

# Biao-Qiang Liao

## List of Publications by Year in descending order

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63  
papers

5,194  
citations

94381

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114418

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docs citations

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times ranked

3642  
citing authors

#	ARTICLE	IF	CITATIONS
1	A critical review of extracellular polymeric substances (EPSs) in membrane bioreactors: Characteristics, roles in membrane fouling and control strategies. <i>Journal of Membrane Science</i> , 2014, 460, 110-125.	4.1	583
2	Anaerobic Membrane Bioreactors: Applications and Research Directions. <i>Critical Reviews in Environmental Science and Technology</i> , 2006, 36, 489-530.	6.6	367
3	Membrane Bioreactors for Industrial Wastewater Treatment: A Critical Review. <i>Critical Reviews in Environmental Science and Technology</i> , 2012, 42, 677-740.	6.6	256
4	Membrane fouling in a membrane bioreactor: High filtration resistance of gel layer and its underlying mechanism. <i>Water Research</i> , 2016, 102, 82-89.	5.3	209
5	A unified thermodynamic mechanism underlying fouling behaviors of soluble microbial products (SMPs) in a membrane bioreactor. <i>Water Research</i> , 2019, 149, 477-487.	5.3	203
6	Recent advances in membrane technologies for biorefining and bioenergy production. <i>Biotechnology Advances</i> , 2012, 30, 817-858.	6.0	193
7	Synergistic fouling behaviors and mechanisms of calcium ions and polyaluminum chloride associated with alginate solution in coagulation-ultrafiltration (UF) process. <i>Water Research</i> , 2021, 189, 116665.	5.3	191
8	New insights into membrane fouling in a submerged anaerobic membrane bioreactor based on characterization of cake sludge and bulk sludge. <i>Bioresource Technology</i> , 2011, 102, 2373-2379.	4.8	176
9	New methods based on back propagation (BP) and radial basis function (RBF) artificial neural networks (ANNs) for predicting the occurrence of halo ketones in tap water. <i>Science of the Total Environment</i> , 2021, 772, 145534.	3.9	176
10	Mechanistic insights into alginate fouling caused by calcium ions based on terahertz time-domain spectra analyses and DFT calculations. <i>Water Research</i> , 2018, 129, 337-346.	5.3	168
11	Morphological visualization, componential characterization and microbiological identification of membrane fouling in membrane bioreactors (MBRs). <i>Journal of Membrane Science</i> , 2010, 361, 1-14.	4.1	149
12	Inkjet printing of dopamine followed by UV light irradiation to modify mussel-inspired PVDF membrane for efficient oil-water separation. <i>Journal of Membrane Science</i> , 2021, 619, 118790.	4.1	149
13	A review of membrane fouling and its control in algal-related membrane processes. <i>Bioresource Technology</i> , 2018, 264, 343-358.	4.8	147
14	Effect of calcium ions on fouling properties of alginate solution and its mechanisms. <i>Journal of Membrane Science</i> , 2017, 525, 320-329.	4.1	131
15	Effects of hydrophilicity/hydrophobicity of membrane on membrane fouling in a submerged membrane bioreactor. <i>Bioresource Technology</i> , 2015, 175, 59-67.	4.8	130
16	Enhanced permeability and antifouling performance of polyether sulfone (PES) membrane via elevating magnetic Ni@MXene nanoparticles to upper layer in phase inversion process. <i>Journal of Membrane Science</i> , 2021, 623, 119080.	4.1	130
17	A conductive PVDF-Ni membrane with superior rejection, permeance and antifouling ability via electric assisted in-situ aeration for dye separation. <i>Journal of Membrane Science</i> , 2019, 581, 401-412.	4.1	107
18	Novel insights into membrane fouling in a membrane bioreactor: Elucidating interfacial interactions with real membrane surface. <i>Chemosphere</i> , 2018, 210, 769-778.	4.2	97

