

Barbara Sherwood Lollar

List of Publications by Year in descending order

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72
papers

4,892
citations

109321

35
h-index

91884

69
g-index

72
all docs

72
docs citations

72
times ranked

3809
citing authors

#	ARTICLE	IF	CITATIONS
1	ABIOTIC METHANE ON EARTH. <i>Reviews of Geophysics</i> , 2013, 51, 276-299.	23.0	451
2	Solubility trapping in formation water as dominant CO ₂ sink in natural gas fields. <i>Nature</i> , 2009, 458, 614-618.	27.8	405
3	Long-Term Sustainability of a High-Energy, Low-Diversity Crustal Biome. <i>Science</i> , 2006, 314, 479-482.	12.6	350
4	The contribution of the Precambrian continental lithosphere to global H ₂ production. <i>Nature</i> , 2014, 516, 379-382.	27.8	201
5	An oligotrophic deep-subsurface community dependent on syntrophy is dominated by sulfur-driven autotrophic denitrifiers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, E7927-E7936.	7.1	173
6	Radiolytic H ₂ in continental crust: Nuclear power for deep subsurface microbial communities. <i>Geochemistry, Geophysics, Geosystems</i> , 2005, 6, n/a-n/a.	2.5	165
7	Tracing Organic Contaminants in Groundwater: A New Methodology Using Compound-Specific Isotopic Analysis. <i>Environmental Science & Technology</i> , 1997, 31, 3193-3197.	10.0	161
8	Carbon and Hydrogen Isotopic Fractionation during Anaerobic Biodegradation of Benzene. <i>Applied and Environmental Microbiology</i> , 2003, 69, 191-198.	3.1	159
9	Headspace Analysis: A New Application for Isotopic Characterization of Dissolved Organic Contaminants. <i>Environmental Science & Technology</i> , 1999, 33, 190-194.	10.0	155
10	An Approach for Assessing Total Instrumental Uncertainty in Compound-Specific Carbon Isotope Analysis: Implications for Environmental Remediation Studies. <i>Analytical Chemistry</i> , 2007, 79, 3469-3475.	6.5	139
11	Regional groundwater focusing of nitrogen and noble gases into the Hugoton-Panhandle giant gas field, USA. <i>Geochimica Et Cosmochimica Acta</i> , 2002, 66, 2483-2497.	3.9	137
12	Carbon and Hydrogen Isotopic Fractionation during Biodegradation of Methyltert-Butyl Ether. <i>Environmental Science & Technology</i> , 2002, 36, 1931-1938.	10.0	118
13	A metagenomic window into carbon metabolism at 3 km depth in Precambrian continental crust. <i>ISME Journal</i> , 2016, 10, 730-741.	9.8	112
14	Insight into Methyl <i>tert</i> -Butyl Ether (MTBE) Stable Isotope Fractionation from Abiotic Reference Experiments. <i>Environmental Science & Technology</i> , 2007, 41, 5693-5700.	10.0	108
15	Carbon Isotope Fractionation during Anaerobic Biodegradation of Toluene: Implications for Intrinsic Bioremediation. <i>Environmental Science & Technology</i> , 2000, 34, 892-896.	10.0	107
16	Variations in microbial carbon sources and cycling in the deep continental subsurface. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 173, 264-283.	3.9	100
17	Quantifying chlorinated ethene degradation during reductive dechlorination at Kelly AFB using stable carbon isotopes. <i>Journal of Contaminant Hydrology</i> , 2005, 76, 279-293.	3.3	99
18	Related assemblages of sulphate-reducing bacteria associated with ultradeep gold mines of South Africa and deep basalt aquifers of Washington State. <i>Environmental Microbiology</i> , 2003, 5, 267-277.	3.8	96

