

Hyung-Sool Lee

List of Publications by Year in descending order

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105
papers

6,025
citations

70961

41
h-index

71532

76
g-index

105
all docs

105
docs citations

105
times ranked

4974
citing authors

#	ARTICLE	IF	CITATIONS
1	A kinetic perspective on extracellular electron transfer by anode-respiring bacteria. FEMS Microbiology Reviews, 2010, 34, 3-17.	3.9	506
2	Biological hydrogen production: prospects and challenges. Trends in Biotechnology, 2010, 28, 262-271.	4.9	366
3	Evaluation of energy-conversion efficiencies in microbial fuel cells (MFCs) utilizing fermentable and non-fermentable substrates. Water Research, 2008, 42, 1501-1510.	5.3	336
4	A critical review on inhibition of dark biohydrogen fermentation. Renewable and Sustainable Energy Reviews, 2017, 79, 656-668.	8.2	299
5	Syntrophic interactions among anode respiring bacteria (ARB) and Non-ARB in a biofilm anode: electron balances. Biotechnology and Bioengineering, 2009, 103, 513-523.	1.7	208
6	Algal biorefinery: A sustainable approach to valorize algal-based biomass towards multiple product recovery. Bioresource Technology, 2019, 278, 346-359.	4.8	198
7	Thermodynamic Evaluation on H ₂ Production in Glucose Fermentation. Environmental Science & Technology, 2008, 42, 2401-2407.	4.6	195
8	Fate of H ₂ in an Upflow Single-Chamber Microbial Electrolysis Cell Using a Metal-Catalyst-Free Cathode. Environmental Science & Technology, 2009, 43, 7971-7976.	4.6	190
9	Significance of Biological Hydrogen Oxidation in a Continuous Single-Chamber Microbial Electrolysis Cell. Environmental Science & Technology, 2010, 44, 948-954.	4.6	153
10	Effects of Substrate Diffusion and Anode Potential on Kinetic Parameters for Anode-Respiring Bacteria. Environmental Science & Technology, 2009, 43, 7571-7577.	4.6	144
11	Hydrogen production from sugar beet juice using an integrated biohydrogen process of dark fermentation and microbial electrolysis cell. Bioresource Technology, 2015, 198, 223-230.	4.8	142
12	Miniaturizing microbial fuel cells for potential portable power sources: promises and challenges. Microfluidics and Nanofluidics, 2012, 13, 353-381.	1.0	141
13	A paper-based microbial fuel cell: Instant battery for disposable diagnostic devices. Biosensors and Bioelectronics, 2013, 49, 410-414.	5.3	128
14	A 1/4L-scale micromachined microbial fuel cell having high power density. Lab on A Chip, 2011, 11, 1110.	3.1	126
15	A high power density miniaturized microbial fuel cell having carbon nanotube anodes. Journal of Power Sources, 2015, 273, 823-830.	4.0	112
16	Evaluation of metabolism using stoichiometry in fermentative biohydrogen. Biotechnology and Bioengineering, 2009, 102, 749-758.	1.7	111
17	Carbonate Species as OH ⁻ Carriers for Decreasing the pH Gradient between Cathode and Anode in Biological Fuel Cells. Environmental Science & Technology, 2008, 42, 8773-8777.	4.6	108
18	Full-scale application of focused-pulsed pre-treatment for improving biosolids digestion and conversion to methane. Water Science and Technology, 2008, 58, 1895-1901.	1.2	96