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19	Plant polyphenol intermediated metal-organic framework (MOF) membranes for efficient desalination. <i>Journal of Membrane Science</i> , 2021, 618, 118726.	4.1	94
20	Novel conductive membranes breaking through the selectivity-permeability trade-off for Congo red removal. <i>Separation and Purification Technology</i> , 2019, 211, 368-376.	3.9	82
21	Membrane fouling by alginate in polyaluminum chloride (PACl) coagulation/microfiltration process: Molecular insights. <i>Separation and Purification Technology</i> , 2020, 236, 116294.	3.9	79
22	Realization of quantifying interfacial interactions between a randomly rough membrane surface and a foulant particle. <i>Bioresource Technology</i> , 2017, 226, 220-228.	4.8	77
23	Effects of surface morphology on alginate adhesion: Molecular insights into membrane fouling based on XDLVO and DFT analysis. <i>Chemosphere</i> , 2019, 233, 373-380.	4.2	76
24	Application of radial basis function artificial neural network to quantify interfacial energies related to membrane fouling in a membrane bioreactor. <i>Bioresource Technology</i> , 2019, 293, 122103.	4.8	74
25	A new method for modeling rough membrane surface and calculation of interfacial interactions. <i>Bioresource Technology</i> , 2016, 200, 451-457.	4.8	66
26	Novel insights into membrane fouling caused by gel layer in a membrane bioreactor: Effects of hydrogen bonding. <i>Bioresource Technology</i> , 2019, 276, 219-225.	4.8	65
27	Molecular insights into the impacts of iron(III) ions on membrane fouling by alginate. <i>Chemosphere</i> , 2020, 242, 125232.	4.2	64
28	Novel in-situ electroflotation driven by hydrogen evolution reaction (HER) with polypyrrole (PPy)-Ni-modified fabric membrane for efficient oil/water separation. <i>Journal of Membrane Science</i> , 2021, 635, 119502.	4.1	60
29	Physicochemical correlations between membrane surface hydrophilicity and adhesive fouling in membrane bioreactors. <i>Journal of Colloid and Interface Science</i> , 2017, 505, 900-909.	5.0	56
30	Filtration behaviors and fouling mechanisms of ultrafiltration process with polyacrylamide flocculation for water treatment. <i>Science of the Total Environment</i> , 2020, 703, 135540.	3.9	55
31	Membrane fouling in a membrane bioreactor: A novel method for membrane surface morphology construction and its application in interaction energy assessment. <i>Journal of Membrane Science</i> , 2016, 516, 135-143.	4.1	53
32	A facile method for simulating randomly rough membrane surface associated with interface behaviors. <i>Applied Surface Science</i> , 2018, 427, 915-921.	3.1	52
33	Membrane technologies for microalgal cultivation and dewatering: Recent progress and challenges. <i>Algal Research</i> , 2019, 44, 101686.	2.4	49
34	The biological performance of a novel microalgal-bacterial membrane photobioreactor: Effects of HRT and N/P ratio. <i>Chemosphere</i> , 2020, 261, 128199.	4.2	48
35	Novel indicators for thermodynamic prediction of interfacial interactions related with adhesive fouling in a membrane bioreactor. <i>Journal of Colloid and Interface Science</i> , 2017, 487, 320-329.	5.0	43
36	Recent advances in membrane aerated biofilm reactors. <i>Critical Reviews in Environmental Science and Technology</i> , 2021, 51, 649-703.	6.6	43