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19	Identifying Abiotic Chlorinated Ethene Degradation: Characteristic Isotope Patterns in Reaction Products with Nanoscale Zero-Valent Iron. <i>Environmental Science & Technology</i> , 2008, 42, 5963-5970.	10.0	96
20	Pathway Dependent Isotopic Fractionation during Aerobic Biodegradation of 1,2-Dichloroethane. <i>Environmental Science & Technology</i> , 2004, 38, 4775-4781.	10.0	74
21	Hydrogen Isotope Fractionation during Methanogenic Degradation of Toluene:â€‰ Potential for Direct Verification of Bioremediation. <i>Environmental Science & Technology</i> , 2000, 34, 4577-4581.	10.0	73
22	Isotopic Evidence Suggests Different Initial Reaction Mechanisms for Anaerobic Benzene Biodegradation. <i>Environmental Science & Technology</i> , 2008, 42, 8290-8296.	10.0	70
23	Neon identifies two billion year old fluid component in Kaapvaal Craton. <i>Chemical Geology</i> , 2011, 283, 287-296.	3.3	68
24	Effects of Trace Element Concentration on Enzyme Controlled Stable Isotope Fractionation during Aerobic Biodegradation of Toluene. <i>Environmental Science & Technology</i> , 2006, 40, 7675-7681.	10.0	60
25	Geochemically Generated, Energy-Rich Substrates and Indigenous Microorganisms in Deep, Ancient Groundwater. <i>Geomicrobiology Journal</i> , 2005, 22, 325-335.	2.0	59
26	Planktonic Microbial Communities Associated with Fracture-Derived Groundwater in a Deep Gold Mine of South Africa. <i>Geomicrobiology Journal</i> , 2006, 23, 475-497.	2.0	55
27	Tracing ancient hydrogeological fracture network age and compartmentalisation using noble gases. <i>Geochimica Et Cosmochimica Acta</i> , 2018, 222, 340-362.	3.9	53
28	Is Mars alive?. <i>Eos</i> , 2006, 87, 433.	0.1	50
29	Insights into Enzyme Kinetics of Chloroethane Biodegradation Using Compound Specific Stable Isotopes. <i>Environmental Science & Technology</i> , 2010, 44, 7498-7503.	10.0	50
30	Pathway-Dependent Isotope Fractionation during Aerobic and Anaerobic Degradation of Monochlorobenzene and 1,2,4-Trichlorobenzene. <i>Environmental Science & Technology</i> , 2011, 45, 8321-8327.	10.0	47
31	Potential for Identifying Abiotic Chloroalkane Degradation Mechanisms using Carbon Isotopic Fractionation. <i>Environmental Science & Technology</i> , 2008, 42, 126-132.	10.0	46
32	â€‰Follow the Waterâ€™: Hydrogeochemical Constraints on Microbial Investigations 2.4â€‰km Below Surface at the Kidd Creek Deep Fluid and Deep Life Observatory. <i>Geomicrobiology Journal</i> , 2019, 36, 859-872.	2.0	46
33	Anaerobic Conversion of Chlorobenzene and Benzene to CH ₄ and CO ₂ in Bioaugmented Microcosms. <i>Environmental Science & Technology</i> , 2013, 47, 2378-2385.	10.0	45
34	Intramolecular isotopic evidence for bacterial oxidation of propane in subsurface natural gas reservoirs. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 6653-6658.	7.1	44
35	A model of diffuse degassing at three subduction-related volcanoes. <i>Bulletin of Volcanology</i> , 2000, 62, 130-142.	3.0	41
36	Capture of Planktonic Microbial Diversity in Fractures by Long-Term Monitoring of Flowing Boreholes, Evander Basin, South Africa. <i>Geomicrobiology Journal</i> , 2011, 28, 275-300.	2.0	33

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37	Dissolved organic matter compositions in 0.6–3.4 km deep fracture waters, Kaapvaal Craton, South Africa. <i>Organic Geochemistry</i> , 2018, 118, 116-131.	1.8	33
38	Mechanistic Dichotomy in Bacterial Trichloroethene Dechlorination Revealed by Carbon and Chlorine Isotope Effects. <i>Environmental Science & Technology</i> , 2019, 53, 4245-4254.	10.0	33
39	Sources of Uncertainty in Biotransformation Mechanistic Interpretations and Remediation Studies using CSIA. <i>Analytical Chemistry</i> , 2019, 91, 9147-9153.	6.5	32
40	Mechanisms and rates of ^4He , ^{40}Ar , and H_2 production and accumulation in fracture fluids in Precambrian Shield environments. <i>Chemical Geology</i> , 2019, 530, 119322.	3.3	31
41	High-resolution, long-term isotopic and isotopologue variation identifies the sources and sinks of methane in a deep subsurface carbon cycle. <i>Geochimica Et Cosmochimica Acta</i> , 2021, 294, 315-334.	3.9	31
42	Dual Carbon–Chlorine Isotope Analysis Indicates Distinct Anaerobic Dichloromethane Degradation Pathways in Two Members of <i>Peptococcaceae</i> . <i>Environmental Science & Technology</i> , 2018, 52, 8607-8616.	10.0	29
43	The role of low-temperature ^{18}O exchange in the isotopic evolution of deep subsurface fluids. <i>Chemical Geology</i> , 2021, 561, 120027.	3.3	29
44	Source Differentiation for Benzene and Chlorobenzene Groundwater Contamination: A Field Application of Stable Carbon and Hydrogen Isotope Analyses. <i>Environmental Forensics</i> , 2008, 9, 177-186.	2.6	28
45	H_2 -rich and Hydrocarbon Gas Recovered in a Deep Precambrian Well in Northeastern Kansas. <i>Natural Resources Research</i> , 2007, 16, 277-292.	4.7	27
46	Biosignatures and abiotic constraints on early life. <i>Nature</i> , 2006, 444, E18-E18.	27.8	26
47	Compound-specific hydrogen isotope analysis of 1,2-dichloroethane: potential for delineating source and fate of chlorinated hydrocarbon contaminants in groundwater. <i>Rapid Communications in Mass Spectrometry</i> , 2007, 21, 1841-1847.	1.5	26
48	Isotope analysis as a natural reaction probe to determine mechanisms of biodegradation of 1,2-dichloroethane. <i>Environmental Microbiology</i> , 2007, 9, 1651-1657.	3.8	25
49	Reductive Dehalogenation of Trichloromethane by Two Different <i>Dehalobacter restrictus</i> Strains Reveal Opposing Dual Element Isotope Effects. <i>Environmental Science & Technology</i> , 2019, 53, 2332-2343.	10.0	25
50	Crustal Groundwater Volumes Greater Than Previously Thought. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL093549.	4.0	24
51	Determination of in situ biodegradation rates via a novel high resolution isotopic approach in contaminated sediments. <i>Water Research</i> , 2019, 149, 632-639.	11.3	21
52	Multi-element (C, H, Cl, Br) stable isotope fractionation as a tool to investigate transformation processes for halogenated hydrocarbons. <i>Environmental Sciences: Processes and Impacts</i> , 2020, 22, 567-582.	3.5	21
53	Vapor Pressure Isotope Effects in Halogenated Organic Compounds and Alcohols Dissolved in Water. <i>Analytical Chemistry</i> , 2016, 88, 12066-12071.	6.5	20
54	Planetary Mass Spectrometry for Agnostic Life Detection in the Solar System. <i>Frontiers in Astronomy and Space Sciences</i> , 2021, 8, .	2.8	19

