Alain Bergel

List of Publications by Year
in descending order

114 papers	4,860 citations	76196 40 h-index	106150 65 g-index
114 all docs	114 docs citations	114 times ranked	3343 citing authors

#	Article	IF	Citations
1	Catalysis of oxygen reduction in PEM fuel cell by seawater biofilm. Electrochemistry Communications, 2005, 7, 900-904.	2.3	240
2	Importance of the hydrogen route in up-scaling electrosynthesis for microbial CO₂reduction. Energy and Environmental Science, 2015, 8, 3731-3744.	15.6	183
3	Microbial Catalysis of the Oxygen Reduction Reaction for Microbial Fuel Cells: A Review. ChemSusChem, 2012, 5, 975-987.	3.6	181
4	Stainless steel is a promising electrode material for anodes of microbial fuel cells. Energy and Environmental Science, 2012, 5, 9645.	15.6	161
5	Microbial electrolysis cell (MEC): Strengths, weaknesses and research needs from electrochemical engineering standpoint. Applied Energy, 2020, 257, 113938.	5.1	150
6	Microbial electrocatalysis with Geobacter sulfurreducens biofilm on stainless steel cathodes. Electrochimica Acta, 2008, 53, 2494-2500.	2.6	148
7	Testing various food-industry wastes for electricity production in microbial fuel cell. Bioresource Technology, 2010, 101, 2748-2754.	4.8	141
8	Electrochemical activity of Geobacter sulfurreducens biofilms on stainless steel anodes. Electrochimica Acta, 2008, 53, 5235-5241.	2.6	140
9	Ion transport in microbial fuel cells: Key roles, theory and critical review. Applied Energy, 2016, 183, 1682-1704.	5.1	139
10	Stainless steel foam increases the current produced by microbial bioanodes in bioelectrochemical systems. Energy and Environmental Science, 2014, 7, 1633-1637.	15.6	121
11	Electrochemical reduction of oxygen catalyzed by a wide range of bacteria including Gram-positive. Electrochemistry Communications, 2010, 12, 505-508.	2.3	115
12	Marine aerobic biofilm as biocathode catalyst. Bioelectrochemistry, 2010, 78, 51-56.	2.4	113
13	Increased power from a two-chamber microbial fuel cell with a low-pH air-cathode compartment. Electrochemistry Communications, 2009, 11, 619-622.	2.3	95
14	From microbial fuel cell (MFC) to microbial electrochemical snorkel (MES): maximizing chemical oxygen demand (COD) removal from wastewater. Biofouling, 2011, 27, 319-326.	0.8	91
15	Hydrogen production by electrolysis of a phosphate solution on a stainless steel cathode. International Journal of Hydrogen Energy, 2010, 35, 8561-8568.	3.8	89
16	Microbial bioanodes with high salinity tolerance for microbial fuel cells and microbial electrolysis cells. Electrochemistry Communications, 2013, 33, 1-4.	2.3	85
17	Checking graphite and stainless anodes with an experimental model of marine microbial fuel cell. Bioresource Technology, 2008, 99, 8887-8894.	4.8	84
18	Electrochemical reduction of CO2 catalysed by Geobacter sulfurreducens grown on polarized stainless steel cathodes. Electrochemistry Communications, 2013, 28, 27-30.	2.3	79

