

Richard R Sparling

List of Publications by Year in descending order

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116
papers

5,797
citations

109264

35
h-index

79644

73
g-index

118
all docs

118
docs citations

118
times ranked

6495
citing authors

#	ARTICLE	IF	CITATIONS
1	Biomass pretreatment: Fundamentals toward application. <i>Biotechnology Advances</i> , 2011, 29, 675-685.	6.0	1,544
2	Hydrogen production by <i>Clostridium thermocellum</i> 27405 from cellulosic biomass substrates. <i>International Journal of Hydrogen Energy</i> , 2006, 31, 1496-1503.	3.8	288
3	Third Generation Biofuels via Direct Cellulose Fermentation. <i>International Journal of Molecular Sciences</i> , 2008, 9, 1342-1360.	1.8	252
4	Regulation in the <i>rpoS</i> regulon of <i>Escherichia coli</i> . <i>Canadian Journal of Microbiology</i> , 1998, 44, 707-717.	0.8	211
5	The bioenergetics of methanogenesis. <i>Biochimica Et Biophysica Acta - Reviews on Bioenergetics</i> , 1984, 768, 113-163.	0.8	209
6	High Solid Anaerobic Digestion of Chicken Manure. <i>Biosystems Engineering</i> , 2000, 76, 51-60.	0.4	209
7	Dinitrogen fixation by a thermophilic methanogenic bacterium. <i>Nature</i> , 1984, 312, 286-288.	13.7	147
8	Hydrogen generation via anaerobic fermentation of paper mill wastes. <i>Bioresource Technology</i> , 2005, 96, 1907-1913.	4.8	127
9	Ethanol production by engineered thermophiles. <i>Current Opinion in Biotechnology</i> , 2015, 33, 130-141.	3.3	114
10	Mixotrophy drives niche expansion of verrucomicrobial methanotrophs. <i>ISME Journal</i> , 2017, 11, 2599-2610.	4.4	107
11	Proteomic analysis of <i>Clostridium thermocellum</i> core metabolism: relative protein expression profiles and growth phase-dependent changes in protein expression. <i>BMC Microbiology</i> , 2012, 12, 214.	1.3	99
12	Direct hydrogen production from cellulosic waste materials with a single-step dark fermentation process. <i>International Journal of Hydrogen Energy</i> , 2008, 33, 5398-5403.	3.8	96
13	Lipid production in the under-characterized oleaginous yeasts, <i>Rhodospiridium babjevae</i> and <i>Rhodospiridium diobovatum</i> , from biodiesel-derived waste glycerol. <i>Bioresource Technology</i> , 2015, 185, 49-55.	4.8	89
14	Evidence for facilitated uptake of Hg(II) by <i>Vibrio anguillarum</i> and <i>Escherichia coli</i> under anaerobic and aerobic conditions. <i>Limnology and Oceanography</i> , 2002, 47, 967-975.	1.6	85
15	Challenges for biohydrogen production via direct lignocellulose fermentation. <i>International Journal of Hydrogen Energy</i> , 2009, 34, 7390-7403.	3.8	85
16	Effect of substrate loading on hydrogen production during anaerobic fermentation by <i>Clostridium thermocellum</i> 27405. <i>Applied Microbiology and Biotechnology</i> , 2006, 72, 576-583.	1.7	79
17	Growth and neutral lipid synthesis by <i>Yarrowia lipolytica</i> on various carbon substrates under nutrient-sufficient and nutrient-limited conditions. <i>Bioresource Technology</i> , 2014, 164, 41-46.	4.8	78
18	Waste activated sludge fermentation: Effect of solids retention time and biomass concentration. <i>Water Research</i> , 2009, 43, 5180-5186.	5.3	72

