Jeremy D Semrau

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89 papers	3,709 citations	36 h-index	59 g-index
95 ext. papers	4,194 ext. citations	4.8 avg, IF	5.37 L-index

#	Paper	IF	Citations
89	Methanotrophs and copper. *FEMS Microbiology Reviews*, **2010**, 34, 496-531	15.1	485
88	Methylocapsa acidiphila gen. nov., sp. nov., a novel methane-oxidizing and dinitrogen-fixing acidophilic bacterium from Sphagnum bog. *International Journal of Systematic and Evolutionary Microbiology*, **2002**, 52, 251-261	2.2	198
87	The membrane-associated methane monooxygenase (pMMO) and pMMO-NADH:quinone oxidoreductase complex from Methylococcus capsulatus Bath. *Journal of Bacteriology*, **2003**, 185, 5755-64	3.5	166
86	Methane and Trichloroethylene Degradation by Methylosinus trichosporium OB3b Expressing Particulate Methane Monooxygenase. *Applied and Environmental Microbiology*, **1998**, 64, 1106-14	4.8	107
85	Spectral, kinetic, and thermodynamic properties of Cu(I) and Cu(II) binding by methanobactin from Methylosinus trichosporium OB3b. *Biochemistry*, **2006**, 45, 1442-53	3.2	92
84	Spectral and thermodynamic properties of Ag(I), Au(III), Cd(II), Co(II), Fe(III), Hg(II), Mn(II), Ni(II), Pb(II), U(IV), and Zn(II) binding by methanobactin from Methylosinus trichosporium OB3b. *Journal of Inorganic Biochemistry*, **2006**, 100, 2150-61	4.2	92
83	Methanobactin and MmoD work in concert to act as the ‘copper-switch’ in methanotrophs. *Environmental Microbiology*, **2013**, 15, 3077-86	5.2	90
82	Mössbauer studies of the membrane-associated methane monooxygenase from Methylococcus capsulatus bath: evidence for a Diiron center. *Journal of the American Chemical Society*, **2007**, 129, 15783-5	16.4	90
81	An X-ray absorption spectroscopy study of the structure and reversibility of copper adsorbed to montmorillonite clay. *Geochimica Et Cosmochimica Acta*, **2001**, 65, 2709-2722	5.5	88
80	Mixed pollutant degradation by Methylosinus trichosporium OB3b expressing either soluble or particulate methane monooxygenase: can the tortoise beat the hare?. *Applied and Environmental Microbiology*, **2006**, 72, 7503-9	4.8	82
79	Facultative methanotrophy: false leads, true results, and suggestions for future research. *FEMS Microbiology Letters*, **2011**, 323, 1-12	2.9	79
78	A comparison of methanobactins from Methylosinus trichosporium OB3b and Methylocystis strain Sb2 predicts methanobactins are synthesized from diverse peptide precursors modified to create a common core for binding and reducing copper ions. *Biochemistry*, **2010**, 49, 10117-30	3.2	78
77	Methanobactin and the Link between Copper and Bacterial Methane Oxidation. *Microbiology and Molecular Biology Reviews*, **2016**, 80, 387-409	13.2	77
76	Genome sequence of the obligate methanotroph Methylosinus trichosporium strain OB3b. *Journal of Bacteriology*, **2010**, 192, 6497-8	3.5	76
75	Characterization of a novel facultative Methylocystis species capable of growth on methane, acetate and ethanol. *Environmental Microbiology Reports*, **2011**, 3, 174-81	3.7	74
74	Evidence for a copper-dependent iron transport system in the marine, magnetotactic bacterium strain MV-1. *Microbiology (United Kingdom)*, **2004**, 150, 2931-2945	2.9	73
73	Metals and Methanotrophy. *Applied and Environmental Microbiology*, **2018**, 84,	4.8	72

72	Effect of methanobactin on the activity and electron paramagnetic resonance spectra of the membrane-associated methane monooxygenase in Methylococcus capsulatus Bath. *Microbiology (United Kingdom)*, **2005**, 151, 3417-3426	2.9	61
71	Characterization of methanotrophic bacteria on the basis of intact phospholipid profiles. *FEMS Microbiology Letters*, **2000**, 189, 67-72	2.9	59
70	Methylmercury uptake and degradation by methanotrophs. *Science Advances*, **2017**, 3, e1700041	14.3	58
69	Genome sequence of the haloalkaliphilic methanotrophic bacterium Methylomicrobium alcaliphilum 20Z. *Journal of Bacteriology*, **2012**, 194, 551-2	3.5	57