#	Article	IF	Citations
19	Electroanalysis of microbial anodes for bioelectrochemical systems: basics, progress and perspectives. Physical Chemistry Chemical Physics, 2014, 16, 16349-16366.	1.3	76
20	Forming electrochemically active biofilms from garden compost under chronoamperometry. Bioresource Technology, 2008, 99, 4809-4816.	4.8	67
21	Effect of pore size on the current produced by 3-dimensional porous microbial anodes: A critical review. Bioresource Technology, 2019, 289, 121641.	4.8	67
22	Combining phosphate species and stainless steel cathode to enhance hydrogen evolution in microbial electrolysis cell (MEC). Electrochemistry Communications, 2010, 12, 183-186.	2.3	61
23	Electroactive biofilms: new means for electrochemistry. Journal of Applied Electrochemistry, 2006, 37, 173-179.	1.5	60
24	DSA to grow electrochemically active biofilms of Geobacter sulfurreducens. Electrochimica Acta, 2008, 53, 3200-3209.	2.6	60
25	Electrochemical reduction of oxygen catalyzed by Pseudomonas aeruginosa. Electrochimica Acta, 2010, 55, 4902-4908.	2.6	59
26	Two-dimensional carbon cloth and three-dimensional carbon felt perform similarly to form bioanode fed with food waste. Electrochemistry Communications, 2016, 66, 38-41.	2.3	58
27	Garden compost inoculum leads to microbial bioanodes with potential-independent characteristics. Bioresource Technology, 2013, 134, 276-284.	4.8	57
28	Ultra microelectrodes increase the current density provided by electroactive biofilms by improving their electron transport ability. Energy and Environmental Science, 2012, 5, 5287-5296.	15.6	55
29	First air-tolerant effective stainless steel microbial anode obtained from a natural marine biofilm. Bioresource Technology, 2009, 100, 3302-3307.	4.8	54
30	Impact of electrode micro- and nano-scale topography on the formation and performance of microbial electrodes. Biosensors and Bioelectronics, 2018, 118, 231-246.	5.3	54
31	Role of direct microbial electron transfer in corrosion of steels. Electrochemistry Communications, 2009, 11, 568-571.	2.3	53
32	Electrochemical micro-structuring of graphite felt electrodes for accelerated formation of electroactive biofilms on microbial anodes. Electrochemistry Communications, 2011, 13, 440-443.	2.3	53
33	Oxygen-reducing biocathodes designed with pure cultures ofÂmicrobial strains isolated from seawater biofilms. International Biodeterioration and Biodegradation, 2015, 103, 16-22.	1.9	53
34	Improved model of a polypyrrole glucose oxidase modified electrode. Journal of Electroanalytical Chemistry, 1995, 386, 65-73.	1.9	51
35	Comparison of synthetic medium and wastewater used as dilution medium to design scalable microbial anodes: Application to food waste treatment. Bioresource Technology, 2015, 185, 106-115.	4.8	51
36	Effect of Geobacter sulfurreducens on the microbial corrosion of mild steel, ferritic and austenitic stainless steels. Corrosion Science, 2009, 51, 2596-2604.	3.0	48