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19	The specificity of growth inhibition of methanogenic bacteria by bromoethanesulfonate. Canadian Journal of Microbiology, 1987, 33, 1132-1136.	0.8	68
20	Growth phase-dependant enzyme profile of pyruvate catabolism and end-product formation in Clostridium thermocellum ATCC 27405. Journal of Biotechnology, 2009, 140, 169-175.	1.9	62
21	End-product induced metabolic shifts in Clostridium thermocellum ATCC 27405. Applied Microbiology and Biotechnology, 2011, 92, 199-209.	1.7	62
22	Influence of initial cellulose concentration on the carbon flow distribution during batch fermentation by Clostridium thermocellum ATCC 27405. Applied Microbiology and Biotechnology, 2009, 82, 141-148.	1.7	59
23	Linking genome content to biofuel production yields: a meta-analysis of major catabolic pathways among select H ₂ and ethanol-producing bacteria. BMC Microbiology, 2012, 12, 295.	1.3	58
24	Hydrogen gas production in a microbial electrolysis cell by electrohydrogenesis. Journal of Cleaner Production, 2010, 18, S105-S111.	4.6	57
25	Horizontal transfer of antibiotic resistance from Enterococcus faecium of fermented meat origin to clinical isolates of E. faecium and Enterococcus faecalis. International Journal of Food Microbiology, 2015, 199, 78-85.	2.1	57
26	Precipitation of iron minerals by a natural microbial consortium. Geochimica Et Cosmochimica Acta, 1999, 63, 2163-2169.	1.6	51
27	Formate synthesis by Clostridium thermocellum during anaerobic fermentation. Canadian Journal of Microbiology, 2006, 52, 681-688.	0.8	47
28	Continuous hydrogen production during fermentation of cellulose by the thermophillic bacterium Clostridium thermocellum. Biotechnology and Bioengineering, 2009, 102, 759-766.	1.7	41
29	Pyruvate catabolism and hydrogen synthesis pathway genes of Clostridium thermocellum ATCC 27405. Indian Journal of Microbiology, 2008, 48, 252-266.	1.5	40
30	Predicting relatedness of bacterial genomes using the chaperonin-60 universal target (cpn60 UT): Application to Thermoanaerobacter species. Systematic and Applied Microbiology, 2011, 34, 171-179.	1.2	40
31	Genomic Evaluation of Thermoanaerobacter spp. for the Construction of Designer Co-Cultures to Improve Lignocellulosic Biofuel Production. PLoS ONE, 2013, 8, e59362.	1.1	39
32	Reassessment of the Transhydrogenase/Malate Shunt Pathway in Clostridium thermocellum ATCC 27405 through Kinetic Characterization of Malic Enzyme and Malate Dehydrogenase. Applied and Environmental Microbiology, 2015, 81, 2423-2432.	1.4	37
33	Hydrogen, ethanol and cellulase production from pulp and paper primary sludge by fermentation with Clostridium thermocellum. Biomass and Bioenergy, 2015, 72, 256-262.	2.9	36
34	Evaluation of Mercury Toxicity as a Predictor of Mercury Bioavailability. Environmental Science & Technology, 2007, 41, 5685-5692.	4.6	35
35	Effect of pH on Intracellular Accumulation of Trace Concentrations of Hg(II) in Escherichia coli under Anaerobic Conditions, as Measured Using a mer-lux Bioreporter. Applied and Environmental Microbiology, 2008, 74, 667-675.	1.4	35
36	Kinetics of medium-chain-length polyhydroxyalkanoate production by a novel isolate of Pseudomonas putida LS46. Canadian Journal of Microbiology, 2012, 58, 982-989.	0.8	34