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19	Hydrogen consumption in microbial electrochemical systems (MXCs): The role of homo-acetogenic bacteria. <i>Bioresource Technology</i> , 2011, 102, 263-271.	4.8	91
20	Using a Pulsed Electric Field as a Pretreatment for Improved Biosolids Digestion and Methanogenesis. <i>Water Environment Research</i> , 2009, 81, 831-839.	1.3	82
21	Enhanced decolorization of azo dye in a small pilot-scale anaerobic baffled reactor coupled with biocatalyzed electrolysis system (ABR+ BES): A design suitable for scaling-up. <i>Bioresource Technology</i> , 2014, 163, 254-261.	4.8	81
22	Azo dye removal in a membrane-free up-flow biocatalyzed electrolysis reactor coupled with an aerobic bio-contact oxidation reactor. <i>Journal of Hazardous Materials</i> , 2012, 239-240, 257-264.	6.5	75
23	Energy-positive food wastewater treatment using an anaerobic membrane bioreactor (AnMBR). <i>Journal of Environmental Management</i> , 2016, 182, 477-485.	3.8	71
24	Syntrophic interactions between H ₂ -scavenging and anode-respiring bacteria can improve current density in microbial electrochemical cells. <i>Bioresource Technology</i> , 2014, 153, 245-253.	4.8	68
25	Food waste fermentation in a leach bed reactor: Reactor performance, and microbial ecology and dynamics. <i>Bioresource Technology</i> , 2019, 274, 153-161.	4.8	65
26	Comparison of pilot scale performances between membrane bioreactor and hybrid conventional wastewater treatment systems. <i>Journal of Membrane Science</i> , 2004, 242, 5-12.	4.1	63
27	Membranes for bioelectrochemical systems: challenges and research advances. <i>Environmental Technology (United Kingdom)</i> , 2013, 34, 1751-1764.	1.2	62
28	Contribution of Liquid/Gas Mass-Transfer Limitations to Dissolved Methane Oversaturation in Anaerobic Treatment of Dilute Wastewater. <i>Environmental Science & Technology</i> , 2015, 49, 10366-10372.	4.6	62
29	Microbial activity influences electrical conductivity of biofilm anode. <i>Water Research</i> , 2017, 127, 230-238.	5.3	61
30	Control of voltage reversal in serially stacked microbial fuel cells through manipulating current: Significance of critical current density. <i>Journal of Power Sources</i> , 2015, 283, 19-23.	4.0	59
31	Separation of competitive microorganisms using anaerobic membrane bioreactors as pretreatment to microbial electrochemical cells. <i>Bioresource Technology</i> , 2013, 148, 208-214.	4.8	56
32	Efficient azo dye removal in bioelectrochemical system and post-aerobic bioreactor: Optimization and characterization. <i>Chemical Engineering Journal</i> , 2014, 243, 355-363.	6.6	55
33	An electron flow model can predict complex redox reactions in mixed-culture fermentative BioH ₂ : Microbial ecology evidence. <i>Biotechnology and Bioengineering</i> , 2009, 104, 687-697.	1.7	53
34	Shift of voltage reversal in stacked microbial fuel cells. <i>Journal of Power Sources</i> , 2015, 278, 534-539.	4.0	53
35	The Roles of Biofilm Conductivity and Donor Substrate Kinetics in a Mixed-Culture Biofilm Anode. <i>Environmental Science & Technology</i> , 2016, 50, 12799-12807.	4.6	52
36	Characterization and optimization of cathodic conditions for H ₂ O ₂ synthesis in microbial electrochemical cells. <i>Bioresource Technology</i> , 2015, 195, 31-36.	4.8	51