#	Article	IF	Citations
37	Sampling Natural Biofilms: A New Route to Build Efficient Microbial Anodes. Environmental Science & Technology, 2009, 43, 3194-3199.	4.6	47
38	Protons accumulation during anodic phase turned to advantage for oxygen reduction during cathodic phase in reversible bioelectrodes. Bioresource Technology, 2014, 173, 224-230.	4.8	46
39	Towards an engineering-oriented strategy for building microbial anodes for microbial fuel cells. Physical Chemistry Chemical Physics, 2012, 14, 13332.	1.3	44
40	Lowering the applied potential during successive scratching/re-inoculation improves the performance of microbial anodes for microbial fuel cells. Bioresource Technology, 2013, 127, 448-455.	4.8	43
41	Modelling potential/current distribution in microbial electrochemical systems shows how the optimal bioanode architecture depends on electrolyte conductivity. Physical Chemistry Chemical Physics, 2014, 16, 22892-22902.	1.3	41
42	The current provided by oxygen-reducing microbial cathodes is related to the composition of their bacterial community. Bioelectrochemistry, 2015, 102, 42-49.	2.4	40
43	Treatment of dairy wastes with a microbial anode formed from garden compost. Journal of Applied Electrochemistry, 2010, 40, 225-232.	1.5	39
44	Catalysis of the electrochemical reduction of oxygen by bacteria isolated from electro-active biofilms formed in seawater. Bioresource Technology, 2011, 102, 304-311.	4.8	39
45	Microbial electrochemical snorkels (MESs): A budding technology for multiple applications. A mini review. Electrochemistry Communications, 2019, 104, 106473.	2.3	38
46	Coupling of the electroenzymatic reduction of NAD+ with a synthesis reaction. Enzyme and Microbial Technology, 1996, 18, 72-79.	1.6	33
47	Correlation of the Electrochemical Kinetics of Highâ€Salinityâ€Tolerant Bioanodes with the Structure and Microbial Composition of the Biofilm. ChemElectroChem, 2014, 1, 1966-1975.	1.7	33
48	Acetate to enhance electrochemical activity of biofilms from garden compost. Electrochimica Acta, 2008, 53, 2737-2742.	2.6	32
49	Halotolerant bioanodes: The applied potential modulates the electrochemical characteristics, the biofilm structure and the ratio of the two dominant genera. Bioelectrochemistry, 2016, 112, 24-32.	2.4	32
50	Influence of the electrode size on microbial anode performance. Chemical Engineering Journal, 2017, 327, 218-227.	6.6	32
51	Kinetics of the catalysis by the Alcaligenes eutrophus H16 hydrogenase of the electrochemical reduction of NAD+. Journal of Molecular Catalysis, 1992, 73, 371-380.	1.2	29
52	Microbial fuel cells connected in series in a common electrolyte underperform: Understanding why and in what context such a set-up can be applied. Electrochimica Acta, 2017, 246, 879-889.	2.6	29
53	Thin-layer spectroelectrochemical study of the reversible reaction between nicotinamide adenine dinucleotide and flavin adenine dinucleotide. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 1991, 302, 219-231.	0.3	28
54	Local analysis of oxygen reduction catalysis by scanning vibrating electrode technique: A new approach to the study of biocorrosion. Electrochimica Acta, 2008, 54, 60-65.	2.6	28

#	Article	IF	Citations
55	Electroactivity of Phototrophic River Biofilms and Constitutive Cultivable Bacteria. Applied and Environmental Microbiology, 2011, 77, 5394-5401.	1.4	28
56	Removable air-cathode to overcome cathode biofouling in microbial fuel cells. Bioresource Technology, 2016, 221, 691-696.	4.8	28
57	Effect of surface nano/micro-structuring on the early formation of microbial anodes with Geobacter sulfurreducens: Experimental and theoretical approaches. Bioelectrochemistry, 2018, 121, 191-200.	2.4	28
58	Harvesting Electricity with Geobacter bremensis Isolated from Compost. PLoS ONE, 2012, 7, e34216.	1.1	28
59	Forming microbial anodes under delayed polarisation modifies the electron transfer network and decreases the polarisation time required. Bioresource Technology, 2012, 114, 334-341.	4.8	27
60	Iron-Nicarbazin derived platinum group metal-free electrocatalyst in scalable-size air-breathing cathodes for microbial fuel cells. Electrochimica Acta, 2018, 277, 127-135.	2.6	27
61	Multi-system Nernstâ€“Michaelisâ€“Menten model applied to bioanodes formed from sewage sludge. Bioresource Technology, 2015, 195, 162-169.	4.8	25
62	New hypotheses for hydrogenase implication in the corrosion of mild steel. Electrochimica Acta, 2008, 54, 140-147.	2.6	24
63	Sampling location of the inoculum is crucial in designing anodes for microbial fuel cells. Biochemical Engineering Journal, 2013, 73, 12-16.	1.8	24
64	Effect of surface roughness, porosity and roughened micro-pillar structures on the early formation of microbial anodes. Bioelectrochemistry, 2019, 128, 17-29.	2.4	24
65	Effect of the semi-conductive properties of the passive layer on the current provided by stainless steel microbial cathodes. Electrochimica Acta, 2011, 56, 2682-2688.	2.6	23
66	A theoretical model of transient cyclic voltammetry for electroactive biofilms. Energy and Environmental Science, 2014, 7, 1079.	15.6	23
67	Experimental and theoretical characterization of microbial bioanodes formed in pulp and paper mill effluent in electrochemically controlled conditions. Bioresource Technology, 2013, 149, 117-125.	4.8	22
68	Different methods used to form oxygen reducing biocathodes lead to different biomass quantities, bacterial communities, and electrochemical kinetics. Bioelectrochemistry, 2017, 116, 24-32.	2.4	22
69	Permeability enhancement of electropolymerized thin organic films. Journal of Electroanalytical Chemistry, 1997, 437, 125-134.	1.9	20
70	Role of the reversible electrochemical deprotonation of phosphate species in anaerobic biocorrosion of steels. Corrosion Science, 2007, 49, 3988-4004.	3.0	19
71	Biocathodes reducing oxygen at high potential select biofilms dominated by Ectothiorhodospiraceae populations harboring a specific association of genes. Bioresource Technology, 2016, 214, 55-62.	4.8	19
72	Bioelectrocatalysis of NAD+ reduction. Bioelectrochemistry, 1992, 27, 475-486.	1.0	18