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37	Global changes in the proteome of <i>Cupriavidus necator</i> H16 during poly-(3-hydroxybutyrate) synthesis from various biodiesel by-product substrates. <i>AMB Express</i> , 2016, 6, 36.	1.4	34
38	Effect of mesophilic anaerobic digestion on the resistome profile of dairy manure. <i>Bioresource Technology</i> , 2020, 315, 123889.	4.8	33
39	Isolation and Ultrastructure of the Flagella of <i>Methanococcus thermolithotrophicus</i> and <i>Methanospirillum hungatei</i> . <i>Applied and Environmental Microbiology</i> , 1989, 55, 1414-1419.	1.4	31
40	Hydrogen production and end-product synthesis patterns by <i>Clostridium termitidis</i> strain CT1112 in batch fermentation cultures with cellobiose or β -cellulose. <i>International Journal of Hydrogen Energy</i> , 2008, 33, 7006-7012.	3.8	30
41	The role of dissolved oxygen content as a modulator of microbial polyhydroxyalkanoate synthesis. <i>World Journal of Microbiology and Biotechnology</i> , 2018, 34, 106.	1.7	30
42	Leachate treatment before injection into a bioreactor landfill: Clogging potential reduction and benefits of using methanogenesis. <i>Waste Management</i> , 2010, 30, 2030-2036.	3.7	29
43	Comparative Analysis of Carbohydrate Active Enzymes in <i>Clostridium termitidis</i> CT1112 Reveals Complex Carbohydrate Degradation Ability. <i>PLoS ONE</i> , 2014, 9, e104260.	1.1	29
44	Single-step fermentation of agricultural hemp residues for hydrogen and ethanol production. <i>Biomass and Bioenergy</i> , 2014, 64, 62-69.	2.9	27
45	Evaluation of medium-chain-length polyhydroxyalkanoate production by <i>Pseudomonas putida</i> LS46 using biodiesel by-product streams. <i>Canadian Journal of Microbiology</i> , 2014, 60, 461-468.	0.8	25
46	Physiological and ¹⁵ N-NMR analysis of molecular nitrogen fixation by <i>Methanococcus thermolithotrophicus</i> , <i>Methanobacterium bryantii</i> and <i>Methanospirillum hungatei</i> . <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 1988, 971, 233-245.	1.9	23
47	Information-independent LC-MS/MS acquisition with exclusion lists potentially generated on-the-fly: Case study using a whole cell digest of <i>Clostridium thermocellum</i> . <i>Proteomics</i> , 2012, 12, 1160-1169.	1.3	23
48	<i>Thermoanaerobacterthermohydrosulfuricus</i> WC1 Shows Protein Complement Stability during Fermentation of Key Lignocellulose-Derived Substrates. <i>Applied and Environmental Microbiology</i> , 2014, 80, 1602-1615.	1.4	23
49	Reduced catabolic protein expression in <i>Clostridium butyricum</i> DSM 10702 correlate with reduced 1,3-propanediol synthesis at high glycerol loading. <i>AMB Express</i> , 2014, 4, 63.	1.4	23
50	Role of glycoside hydrolase genes in sinigrin degradation by <i>E. coli</i> O157:H7. <i>International Journal of Food Microbiology</i> , 2015, 205, 105-111.	2.1	23
51	Transcriptomic and proteomic analyses of core metabolism in <i>Clostridium termitidis</i> CT1112 during growth on β -cellulose, xylan, cellobiose and xylose. <i>BMC Microbiology</i> , 2016, 16, 91.	1.3	22
52	Dehalogenation of 2-chlorophenol (2-CP) in anaerobic batch cultures. <i>Water Research</i> , 1996, 30, 315-322.	5.3	21
53	Facultative Anaerobe <i>Caldibacillus debilis</i> GB1: Characterization and Use in a Designed Aerotolerant, Cellulose-Degrading Coculture with <i>Clostridium thermocellum</i> . <i>Applied and Environmental Microbiology</i> , 2015, 81, 5567-5573.	1.4	21
54	Optimization of Influential Nutrients during Direct Cellulose Fermentation into Hydrogen by <i>Clostridium thermocellum</i> . <i>International Journal of Molecular Sciences</i> , 2015, 16, 3116-3132.	1.8	21

