Shihong Lin

List of Publications by Year
in descending order

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Version: 2024-02-01

96	9,453	36271	39638
papers	citations	51 h-index	94 g-index

97	97	97	6854
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Membrane distillation at the water-energy nexus: limits, opportunities, and challenges. Energy and Environmental Science, 2018, 11, 1177-1196.	15.6	740
2	Forward osmosis: Where are we now?. Desalination, 2015, 356, 271-284.	4.0	681
3	Nanoparticle-templated nanofiltration membranes for ultrahigh performance desalination. Nature Communications, 2018, 9, 2004.	5.8	457
4	Polyamide nanofiltration membrane with highly uniform sub-nanometre pores for sub-1â€‰Ã… precision separation. Nature Communications, 2020, 11, 2015.	5.8	398
5	Pathways and challenges for efficient solar-thermal desalination. Science Advances, 2019, 5, eaax0763.	4.7	311
6	Omniphobic Membrane for Robust Membrane Distillation. Environmental Science and Technology Letters, 2014, 1, 443-447.	3.9	288
7	Environmental Applications of Interfacial Materials with Special Wettability. Environmental Science & Technology, 2016, 50, 2132-2150.	4.6	273
8	Membrane fouling and wetting in membrane distillation and their mitigation by novel membranes with special wettability. Water Research, 2017, 112, 38-47.	5.3	248
9	Novel Janus Membrane for Membrane Distillation with Simultaneous Fouling and Wetting Resistance. Environmental Science & Technology, 2017, 51, 13304-13310.	4.6	227
10	Harvesting low-grade heat energy using thermo-osmotic vapour transport through nanoporousÂmembranes. Nature Energy, 2016, 1, .	19.8	226
11	Synthesis and characterization of a carbon nanotube/polymer nanocomposite membrane for water treatment. Desalination, 2011, 272, 46-50.	4.0	221
12	Wetting, Scaling, and Fouling in Membrane Distillation: State-of-the-Art Insights on Fundamental Mechanisms and Mitigation Strategies. ACS ES&T Engineering, 2021, 1, 117-140.	3.7	217
13	Toxicity Reduction of Polymer-Stabilized Silver Nanoparticles by Sunlight. Journal of Physical Chemistry C, 2011, 115, 4425-4432.	1.5	190
14	Composite Membrane with Underwater-Oleophobic Surface for Anti-Oil-Fouling Membrane Distillation. Environmental Science & Technology, 2016, 50, 3866-3874.	4.6	190
15	Energy Efficiency of Capacitive Deionization. Environmental Science & Technology, 2019, 53, 3366-3378.	4.6	184
16	Direct contact membrane distillation with heat recovery: Thermodynamic insights from module scale modeling. Journal of Membrane Science, 2014, 453, 498-515.	4.1	168
17	Robust Superhydrophobic Membrane for Membrane Distillation with Excellent Scaling Resistance. Environmental Science & Technology, 2019, 53, 11801-11809.	4.6	157
18	Differentiating Solutes with Precise Nanofiltration for Next Generation Environmental Separations: A Review. Environmental Science & Technology, 2021, 55, 1359-1376.	4.6	156

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19	Thermodynamic limits of extractable energy by pressure retarded osmosis. Energy and Environmental Science, 2014, 7, 2706-2714.	15.6	149
20	Silver nanoparticle-alginate composite beads for point-of-use drinking water disinfection. Water Research, 2013, 47, 3959-3965.	5.3	145
21	Biofouling of membrane distillation, forward osmosis and pressure retarded osmosis: Principles, impacts and future directions. Journal of Membrane Science, 2017, 542, 378-398.	4.1	137
22	Hybrid Pressure Retarded Osmosisâ€“Membrane Distillation System for Power Generation from Low-Grade Heat: Thermodynamic Analysis and Energy Efficiency. Environmental Science & Technology, 2014, 48, 5306-5313.	4.6	129
23	Energy Efficiency of Desalination: Fundamental Insights from Intuitive Interpretation. Environmental Science & Technology, 2020, 54, 76-84.	4.6	126
24	Staged reverse osmosis operation: Configurations, energy efficiency, and application potential. Desalination, 2015, 366, 9-14.	4.0	121
25	Tailoring surface charge and wetting property for robust oil-fouling mitigation in membrane distillation. Journal of Membrane Science, 2016, 516, 113-122.	4.1	119
26	Mechanism of Selective Ion Removal in Membrane Capacitive Deionization for Water Softening. Environmental Science & Technology, 2019, 53, 5797-5804.	4.6	115
27	Polymeric Coatings on Silver Nanoparticles Hinder Autoaggregation but Enhance Attachment to Uncoated Surfaces. Langmuir, 2012, 28, 4178-4186.	1.6	112
28	Desalination by forward osmosis: Identifying performance limiting parameters through module-scale modeling. Journal of Membrane Science, 2015, 491, 159-167.	4.1	111
29	Mechanism of pore wetting in membrane distillation with alcohol vs. surfactant. Journal of Membrane Science, 2018, 559, 183-195.	4.1	109
30	Distinct Behaviors between Gypsum and Silica Scaling in Membrane Distillation. Environmental Science & Technology, 2020, 54, 568-576.	4.6	105
31	Module-Scale Analysis of Pressure Retarded Osmosis: Performance Limitations and Implications for Full-Scale Operation. Environmental Science & Technology, 2014, 48, 12435-12444.	4.6	104
32	Nanopore-Based Power Generation from Salinity Gradient: Why It Is Not Viable. ACS Nano, 2021, 15, 4093-4107.	7.3	101
33	Coaxially electrospun super-amphiphobic silica-based membrane for anti-surfactant-wetting membrane distillation. Journal of Membrane Science, 2017, 531, 122-128.	4.1	100
34	Deposition of Silver Nanoparticles in Geochemically Heterogeneous Porous Media: Predicting Affinity from Surface Composition Analysis. Environmental Science & Technology, 2011, 45, 5209-5215.	4.6	88
35	Metal-organic framework enables ultraselective polyamide membrane for desalination and water reuse. Science Advances, 2022, 8, eabm4149.	4.7	87
36	Intrinsic tradeoff between kinetic and energetic efficiencies in membrane capacitive deionization. Water Research, 2018, 129, 394-401.	5.3	86