#	Article	IF	Citations
73	Horseradish peroxidaseâ€"catalyzed hydroxylation of phenol: I. Thermodynamic analysis. Enzyme and Microbial Technology, 1995, 17, 1087-1093.	1.6	17
74	Microbial anodes: What actually occurs inside pores?. International Journal of Hydrogen Energy, 2019, 44, 4484-4495.	3.8	17
75	Microbial electrolysis cell (MEC): A step ahead towards hydrogen-evolving cathode operated at high current density. Bioresource Technology Reports, 2020, 9, 100399.	1.5	17
76	Electroenzymatic Processes: A Clean Technology Alternative for Highly Selective Synthesis?. Journal of Chemical Technology and Biotechnology, 1997, 68, 389-396.	1.6	16
77	Electrochemical characterization of microbial bioanodes formed on a collector/electrode system in a highly saline electrolyte. Bioelectrochemistry, 2015, 106, 97-104.	2.4	16
78	Multiple electron transfer systems in oxygen reducing biocathodes revealed by different conditions of aeration/agitation. Bioelectrochemistry, 2016, 110, 46-51.	2.4	16
79	Reduction of NAD(P)+ by electrochemically driven FADH2 and FMNH2. Bioelectrochemistry, 1992, 27, 495-500.	1.0	15
80	Geobacter species enhances pit depth on 304L stainless steel in a medium lacking with electron donor. Electrochemistry Communications, 2009, 11, 1476-1481.	2.3	15
81	The open circuit potential of Geobacter sulfurreducens bioanodes depends on the electrochemical adaptation of the strain. Electrochemistry Communications, 2013, 33, 35-38.	2.3	15
82	Theoretical analysis of the electrochemical systems used for the application of direct current/voltage stimuli on cell cultures. Bioelectrochemistry, 2021, 139, 107737.	2.4	15
83	Geobacter sulfurreducens can protect 304L stainless steel against pitting in conditions of low electron acceptor concentrations. Electrochemistry Communications, 2010, 12, 724-728.	2.3	14
84	Horseradish peroxidase catalyzed hydroxylation of phenol: II. Kinetic model. Enzyme and Microbial Technology, 1995, 17, 1094-1100.	1.6	13
85	How Comparable are Microbial Electrochemical Systems around the Globe? An Electrochemical and Microbiological Crossâ€Laboratory Study. ChemSusChem, 2021, 14, 2313-2330.	3.6	13
86	Modeling mass transfer with enzymatic reaction in electrochemical multilayer microreactors. AIChE Journal, 1996, 42, 2967-2976.	1.8	12
87	Direct electrochemistry of Rhodococcus opacus hydrogenase for the catalysis of NAD+ reduction. Journal of Electroanalytical Chemistry, 1996, 405, 189-195.	1.9	12
88	Increasing the temperature is a relevant strategy to form microbial anodes intended to work at room temperature. Electrochimica Acta, 2017, 258, 134-142.	2.6	12
89	Benchmarking of Industrial Synthetic Graphite Grades, Carbon Felt, and Carbon Cloth as Cost-Efficient Bioanode Materials for Domestic Wastewater Fed Microbial Electrolysis Cells. Frontiers in Energy Research, 2019, 7, .	1.2	12
90	Mass transfer with chemical reaction in thin-layer electrochemical reactors. AIChE Journal, 1995, 41, 1944-1954.	1.8	10