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55	Quantitative ¹³ C-Omics Analyses of Medium Chain Length Polyhydroxyalkanoate Metabolism in <i>Pseudomonas putida</i> LS46 Cultured with Waste Glycerol and Waste Fatty Acids. <i>PLoS ONE</i> , 2015, 10, e0142322.	1.1	21
56	Low-Temperature Inactivation of Fecal Coliforms in Sludge Digestion. <i>Water Environment Research</i> , 2006, 78, 680-685.	1.3	20
57	Effect of ceftiofur on mesophilic anaerobic digestion of dairy manure and the reduction of the cephalosporin-resistance gene <i>cmy-2</i> . <i>Bioresource Technology</i> , 2020, 301, 122729.	4.8	20
58	Response of Microbial Community to Induced Failure of Anaerobic Digesters Through Overloading With Propionic Acid Followed by Process Recovery. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020, 8, 604838.	2.0	20
59	Enhanced whole genome sequence and annotation of <i>Clostridium stercorarium</i> DSM8532T using RNA-seq transcriptomics and high-throughput proteomics. <i>BMC Genomics</i> , 2014, 15, 567.	1.2	19
60	Insights into electron flux through manipulation of fermentation conditions and assessment of protein expression profiles in <i>Clostridium thermocellum</i> . <i>Applied Microbiology and Biotechnology</i> , 2014, 98, 6497-6510.	1.7	18
61	Quantification and diversity of the archaeal community in a landfill site. <i>Canadian Journal of Microbiology</i> , 2003, 49, 28-36.	0.8	17
62	Isolates of <i>Thermoanaerobacter thermohydrosulfuricus</i> from decaying wood compost display genetic and phenotypic microdiversity. <i>FEMS Microbiology Ecology</i> , 2011, 78, 473-487.	1.3	17
63	A versatile and robust aerotolerant microbial community capable of cellulosic ethanol production. <i>Bioresource Technology</i> , 2013, 129, 156-163.	4.8	17
64	Genome features of <i>Pseudomonas putida</i> LS46, a novel polyhydroxyalkanoate producer and its comparison with other <i>P. putida</i> strains. <i>AMB Express</i> , 2014, 4, 37.	1.4	17
65	Role of transcription and enzyme activities in redistribution of carbon and electron flux in response to N ₂ and H ₂ sparging of open-batch cultures of <i>Clostridium thermocellum</i> ATCC 27405. <i>Applied Microbiology and Biotechnology</i> , 2014, 98, 2829-2840.	1.7	16
66	Whole cell, label free protein quantitation with data independent acquisition: Quantitation at the MS2 level. <i>Proteomics</i> , 2015, 15, 16-24.	1.3	16
67	Carbon flux to growth or polyhydroxyalkanoate synthesis under microaerophilic conditions is affected by fatty acid chain-length in <i>Pseudomonas putida</i> LS46. <i>Applied Microbiology and Biotechnology</i> , 2018, 102, 6437-6449.	1.7	16
68	Development of High Cell Density Cultivation Strategies for Improved Medium Chain Length Polyhydroxyalkanoate Productivity Using <i>Pseudomonas putida</i> LS46. <i>Bioengineering</i> , 2019, 6, 89.	1.6	16
69	Polyhydroxybutyrate Production from Municipal Wastewater Activated Sludge with Different Carbon Sources. <i>Air, Soil and Water Research</i> , 2015, 8, ASWR.S27218.	1.2	15
70	Cofactor Tail Length Modulates Catalysis of Bacterial F420-Dependent Oxidoreductases. <i>Frontiers in Microbiology</i> , 2017, 8, 1902.	1.5	15
71	Bioenergetic studies of <i>Methanospaera stadtmanae</i> , an obligate H ₂ -methanol utilising methanogen. <i>Canadian Journal of Microbiology</i> , 1993, 39, 742-748.	0.8	14
72	Enhancing biological phosphorus removal with glycerol. <i>Water Science and Technology</i> , 2010, 61, 1837-1843.	1.2	14