68	The role of copper in the pMMO of Methylococcus capsulatus bath: a structural vs. catalytic function. *Journal of Inorganic Biochemistry*, **1995**, 58, 235-44	4.2	56
67	Bioremediation via Methanotrophy: Overview of Recent Findings and Suggestions for Future Research. *Frontiers in Microbiology*, **2011**, 2, 209	5.7	53
66	Cerium regulates expression of alternative methanol dehydrogenases in Methylosinus trichosporium OB3b. *Applied and Environmental Microbiology*, **2015**, 81, 7546-52	4.8	48
65	Genomic and transcriptomic analyses of the facultative methanotroph Methylocystis sp. strain SB2 grown on methane or ethanol. *Applied and Environmental Microbiology*, **2014**, 80, 3044-52	4.8	48
64	Effect of nutrient and selective inhibitor amendments on methane oxidation, nitrous oxide production, and key gene presence and expression in landfill cover soils: characterization of the role of methanotrophs, nitrifiers, and denitrifiers. *Applied Microbiology and Biotechnology*, **2009**, 85, 389-403	5.7	48
63	Oxidase, superoxide dismutase, and hydrogen peroxide reductase activities of methanobactin from types I and II methanotrophs. *Journal of Inorganic Biochemistry*, **2008**, 102, 1571-80	4.2	48
62	Genome sequence of the methanotrophic alphaproteobacterium Methylocystis sp. strain Rockwell (ATCC 49242). *Journal of Bacteriology*, **2011**, 193, 2668-9	3.5	45
61	Current knowledge of microbial community structures in landfills and its cover soils. *Applied Microbiology and Biotechnology*, **2011**, 89, 961-9	5.7	44
60	Spectral and thermodynamic properties of methanobactin from Ɛproteobacterial methane oxidizing bacteria: a case for copper competition on a molecular level. *Journal of Inorganic Biochemistry*, **2010**, 104, 1240-7	4.2	43
59	Quantification of gene expression in methanotrophs by competitive reverse transcription-polymerase chain reaction. *Environmental Microbiology*, **2004**, 6, 388-99	5.2	40
58	Life in the extreme: thermoacidophilic methanotrophy. *Trends in Microbiology*, **2008**, 16, 190-3	12.4	39
57	Copper and cerium-regulated gene expression in Methylosinus trichosporium OB3b. *Applied Microbiology and Biotechnology*, **2017**, 101, 8499-8516	5.7	38
56	An assay for screening microbial cultures for chalkophore production. *Environmental Microbiology Reports*, **2010**, 2, 295-303	3.7	38
55	Feasibility of atmospheric methane removal using methanotrophic biotrickling filters. *Applied Microbiology and Biotechnology*, **2009**, 83, 949-56	5.7	38

54	Draft genome sequence of the volcano-inhabiting thermoacidophilic methanotroph Methylacidiphilum fumariolicum strain SolV. *Journal of Bacteriology*, **2012**, 194, 3729-30	3.5	37
53	Detoxification of mercury by methanobactin from Methylosinus trichosporium OB3b. *Applied and Environmental Microbiology*, **2013**, 79, 5918-26	4.8	36
52	Uptake and effect of rare earth elements on gene expression in Methylosinus trichosporium OB3b. *FEMS Microbiology Letters*, **2016**, 363,	2.9	34
51	Draft Genome Sequence of Methylomicrobium buryatense Strain 5G, a Haloalkaline-Tolerant Methanotrophic Bacterium. *Genome Announcements*, **2013**, 1,		34
50	A TonB-Dependent Transporter Is Responsible for Methanobactin Uptake by Methylosinus trichosporium OB3b. *Applied and Environmental Microbiology*, **2016**, 82, 1917-1923	4.8	33
49	Pollutant degradation by a Methylocystis strain SB2 grown on ethanol: bioremediation via facultative methanotrophy. *FEMS Microbiology Letters*, **2011**, 318, 137-42	2.9	33
48	Differential inhibition in vivo of ammonia monooxygenase, soluble methane monooxygenase and membrane-associated methane monoxygenase by phenylacetylene. *Environmental Microbiology*, **2000**, 2, 485-94	5.2	33
47	Spectral and copper binding properties of methanobactin from the facultative methanotroph Methylocystis strain SB2. *Journal of Inorganic Biochemistry*, **2012**, 110, 72-82	4.2	32