#	Article	IF	Citations
91	Forming microbial anodes with acetate addition decreases their capability to treat raw paper mill effluent. Bioresource Technology, 2014, 164, 285-291.	4.8	10
92	How bacteria use electric fields to reach surfaces. Biofilm, 2021, 3, 100048.	1.5	10
93	Tentatives de rÃ©gÃ©nÃ©ration du coenzyme NaDh par rÃ©duction Ã©lectrochimique et hydrogÃ©nation catalytique. Journal De Chimie Physique Et De Physico-Chimie Biologique, 1987, 84, 593-598.	0.2	10
94	Hydrogenase-catalysed deposition of vivianite on mild steel. Electrochimica Acta, 2004, 49, 2097-2103.	2.6	8
95	Electrochemically enhanced biosynthesis of gluconic acid. AICHE Journal, 2005, 51, 989-997.	1.8	8
96	Discerning different and opposite effects of hydrogenase on the corrosion of mild steel in the presence of phosphate species. Bioelectrochemistry, 2016, 111, 31-40.	2.4	8
97	Industrially scalable surface treatments to enhance the current density output from graphite bioanodes fueled by real domestic wastewater. IScience, 2021, 24, 102162.	1.9	8
98	Design of 3D microbial anodes for microbial electrolysis cells (MEC) fuelled by domestic wastewater. Part I: Multiphysics modelling. Journal of Environmental Chemical Engineering, 2021, 9, 105476.	3.3	8
99	Electroactive cytochrome cast polyion films on graphite electrodes. Electrochimica Acta, 2006, 52, 979-987.	2.6	7
100	Coupled iron-microbial catalysis for CO2 hydrogenation with multispecies microbial communities. Chemical Engineering Journal, 2018, 346, 307-316.	6.6	7
101	Hypersaline microbial fuel cell equipped with an oxygen-reducing microbial cathode. Bioresource Technology, 2021, 337, 125448.	4.8	7
102	Oxygen-reducing bidirectional microbial electrodes designed in real domestic wastewater. Bioresource Technology, 2021, 326, 124663.	4.8	6
103	Bioelectrocatalysis of NAD+ reduction. Journal of Electroanalytical Chemistry, 1992, 342, 475-486.	1.9	5
104	Simple design of cast myoglobin/polyethyleneimine modified electrodes. Journal of Applied Electrochemistry, 2006, 36, 835-842.	1.5	4
105	The electrochemical potential is a key parameter for cell adhesion and proliferation on carbon surface. Bioelectrochemistry, 2022, 144, 108045.	2.4	4
106	Elements for optimal processing of thin-layer spectroelectrochemical data. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 1990, 285, 11-23.	0.3	3
107	How could chemical engineering help in deciphering electromicrobial mechanisms?. BIO Web of Conferences, 2016, 6, 02005.	0.1	3
108	Oxygen-reducing bidirectional microbial electrodes: A mini-review. Electrochemistry Communications, 2021, 123, 106930.	2.3	3

#	Article	IF	Citations
109	Catalysis of the electrochemical oxygen reduction reaction (ORR) by animal and human cells. PLoS ONE, 2021, 16, e0251273.	1.1	3
110	Spectroelectrochemical measurement of gaseous oxygen. Analytical Chemistry, 1990, 62, 1502-1506.	3.2	2
111	Editorial. Bioelectrochemistry, 2010, 78, 1.	2.4	2
112	Oxygen-reducing microbial cathodes in hypersaline electrolyte. Bioresource Technology, 2021, 319, 124165.	4.8	2
113	Oxygen supply management to intensify wastewater treatment by a microbial electrochemical snorkel. Electrochimica Acta, 2021, 394, 139103.	2.6	1
114	Reduction of NAD(P)+ by electrochemically driven FADH2 and FMNH2. Journal of Electroanalytical Chemistry, 1992, 342, 495-500.	1.9	0