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73	Enhanced cellulose fermentation and end-product synthesis by <i>Clostridium thermocellum</i> with varied nutrient compositions under carbon-excess conditions. <i>Biomass and Bioenergy</i> , 2013, 48, 213-223.	2.9	14
74	Microaerophilic environments improve the productivity of medium chain length polyhydroxyalkanoate biosynthesis from fatty acids in <i>Pseudomonas putida</i> LS46. <i>Process Biochemistry</i> , 2017, 59, 18-25.	1.8	14
75	Digestibility of Wheat and Cattail Biomass Using a Co-culture of Thermophilic Anaerobes for Consolidated Bioprocessing. <i>Bioenergy Research</i> , 2020, 13, 325-333.	2.2	14
76	Effect of Sulfidogenic and Methanogenic Inhibitors on Reductive Dehalogenation of 2-Chlorophenol. <i>Environmental Technology (United Kingdom)</i> , 2005, 26, 1383-1392.	1.2	13
77	Omics Approaches for Designing Biofuel Producing Cocultures for Enhanced Microbial Conversion of Lignocellulosic Substrates. , 2015, , 335-363.		12
78	Quantitative proteomic analysis of the cellulolytic system of <i>Clostridium termitidis</i> CT1112 reveals distinct protein expression profiles upon growth on 1±-cellulose and cellobiose. <i>Journal of Proteomics</i> , 2015, 125, 41-53.	1.2	12
79	Isolation and characterization of a hydrogen- and ethanol-producing <i>Clostridium</i> sp. strain URNW. <i>Canadian Journal of Microbiology</i> , 2011, 57, 236-243.	0.8	11
80	Enhancement of CH ₄ oxidation potential in bio-based landfill cover materials. <i>Chemical Engineering Research and Design</i> , 2021, 146, 943-951.	2.7	11
81	Efficacy of medium chain-length polyhydroxyalkanoate biosynthesis from different biochemical pathways under oxygen-limited conditions using <i>Pseudomonas putida</i> LS46. <i>Process Biochemistry</i> , 2019, 82, 19-31.	1.8	10
82	A meta-analysis reveals that operational parameters influence levels of antibiotic resistance genes during anaerobic digestion of animal manures. <i>Science of the Total Environment</i> , 2022, 814, 152711.	3.9	10
83	Sodium ion dependent active transport of leucine in <i>Methanosphaera stadtmanae</i> . <i>Canadian Journal of Microbiology</i> , 1993, 39, 749-753.	0.8	9
84	Characterization of enriched aerotolerant cellulose-degrading communities for biofuels production using differing selection pressures and inoculum sources. <i>Canadian Journal of Microbiology</i> , 2013, 59, 679-683.	0.8	9
85	Enhanced depolymerization and utilization of raw lignocellulosic material by co-cultures of <i>Ruminiclostridium thermocellum</i> with hemicellulose-utilizing partners. <i>Canadian Journal of Microbiology</i> , 2019, 65, 296-307.	0.8	9
86	Mercury methylation made easy. <i>Nature Geoscience</i> , 2009, 2, 92-93.	5.4	8
87	Draft Genome Sequence of the Cellulolytic, Mesophilic, Anaerobic Bacterium <i>Clostridium termitidis</i> Strain CT1112 (DSM 5398). <i>Genome Announcements</i> , 2013, 1, .	0.8	8
88	Effects of impurities in biodiesel-derived glycerol on growth and expression of heavy metal ion homeostasis genes and gene products in <i>Pseudomonas putida</i> LS46. <i>Applied Microbiology and Biotechnology</i> , 2015, 99, 5583-5592.	1.7	8
89	Understanding aerobic/anaerobic metabolism in <i>Caldibacillus debilis</i> through a comparison with model organisms. <i>Systematic and Applied Microbiology</i> , 2017, 40, 245-253.	1.2	8
90	A novel thermostable GH5 12-xylosidase from <i>Thermogemmatispora</i> sp. T81. <i>New Biotechnology</i> , 2019, 53, 57-64.	2.4	8