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55	Sediment Monitored Natural Recovery Evidenced by Compound Specific Isotope Analysis and High-Resolution Pore Water Sampling. <i>Environmental Science & Technology</i> , 2016, 50, 12197-12204.	10.0	17
56	Pressure-monitored headspace analysis combined with compound-specific isotope analysis to measure isotope fractionation in gas-producing reactions. <i>Rapid Communications in Mass Spectrometry</i> , 2013, 27, 1778-1784.	1.5	14
57	Bioenergetic Constraints on Microbial Hydrogen Utilization in Precambrian Deep Crustal Fracture Fluids. <i>Geomicrobiology Journal</i> , 2018, 35, 108-119.	2.0	14
58	Novel Microbial Groups Drive Productivity in an Archean Iron Formation. <i>Frontiers in Microbiology</i> , 2021, 12, 627595.	3.5	12
59	¹⁴ C in Methane and DIC in the Deep Terrestrial Subsurface: Implications for Microbial Methanogenesis. <i>Geomicrobiology Journal</i> , 2006, 23, 453-462.	2.0	11
60	Transformation of Chlorofluorocarbons Investigated via Stable Carbon Compound-Specific Isotope Analysis. <i>Environmental Science & Technology</i> , 2020, 54, 870-878.	10.0	11
61	Determining the role of diffusion and basement flux in controlling ⁴ He distribution in sedimentary basin fluids. <i>Earth and Planetary Science Letters</i> , 2021, 574, 117175.	4.4	11
62	GEOCHEMISTRY: Life's Chemical Kitchen. <i>Science</i> , 2004, 304, 972-973.	12.6	10
63	Compound-Specific Stable Carbon Isotope Analysis of Chlorofluorocarbons in Groundwater. <i>Analytical Chemistry</i> , 2015, 87, 10498-10504.	6.5	10
64	The Grayness of the Origin of Life. <i>Life</i> , 2021, 11, 498.	2.4	10
65	Multi-element isotopic evidence for monochlorobenzene and benzene degradation under anaerobic conditions in contaminated sediments. <i>Water Research</i> , 2021, 207, 117809.	11.3	9
66	Requirements for Chromium Reactors for Use in the Determination of H Isotopes in Compound-Specific Stable Isotope Analysis of Chlorinated Compounds. <i>Analytical Chemistry</i> , 2020, 92, 2383-2387.	6.5	8
67	N ₂ in deep subsurface fracture fluids of the Canadian Shield: Source and possible recycling processes. <i>Chemical Geology</i> , 2021, 585, 120571.	3.3	8
68	In situ oxidation of sulfide minerals supports widespread sulfate reducing bacteria in the deep subsurface of the Witwatersrand Basin (South Africa): Insights from multiple sulfur and oxygen isotopes. <i>Earth and Planetary Science Letters</i> , 2022, 577, 117247.	4.4	8
69	In Situ Growth of Halophilic Bacteria in Saline Fracture Fluids from 2.4 km below Surface in the Deep Canadian Shield. <i>Life</i> , 2020, 10, 307.	2.4	5
70	Advances in carbon isotope analysis of trapped methane and volatile hydrocarbons in crystalline rock cores. <i>Rapid Communications in Mass Spectrometry</i> , 2021, 35, e9170.	1.5	3
71	Compound-specific isotope analysis (CSIA) evaluation of degradation of chlorinated benzenes (CBs) and benzene in a contaminated aquifer. <i>Journal of Contaminant Hydrology</i> , 2022, 250, 104051.	3.3	3
72	Implications of regression bias for multi-element isotope analysis for environmental remediation. <i>Talanta</i> , 2021, 226, 122113.	5.5	2