural Seep Reveal Dynamics of Dissolved Phase Airâ€“Sea Flux. Environmental Science & Technology, 2014, 48, 10165-10173. | 4.6 | 15 |
| 79 | Conservation of the C-type lectin fold for accommodating massive sequence variation in archaeal diversity-generating retroelements. BMC Structural Biology, 2016, 16, 13. | 2.3 | 15 |
| 80 | Gaseous emission rates from natural petroleum seeps in the Upper Ojai Valley, California. Environmental Geosciences, 2007, 14, 197-207. | 0.6 | 15 |
| 81 | Evidence for salt diffusion from sediments contributing to increasing salinity in the Salton Sea, California. Hydrobiologia, 2005, 533, 77-85. | 1.0 | 14 |
| 82 | Response to Comment on â€œA Persistent Oxygen Anomaly Reveals the Fate of Spilled Methane in the Deep Gulf of Mexicoâ€• Science, 2011, 332, 1033-1033. | 6.0 | 14 |
| 83 | Autonomous Marine Robotic Technology Reveals an Expansive Benthic Bacterial Community Relevant to Regional Nitrogen Biogeochemistry. Environmental Science & Technology, 2016, 50, 11057-11065. | 4.6 | 14 |
| 84 | Role of diversity-generating retroelements for regulatory pathway tuning in cyanobacteria. BMC Genomics, 2020, 21, 664. | 1.2 | 13 |
| 85 | Examining Inputs of Biogenic and Oil-Derived Hydrocarbons in Surface Waters Following the Deepwater Horizon Oil Spill. ACS Earth and Space Chemistry, 2019, 3, 1329-1337. | 1.2 | 12 |
| 86 | Investigations of Aerobic Methane Oxidation in Two Marine Seep Environments: Part 1â€”Chemical Kinetics. Journal of Geophysical Research: Oceans, 2019, 124, 8852-8868. | 1.0 | 11 |
| 87 | Marine microbes rapidly adapt to consume ethane, propane, and butane within the dissolved hydrocarbon plume of a natural seep. Journal of Geophysical Research: Oceans, 2015, 120, 1937-1953. | 1.0 | 9 |
| 88 | Compositional variability and air-sea flux of ethane and propane in the plume of a large, marine seep field near Coal Oil Point, CA. Geo-Marine Letters, 2010, 30, 367-378. | 0.5 | 8 |
| 89 | Occurrence and distribution of cyclic-alkane-consuming psychrophilic bacteria in the Yellow Sea and East China Sea. Journal of Hazardous Materials, 2022, 427, 128129. | 6.5 | 7 |
| 90 | Minimal Influence of [NiFe] Hydrogenase on Hydrogen Isotope Fractionation in H2-Oxidizing Cupriavidus necator. Frontiers in Microbiology, 2017, 8, 1886. | 1.5 | 6 |

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| 91 | Radiocarbon in Marine Methane Reveals Patchy Impact of Seeps on Surface Waters. Geophysical Research Letters, 2020, 47, e2020GL089516. | 1.5 | 6 |
| 92 | Measure methane to quantify the oil spill. Nature, 2010, 465, 421-421. | 13.7 | 5 |
| 93 | Thermodynamic Ecology of Hydrogen-Based Syntrophy. , 2001, , 147-161. | | 4 |
| 94 | Intraterrestrial lifestyles. Nature, 2013, 496, 176-177. | 13.7 | 4 |
| 95 | Microscale Measurement and Visualization of Sulfide Î´<sup>34</sup>S Using Photographic Film Sulfide Capture Coupled with Laser Ablation Multicollector Inductively Coupled Plasma Mass Spectrometry. Analytical Chemistry, 2016, 88, 10126-10133. | 3.2 | 4 |
| 96 | Investigations of Aerobic Methane Oxidation in Two Marine Seep Environments: Part 2â€"Isotopic Kinetics. Journal of Geophysical Research: Oceans, 2019, 124, 8392-8399. | 1.0 | 4 |
| 97 | Harnessing a decade of data to inform future decisions: Insights into the ongoing hydrocarbon release at Taylor Energy's Mississippi Canyon Block 20 (MC20) site. Marine Pollution Bulletin, 2020, 155, 111056. | 2.3 | 4 |
| 98 | An Ecological Basis for Dual Genetic Code Expansion in Marine Deltaproteobacteria. Frontiers in Microbiology, 2021, 12, 680620. | 1.5 | 4 |
| 99 | Genome Sequence of a Marine Alkane Degrader, Alcanivorax sp. Strain 97CO-6. Genome Announcements, 2018, 6, . | 0.8 | 3 |
| 100 | The Waxâ€"Liquid Transition Modulates Hydrocarbon Respiration Rates in Alcanivorax borkumensis SK2. Environmental Science and Technology Letters, 2018, 5, 277-282. | 3.9 | 3 |
| 101 | Pelagic tar balls collected in the North Atlantic Ocean and Caribbean Sea from 1988 to 2016 have natural and anthropogenic origins. Marine Pollution Bulletin, 2018, 137, 352-359. | 2.3 | 2 |
| 102 | Production of Two Highly Abundant 2-Methyl-Branched Fatty Acids by Blooms of the Globally Significant Marine Cyanobacteria Trichodesmium erythraeum. ACS Omega, 2021, 6, 22803-22810. | 1.6 | 2 |
| 103 | Comprehensive Two-Dimensional Gas Chromatography to Assess Petroleum Product Weathering. Springer Protocols, 2016, , 129-149. | 0.1 | 1 |
| 104 | Microbial Communities Responding to Deep-Sea Hydrocarbon Spills. , 2019, , 1-17. | | 1 |
| 105 | Complete Genome Sequence of Cycloclasticus sp. Strain PY97N, Which Includes Two Heavy Metal Resistance Genomic Islands. Microbiology Resource Announcements, 2019, 8, . | 0.3 | 1 |
| 106 | Microbial Communities Responding to Deep-Sea Hydrocarbon Spills. , 2019, , 1-17. | | 0 |