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37	Thermophilic membrane bioreactors: A review. <i>Bioresource Technology</i> , 2017, 243, 1180-1193.	4.8	42
38	Enhanced electrochemical treatment of phenolic pollutants by an effective adsorption and release process. <i>Electrochimica Acta</i> , 2010, 55, 5367-5374.	2.6	31
39	A novel insight into membrane fouling mechanism regarding gel layer filtration: Flory-Huggins based filtration mechanism. <i>Scientific Reports</i> , 2016, 6, 33343.	1.6	31
40	Effects of fractal roughness of membrane surfaces on interfacial interactions associated with membrane fouling in a membrane bioreactor. <i>Bioresource Technology</i> , 2017, 244, 560-568.	4.8	31
41	Thermodynamic analysis of effects of contact angle on interfacial interactions and its implications for membrane fouling control. <i>Bioresource Technology</i> , 2016, 201, 245-252.	4.8	30
42	Determination of Chemical Oxygen Demand Based on Novel Photoelectrode-bifunctional Electrodes. <i>Electroanalysis</i> , 2011, 23, 1267-1275.	1.5	25
43	Modeling three-dimensional surface morphology of biocake layer in a membrane bioreactor based on fractal geometry. <i>Bioresource Technology</i> , 2016, 222, 478-484.	4.8	24
44	Effects of sludge concentration and biogas sparging rate on critical flux in a submerged anaerobic membrane bioreactor. <i>Journal of Water Process Engineering</i> , 2017, 20, 51-60.	2.6	24
45	Persistence of <i>Escherichia coli</i> in freshwater periphyton: biofilm-forming capacity as a selective advantage. <i>FEMS Microbiology Ecology</i> , 2012, 79, 608-618.	1.3	23
46	Influences of acid-base property of membrane on interfacial interactions related with membrane fouling in a membrane bioreactor based on thermodynamic assessment. <i>Bioresource Technology</i> , 2016, 214, 355-362.	4.8	23
47	A new strategy to produce low-density polyethylene (LDPE)-based composites simultaneously with high flame retardancy and high mechanical properties. <i>Applied Surface Science</i> , 2018, 437, 75-81.	3.1	22
48	Effect of cold water temperature on membrane structure and properties. <i>Journal of Membrane Science</i> , 2017, 540, 19-26.	4.1	20
49	Quantitative evaluation of the interfacial interactions between a randomly rough sludge floc and membrane surface in a membrane bioreactor based on fractal geometry. <i>Bioresource Technology</i> , 2017, 234, 198-207.	4.8	19
50	Tuning anti-adhesion ability of membrane for a membrane bioreactor by thermodynamic analysis. <i>Bioresource Technology</i> , 2016, 216, 691-698.	4.8	18
51	Characterization of foaming and non-foaming sludge relating to aeration and the implications for membrane fouling control in submerged membrane bioreactors. <i>Journal of Water Process Engineering</i> , 2019, 28, 250-259.	2.6	18
52	Long-term performance of a submerged anaerobic membrane bioreactor treating malting wastewater at room temperature (23±1°C). <i>Journal of Environmental Chemical Engineering</i> , 2019, 7, 103269.	3.3	17
53	Membrane fouling in a microalgal-bacterial membrane photobioreactor: Effects of P-availability controlled by N:P ratio. <i>Chemosphere</i> , 2021, 282, 131015.	4.2	15
54	Effect of organic loading rate on the performance of a submerged anaerobic membrane bioreactor (SAnMBR) for malting wastewater treatment and biogas production. <i>Journal of Chemical Technology and Biotechnology</i> , 2018, 93, 1636-1647.	1.6	13

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55	Simulation of foulant bioparticle topography based on Gaussian process and its implications for interface behavior research. <i>Applied Surface Science</i> , 2018, 434, 975-981.	3.1	13
56	Anaerobic membrane bioreactors for wastewater treatment: Challenges and opportunities. <i>Water Environment Research</i> , 2021, 93, 993-1004.	1.3	11
57	Effects of solids retention time on the biological performance of a novel microalgal-bacterial membrane photobioreactor for industrial wastewater treatment. <i>Journal of Environmental Chemical Engineering</i> , 2021, 9, 105500.	3.3	11
58	Reversibility of membrane performance and structure changes caused by extreme cold water temperature and elevated conditioning water temperature. <i>Water Research</i> , 2019, 151, 260-270.	5.3	8
59	Biofouling of an Aerated Membrane Reactor: Four Distinct Microbial Communities. <i>Environmental Engineering Science</i> , 2020, 37, 3-12.	0.8	8
60	Membrane Photobioreactor Applied for Municipal Wastewater Treatment at a High Solids Retention Time: Effects of Microalgae Decay on Treatment Performance and Biomass Properties. <i>Membranes</i> , 2022, 12, 564.	1.4	8
61	Thermodynamic insights into membrane fouling in a membrane bioreactor: Evaluating thermodynamic interactions with Gaussian membrane surface. <i>Journal of Colloid and Interface Science</i> , 2018, 527, 280-288.	5.0	5
62	Comparison between Thermophilic and Mesophilic Membrane-Aerated Biofilm Reactors—A Modeling Study. <i>Membranes</i> , 2022, 12, 418.	1.4	4
63	The Biological Performance of a Novel Electrokinetic-Assisted Membrane Photobioreactor (EK-MPBR) for Wastewater Treatment. <i>Membranes</i> , 2022, 12, 587.	1.4	2