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91	Investigation of serine hydroxymethyltransferase in methanogens. Canadian Journal of Microbiology, 1998, 44, 652-6.	0.8	8
92	Physiological and ¹⁵ N-NMR analysis of molecular nitrogen fixation by Methanococcus thermolithotrophicus, Methanobacterium bryantii and Methanospirillum hungatei. Biochimica Et Biophysica Acta - Bioenergetics, 1988, 971, 233-245.	0.5	7
93	Electron transfer reactions for the reduction of NADP ⁺ in Methanosphaera stadtmanae. FEMS Microbiology Letters, 1994, 120, 285-290.	0.7	7
94	Rheological Behavior of High Cell Density Pseudomonas putida LS46 Cultures during Production of Medium Chain Length Polyhydroxyalkanoate (PHA) Polymers. Bioengineering, 2019, 6, 93.	1.6	7
95	Draft Genome Sequence of Medium-Chain-Length Polyhydroxyalkanoate-Producing Pseudomonas putida Strain LS46. Genome Announcements, 2013, 1, e0015113.	0.8	6
96	A metabolic and genomic assessment of sugar fermentation profiles of the thermophilic Thermotogales, Fervidobacterium pennivorans. Extremophiles, 2018, 22, 965-974.	0.9	6
97	Analysis of carbohydrate-active enzymes in <i>Thermogemmatispora</i> sp. strain T81 reveals carbohydrate degradation ability. Canadian Journal of Microbiology, 2018, 64, 992-1003.	0.8	5
98	Draft Genome Sequence of the Hydrogen- and Ethanol-Producing Bacterium Clostridium intestinale Strain URNW. Genome Announcements, 2013, 1, .	0.8	4
99	In situ activity-based protein profiling of serine hydrolases in E. coli. EuPA Open Proteomics, 2014, 4, 18-24.	2.5	4
100	Draft Genome Sequence of Thermoanaerobacter sp. Strain YS13, a Novel Thermophilic Bacterium. Genome Announcements, 2015, 3, .	0.8	4
101	Optimized design of a compost layer in a landfill biocover for CH ₄ oxidation. Chemical Engineering Research and Design, 2022, 160, 354-361.	2.7	4
102	Draft Genome Sequence of the Bacteriocin-Producing Bradyrhizobium japonicum Strain FN1. Genome Announcements, 2015, 3, .	0.8	3
103	Cross-feeding and wheat straw extractives enhance growth of Clostridium thermocellum-containing co-cultures for consolidated bioprocessing. Bioprocess and Biosystems Engineering, 2021, 44, 819-830.	1.7	3
104	Molecular Hydrogen and Energy Conservation in Methanogenic and Acetogenic Bacteria. , 1990, , 3-10.		3
105	Methane oxidation in a landfill biowindow under wide seasonally fluctuating climatic conditions. Environmental Science and Pollution Research, 2022, 29, 24623-24638.	2.7	3
106	Effects of Turbulence and Temperature on Leachate Chemistry. Journal of Environmental Engineering, ASCE, 2012, 138, 562-569.	0.7	2
107	Growth and metabolic profiling of the novel thermophilic bacterium Thermoanaerobacter sp. strain YS13. Canadian Journal of Microbiology, 2016, 62, 762-771.	0.8	2
108	Microbial Population Change in Anaerobic Digestion during Copper Sulfate Inhibition and Recovery. Transactions of the ASABE, 2019, 62, 1231-1241.	1.1	2

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109	Potential of thin stillage as a low-cost nutrient source for direct cellulose fermentation by <i>Clostridium thermocellum</i> . <i>AIMS Energy</i> , 2015, 3, 711-727.	1.1	2
110	Description of a cryptic thermophilic (pro)phage, CBP1 from <i>Caldibacillus debilis</i> strain GB1. <i>Extremophiles</i> , 2018, 22, 203-209.	0.9	1
111	Analysis of the <i>Yarrowia lipolytica</i> proteome reveals subtle variations in expression levels between lipogenic and non-lipogenic conditions. <i>FEMS Yeast Research</i> , 2021, 21, .	1.1	1
112	Effect of Different Carbon Sources on Biological Phosphorus Removal and Polyhydroxyalkanoate Production. <i>Proceedings of the Water Environment Federation</i> , 2008, 2008, 193-201.	0.0	0
113	Phylogenetic Affiliation of <i>Pseudomonas</i> sp. MO2, a Novel Polyhydroxyalkanoate-Synthesizing Bacterium. , 2015, , 57-77.		0
114	In Silico Comparative Analysis of Type VI Secretion Systems in <i>Pseudomonas putida</i> LS46. , 2016, , 257-279.		0
115	Genomic comparison of facultatively anaerobic and obligatory aerobic <i>Caldibacillus debilis</i> strains GB1 and Tf helps explain physiological differences. <i>Canadian Journal of Microbiology</i> , 2019, 65, 421-428.	0.8	0
116	Long-term Impact of Low Temperature on Anammox Process. <i>Proceedings of the Water Environment Federation</i> , 2015, 2015, 3039-3050.	0.0	0