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37	Occurrence and Implications of Voltage Reversal in Stacked Microbial Fuel Cells. <i>ChemSusChem</i> , 2014, 7, 1689-1695.	3.6	49
38	Anaerobic oxidation of methane coupled with extracellular electron transfer to electrodes. <i>Scientific Reports</i> , 2017, 7, 5099.	1.6	49
39	Characterization of energy losses in an upflow single-chamber microbial electrolysis cell. <i>International Journal of Hydrogen Energy</i> , 2010, 35, 920-927.	3.8	48
40	Wastewater treatment in a hybrid biological reactor using powdered minerals: effects of organic loading rates on COD removal and nitrification. <i>Process Biochemistry</i> , 2002, 38, 81-88.	1.8	46
41	Implication of diffusion and significance of anodic pH in nitrogen-recovering microbial electrochemical cells. <i>Bioresource Technology</i> , 2013, 142, 562-569.	4.8	42
42	Efficient hydrogen recovery with CoP-NF as cathode in microbial electrolysis cells. <i>Applied Energy</i> , 2020, 264, 114700.	5.1	40
43	Ohmic resistance affects microbial community and electrochemical kinetics in a multi-anode microbial electrochemical cell. <i>Journal of Power Sources</i> , 2016, 331, 315-321.	4.0	39
44	Hydrophilic graphene aerogel anodes enhance the performance of microbial electrochemical systems. <i>Bioresource Technology</i> , 2020, 304, 122907.	4.8	39
45	Implication of endogenous decay current and quantification of soluble microbial products (SMP) in microbial electrolysis cells. <i>RSC Advances</i> , 2013, 3, 14021.	1.7	38
46	Ammonium nitrogen removal from the permeates of anaerobic membrane bioreactors: economic regeneration of exhausted zeolite. <i>Environmental Technology (United Kingdom)</i> , 2014, 35, 2008-2017.	1.2	38
47	Regulating the respiration of microbe: A bio-inspired high performance microbial supercapacitor with graphene based electrodes and its kinetic features. <i>Nano Energy</i> , 2015, 15, 697-708.	8.2	38
48	The effect of solids retention time on dissolved methane concentration in anaerobic membrane bioreactors. <i>Environmental Technology (United Kingdom)</i> , 2013, 34, 2105-2112.	1.2	37
49	New architecture for modulization of membraneless and single-chambered microbial fuel cell using a bipolar plate-electrode assembly (BEA). <i>Biosensors and Bioelectronics</i> , 2014, 59, 28-34.	5.3	37
50	Anaerobic oxidation of methane coupled to denitrification: fundamentals, challenges, and potential. <i>Critical Reviews in Environmental Science and Technology</i> , 2018, 48, 1067-1093.	6.6	35
51	Mixed dye wastewater treatment in a bioelectrochemical system-centered process. <i>Bioresource Technology</i> , 2020, 297, 122420.	4.8	35
52	Hypoxic methane oxidation coupled to denitrification in a membrane biofilm. <i>Chemical Engineering Journal</i> , 2018, 348, 745-753.	6.6	34
53	Hydrogen peroxide production in a pilot-scale microbial electrolysis cell. <i>Biotechnology Reports (Amsterdam, Netherlands)</i> , 2018, 19, e00276.	2.1	34
54	Effect of electrode position on azo dye removal in an up-flow hybrid anaerobic digestion reactor with built-in bioelectrochemical system. <i>Scientific Reports</i> , 2016, 6, 25223.	1.6	32