46	Isolation of methanobactin from the spent media of methane-oxidizing bacteria. *Methods in Enzymology*, **2011**, 495, 259-69	1.7	30
45	Effect of copper speciation on whole-cell soluble methane monooxygenase activity in Methylosinus trichosporium OB3b. *Applied and Environmental Microbiology*, **2000**, 66, 1730-3	4.8	30
44	A High-Calorie Diet Aggravates Mitochondrial Dysfunction and Triggers Severe Liver Damage in Wilson Disease Rats. *Cellular and Molecular Gastroenterology and Hepatology*, **2019**, 7, 571-596	7.9	29
43	Constitutive expression of pMMO by Methylocystis strain SB2 when grown on multi-carbon substrates: implications for biodegradation of chlorinated ethenes. *Environmental Microbiology Reports*, **2011**, 3, 182-8	3.7	25
42	Identification of intermediates of in vivo trichloroethylene oxidation by the membrane-associated methane monooxygenase. *FEMS Microbiology Letters*, **2000**, 186, 109-13	2.9	25
41	Mercury binding by methanobactin from Methylocystis strain SB2. *Journal of Inorganic Biochemistry*, **2014**, 141, 161-169	4.2	23
40	Chloromethane stimulates growth of Methylomicrobium album BG8 on methanol. *FEMS Microbiology Letters*, **2000**, 187, 77-81	2.9	23
39	Transformation of ortho-substituted biphenyls by Methylosinus trichosporium OB3b: substituent effects on oxidation kinetics and product formation. *Archives of Microbiology*, **2000**, 174, 35-41	3	23
38	Methanobactin from Methylosinus trichosporium OB3b inhibits NO reduction in denitrifiers. *ISME Journal*, **2018**, 12, 2086-2089	11.9	22
37	Bioavailability of Chelated and Soil-Adsorbed Copper toMethylosinus trichosporiumOB3b. *Environmental Science & Technology*, **2000**, 34, 4917-4922	10.3	22

36	Monte Carlo analysis of uncertainty attached to microbial pollutant degradation rates. *Environmental Science & Technology*, **2001**, 35, 3924-30	10.3	20
35	Dichloromethane and trichloroethylene inhibition of methane oxidation by the membrane-associated methane monooxygenase of Methylosinus trichosporium OB3b. *Archives of Microbiology*, **1999**, 171, 301-308	3	20
34	Competition between metals for binding to methanobactin enables expression of soluble methane monooxygenase in the presence of copper. *Applied and Environmental Microbiology*, **2015**, 81, 1024-31	4.8	19
33	Methanobactin from Methylocystis sp. strain SB2 affects gene expression and methane monooxygenase activity in Methylosinus trichosporium OB3b. *Applied and Environmental Microbiology*, **2015**, 81, 2466-73	4.8	19
32	Draft Genome Sequences of Gammaproteobacterial Methanotrophs Isolated from Marine Ecosystems. *Genome Announcements*, **2016**, 4,		19
31	Marker Exchange Mutagenesis of mxaF, Encoding the Large Subunit of the Mxa Methanol Dehydrogenase, in Methylosinus trichosporium OB3b. *Applied and Environmental Microbiology*, **2015**, 82, 1549-1555	4.8	18
30	An Aminotransferase Is Responsible for the Deamination of the N-Terminal Leucine and Required for Formation of Oxazolone Ring A in Methanobactin of Methylosinus trichosporium OB3b. *Applied and Environmental Microbiology*, **2017**, 83,	4.8	18
29	Field application of nitrogen and phenylacetylene to mitigate greenhouse gas emissions from landfill cover soils: effects on microbial community structure. *Applied Microbiology and Biotechnology*, **2011**, 89, 189-200	5.7	17
28	Measurement and modeling of multiple substrate oxidation by methanotrophs at 20 degrees C. *FEMS Microbiology Letters*, **2008**, 287, 156-62	2.9	16
27	A simple assay for screening microorganisms for chalkophore production. *Methods in Enzymology*, **2011**, 495, 247-58	1.7	13
26	Carbon source regulation of gene expression in Methylosinus trichosporium OB3b. *Applied Microbiology and Biotechnology*, **2017**, 101, 3871-3879	5.7	11
25	Methanobactin from methanotrophs: genetics, structure, function and potential applications. *FEMS Microbiology Letters*, **2020**, 367,	2.9	10