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55	Electrokinetic analyses in biofilm anodes: Ohmic conduction of extracellular electron transfer. <i>Bioresource Technology</i> , 2018, 256, 509-514.	4.8	32
56	High Biofilm Conductivity Maintained Despite Anode Potential Changes in a <i>Geobacter</i> -Enriched Biofilm. <i>ChemSusChem</i> , 2016, 9, 3485-3491.	3.6	31
57	The micro-niche of exoelectrogens influences bioelectricity generation in bioelectrochemical systems. <i>Renewable and Sustainable Energy Reviews</i> , 2020, 134, 110184.	8.2	31
58	Evaluation of limiting factors for current density in microbial electrochemical cells (MXCs) treating domestic wastewater. <i>Biotechnology Reports (Amsterdam, Netherlands)</i> , 2014, 4, 80-85.	2.1	29
59	Kinetic study on anaerobic oxidation of methane coupled to denitrification. <i>Enzyme and Microbial Technology</i> , 2017, 104, 47-55.	1.6	29
60	Hydrogen-based syntrophy in an electrically conductive biofilm anode. <i>Chemical Engineering Journal</i> , 2019, 359, 208-216.	6.6	26
61	Valorization of food waste and economical treatment: Effect of inoculation methods. <i>Journal of Cleaner Production</i> , 2020, 261, 121170.	4.6	26
62	Comprehensive study on hybrid anaerobic reactor built-in with sleeve type bioelectrocatalyzed modules. <i>Chemical Engineering Journal</i> , 2017, 330, 1306-1315.	6.6	24
63	Recovery of dissolved methane from anaerobically treated food waste leachate using solvent-based membrane contactor. <i>Water Research</i> , 2020, 175, 115693.	5.3	22
64	The evaluation of enhanced nitrification by immobilized biofilm on a clinoptilolite carrier. <i>Bioresource Technology</i> , 2002, 82, 183-189.	4.8	21
65	Performance variation according to anode-embedded orientation in a sediment microbial fuel cell employing a chessboard-like hundred-piece anode. <i>Bioresource Technology</i> , 2015, 190, 175-181.	4.8	20
66	Microbial Fuel Cells as Discontinuous Portable Power Sources: Syntropic Interactions with Anode-Respiring Bacteria. <i>ChemSusChem</i> , 2014, 7, 1026-1029.	3.6	19
67	Methane-based denitrification kinetics and syntrophy in a membrane biofilm reactor at low methane pressure. <i>Science of the Total Environment</i> , 2019, 695, 133818.	3.9	18
68	Food waste treatment with a leachate bed reactor: Effects of inoculum to substrate ratio and reactor design. <i>Bioresource Technology</i> , 2019, 285, 121350.	4.8	18
69	Enhanced current and power density of micro-scale microbial fuel cells with ultramicroelectrode anodes. <i>Journal of Micromechanics and Microengineering</i> , 2016, 26, 095016.	1.5	17
70	State-of-the-art management technologies of dissolved methane in anaerobically-treated low-strength wastewaters: A review. <i>Water Research</i> , 2021, 200, 117269.	5.3	16
71	Quantification of the methane concentration using anaerobic oxidation of methane coupled to extracellular electron transfer. <i>Bioresource Technology</i> , 2017, 241, 979-984.	4.8	15
72	Upflow anaerobic-microaerobic fixed biofilm reactor integrating methanogenesis with partial nitrification. <i>Chemical Engineering Journal</i> , 2018, 348, 281-291.	6.6	14

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73	Recoverability of electrical conductivity of a Geobacter-enriched biofilm. <i>Journal of Power Sources</i> , 2018, 402, 198-202.	4.0	14
74	Extraction of dissolved methane from aqueous solutions by membranes: Modelling and parametric studies. <i>Journal of Membrane Science</i> , 2020, 596, 117594.	4.1	14
75	Simultaneous regeneration of exhausted zeolite and nitrogen recovery using an air stripping method at alkaline pH. <i>Water Quality Research Journal of Canada</i> , 2016, 51, 321-330.	1.2	13
76	Spatial distribution of biofilm conductivity in a Geobacter enriched anodic biofilm. <i>Chemical Engineering Journal</i> , 2021, 404, 126544.	6.6	13
77	Anaerobic membrane bioreactors for wastewater treatment: Challenges and opportunities. <i>Water Environment Research</i> , 2021, 93, 993-1004.	1.3	11
78	Hybrid Approach for Selective Sulfoxidation via Bioelectrochemically Derived Hydrogen Peroxide over a Niobium(V)-Silica Catalyst. <i>ACS Sustainable Chemistry and Engineering</i> , 2018, 6, 7880-7889.	3.2	10
79	High-rate carboxylate production in dry fermentation of food waste at room temperature. <i>Science of the Total Environment</i> , 2020, 714, 136695.	3.9	10
80	Induction of cathodic voltage reversal and hydrogen peroxide synthesis in a serially stacked microbial fuel cell. <i>Journal of Environmental Management</i> , 2019, 241, 84-90.	3.8	9
81	The role of microbial electrogenesis in regulating methane and nitrous oxide emissions from constructed wetland-microbial fuel cell. <i>International Journal of Hydrogen Energy</i> , 2022, 47, 27279-27292.	3.8	9
82	A quantitative extracellular electron transfer (EET) kinetics study of <i>Geobacter sulfurreducens</i> enriched microbial community reveals the transition of EET limiting step during biofilm growth. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 3124-3134.	3.8	8
83	Nitrite reduction using a membrane biofilm reactor (MBfR) in a hypoxic environment with dilute methane under low pressures. <i>Science of the Total Environment</i> , 2022, 841, 156757.	3.9	8
84	Acetone-butanol-ethanol production in a novel continuous flow system. <i>Bioresource Technology</i> , 2015, 190, 315-320.	4.8	7
85	Butyrate production and purification by combining dry fermentation of food waste with a microbial fuel cell. <i>Journal of Environmental Management</i> , 2021, 300, 113827.	3.8	7
86	Resource recovery of sludge as a micro-media in an activated sludge process. <i>Journal of Environmental Management</i> , 2003, 7, 629-633.	1.7	6
87	Understanding energy loss in parallelly connected microbial fuel cells: Non-Faradaic current. <i>Bioresource Technology</i> , 2016, 203, 280-286.	4.8	6
88	Semi-continuous measurement of oxygen demand in wastewater using biofilm-capacitance. <i>Bioresource Technology Reports</i> , 2018, 3, 231-237.	1.5	6
89	Kinetics of anaerobic methane oxidation coupled to denitrification in the membrane biofilm reactor. <i>Biotechnology and Bioengineering</i> , 2019, 116, 2550-2560.	1.7	6
90	Electron Transfer Kinetics in Biofilm Anodes. , 2019, , 339-351.		6

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91	A modelling study of the spatially heterogeneous mutualism between electroactive biofilm and planktonic bacteria. <i>Science of the Total Environment</i> , 2021, 759, 143537.	3.9	6
92	A micro-scale microbial fuel cell (MFC) having ultramicroelectrode (UME) anode. , 2013, , .		5
93	Letter to the Editor. <i>Bioresource Technology</i> , 2002, 83, 263-265.	4.8	3
94	Comment on "the interaction of humic substances with cationic polyelectrolytes". <i>Water Research</i> , 2003, 37, 715-716.	5.3	3
95	Examination of Extracellular Polymer (EPS) Extraction Methods for Anaerobic Membrane Bioreactor (AnMBR) Biomass. <i>Sustainability</i> , 2021, 13, 12584.	1.6	3
96	Using a Pulsed Electric Field as a Pretreatment for Improved Biosolids Digestion and Methanogenesis. <i>Proceedings of the Water Environment Federation</i> , 2008, 2008, 2005-2018.	0.0	2
97	Comment on "The effect of kaolin particles on the behavior of nitrifying activated sludge units". <i>Bioresource Technology</i> , 2003, 86, 99-101.	4.8	1
98	Comment on "Fermentative hydrogen production with <i>Clostridium butyricum</i> CGS5 isolated from anaerobic sewage sludge". <i>International Journal of Hydrogen Energy</i> , 2006, 31, 1797-1798.	3.8	1
99	Correlation of Overvoltages and Current Densities to Estimate Optimal Electrode Size for Sediment Microbial Fuel Cells. <i>Energy Technology</i> , 2016, 4, 369-374.	1.8	1
100	Comment on "Comparison of the filtration characteristics between attached and suspended microorganisms in submerged membrane bioreactor". <i>Water Research</i> , 2002, 36, 4938-4939.	5.3	0
101	Impact of Solids Retention Time (SRT) on Dissolved Methane Concentration in Anaerobic Membrane Bioreactor. <i>Proceedings of the Water Environment Federation</i> , 2013, 2013, 5271-5280.	0.0	0
102	Performance of a Submerged Anaerobic Membrane Bioreactor (SAnMBR) for Food Wastewater Treatment: Treatment Efficiency and Membrane Fouling. <i>Proceedings of the Water Environment Federation</i> , 2014, 2014, 1753-1766.	0.0	0
103	Preface. <i>Bioresource Technology</i> , 2015, 195, 1.	4.8	0
104	Innovative biological nitrogen removal in domestic wastewater with a membrane biofilm reactor (MBfR) using methane as the electron donor. <i>Proceedings of the Water Environment Federation</i> , 2018, 2018, 1313-1320.	0.0	0
105	Understanding the Significance of Current Density in Microbial Electrochemical Cells. , 2020, , 492-505.		0