24	Characterization of a Mixed Methanotrophic Culture Capable of Chloroethylene Degradation. *Environmental Engineering Science*, **2005**, 22, 177-186	2	10
23	Characterization of the role of copCD in copper uptake and the ‘copper-switch’ in Methylosinus trichosporium OB3b. *FEMS Microbiology Letters*, **2017**, 364,	2.9	9
22	The origin of aerobic methanotrophy within the Proteobacteria. *FEMS Microbiology Letters*, **2019**, 366,	2.9	8
21	A field trial of nutrient stimulation of methanotrophs to reduce greenhouse gas emissions from landfill cover soils. *Journal of the Air and Waste Management Association*, **2013**, 63, 300-9	2.4	8
20	Quantitative structure-biodegradation relationships for ortho-substituted biphenyl compounds oxidized by Methylosinus trichosporium OB3b. *Environmental Toxicology and Chemistry*, **2003**, 22, 2251-7	3.8	8
19	Draft Genome Sequences of Two Gammaproteobacterial Methanotrophs Isolated from Rice Ecosystems. *Genome Announcements*, **2017**, 5,		8

18	Graham Scholars Program: sustainability education through an interdisciplinary international case study. *Sustainability Science*, **2009**, 4, 29-36	6.4	7
17	Substituent effects on the oxidation of substituted biphenyl congeners by type II methanotroph strain CSC1. *Archives of Microbiology*, **2005**, 183, 266-76	3	7
16	Dredging Contaminated Sediments: Is it Worth the Risks?. *Environmental Toxicology and Chemistry*, **2020**, 39, 515	3.8	6
15	Human Health Benefits from Fish Consumption vs. Risks from Inhalation Exposures Associated with Contaminated Sediment Remediation: Dredging of the Hudson River. *Environmental Health Perspectives*, **2019**, 127, 127004	8.4	6
14	Synergistic Effects of a Chalkophore, Methanobactin, on Microbial Methylation of Mercury. *Applied and Environmental Microbiology*, **2020**, 86,	4.8	5
13	Priority pollutant degradation by the facultative methanotroph, Methylocystis strain SB2. *Applied Microbiology and Biotechnology*, **2013**, 97, 5089-96	5.7	5
12	Enhancement of Nitrous Oxide Emissions in Soil Microbial Consortia via Copper Competition between Proteobacterial Methanotrophs and Denitrifiers. *Applied and Environmental Microbiology*, **2021**, 87, e0230120	4.8	5
11	Oxygen Generation via Water Splitting by a Novel Biogenic Metal Ion-Binding Compound. *Applied and Environmental Microbiology*, **2021**, 87, e0028621	4.8	4
10	Evidence for methanobactin "Theft" and novel chalkophore production in methanotrophs: impact on methanotrophic-mediated methylmercury degradation. *ISME Journal*, **2021**,	11.9	4
9	Microbial fouling of a reverse osmosis municipal water treatment system. *Water Environment Research*, **2008**, 80, 703-7	2.8	1
8	Quantitative community analysis: capillary electrophoresis techniques. *Methods in Enzymology*, **2005**, 397, 329-37	1.7	1
7	Two TonB-dependent transporters in OB3b are responsible for uptake of different forms of methanobactin and are involved in the canonical ‘copper switch’U*Applied and Environmental Microbiology*, **2021**, AEM0179321	4.8	1
6	Methanobactin: A Novel Copper-Binding Compound Produced by Methanotrophs. *Microbiology Monographs*, **2019**, 205-229	0.8	1
5	Spectroscopic and computational investigations of organometallic complexation of group 12 transition metals by methanobactins from Methylocystis sp. SB2. *Journal of Inorganic Biochemistry*, **2021**, 223, 111496	4.2	1
4	MbnC is not required for the formation of the N-terminal oxazolone in the methanobactin from OB3b. *Applied and Environmental Microbiology*, **2021**, AEM0184121	4.8	
3	Methanotrophy - Environmental, Industrial and Medical Applications. *Current Issues in Molecular Biology*, **2019**, 33, 1-22	2.9	
2	Variable Inhibition of Nitrous Oxide Reduction in Denitrifying Bacteria by Different Forms of Methanobactin.. *Applied and Environmental Microbiology*, **2022**, e0234621	4.8	
1	Updated Genome Sequence of the Facultative Methanotroph sp. Strain SB2.. *Microbiology Resource Announcements*, **2022**, e0018822	1.3	