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37	Composite membrane with electrospun multiscale-textured surface for robust oil-fouling resistance in membrane distillation. Journal of Membrane Science, 2018, 546, 179-187.	4.1	83
38	Pore model for nanofiltration: History, theoretical framework, key predictions, limitations, and prospects. Journal of Membrane Science, 2021, 620, 118809.	4.1	83
39	Probing Pore Wetting in Membrane Distillation Using Impedance: Early Detection and Mechanism of Surfactant-Induced Wetting. Environmental Science and Technology Letters, 2017, 4, 505-510.	3.9	79
40	Influence of natural organic matter on transport and retention of polymer coated silver nanoparticles in porous media. Journal of Hazardous Materials, 2014, 264, 161-168.	6.5	76
41	Membrane-Based Osmotic Heat Engine with Organic Solvent for Enhanced Power Generation from Low-Grade Heat. Environmental Science & Technology, 2015, 49, 5820-5827.	4.6	76
42	Membrane Capacitive Deionization with Constant Current vs Constant Voltage Charging: Which Is Better?. Environmental Science & Technology, 2018, 52, 4051-4060.	4.6	75
43	Heterogeneities in Fullerene Nanoparticle Aggregates Affecting Reactivity, Bioactivity, and Transport. ACS Nano, 2010, 4, 5011-5018.	7.3	69
44	Highly Effective Scaling Mitigation in Membrane Distillation Using a Superhydrophobic Membrane with Gas Purging. Environmental Science and Technology Letters, 2019, 6, 423-429.	3.9	69
45	Superhydrophobic-omniphobic membrane with anti-deformable pores for membrane distillation with excellent wetting resistance. Journal of Membrane Science, 2021, 620, 118768.	4.1	68
46	Kinetics and energetics trade-off in reverse osmosis desalination with different configurations. Desalination, 2017, 401, 42-52.	4.0	61
47	The impact of low-surface-energy functional groups on oil fouling resistance in membrane distillation. Journal of Membrane Science, 2017, 527, 68-77.	4.1	58
48	Janus Membrane with a Dense Hydrophilic Surface Layer for Robust Fouling and Wetting Resistance in Membrane Distillation: New Insights into Wetting Resistance. Environmental Science & Technology, 2021, 55, 14156-14164.	4.6	57
49	Robust zirconia ceramic membrane with exceptional performance for purifying nano-emulsion oily wastewater. Water Research, 2022, 208, 117859.	5.3	55
50	Kinetic model for surfactant-induced pore wetting in membrane distillation. Journal of Membrane Science, 2018, 564, 275-288.	4.1	54
51	Energy efficiency of membrane distillation: Simplified analysis, heat recovery, and the use of waste-heat. Environment International, 2020, 138, 105588.	4.8	54
52	Deposition of Aggregated Nanoparticles â€" A Theoretical and Experimental Study on the Effect of Aggregation State on the Affinity between Nanoparticles and a Collector Surface. Environmental Science & Technology, 2012, 46, 13270-13277.	4.6	53
53	Reversible thermodynamic cycle analysis for capacitive deionization with modified Donnan model. Journal of Colloid and Interface Science, 2018, 512, 522-528.	5.0	53
54	Two-dimensional fractal nanocrystals templating for substantial performance enhancement of polyamide nanofiltration membrane. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	52

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55	Highly compact, free-standing porous electrodes from polymer-derived nanoporous carbons for efficient electrochemical capacitive deionization. Journal of Materials Chemistry A, 2019, 7, 1768-1778.	5.2	47
56	Solar-driven desalination and resource recovery of shale gas wastewater by on-site interfacial evaporation. Chemical Engineering Journal, 2022, 428, 132624.	6.6	41
57	Significance of surface excess concentration in the kinetics of surfactant-induced pore wetting in membrane distillation. Desalination, 2019, 450, 46-53.	4.0	40
58	Bipolar Membrane Electrodialysis for Ammonia Recovery from Synthetic Urine: Experiments, Modeling, and Performance Analysis. Environmental Science & Technology, 2021, 55, 14886-14896.	4.6	39
59	Effects of humic acid and electrolytes on photocatalytic reactivity and transport of carbon nanoparticle aggregates in water. Water Research, 2012, 46, 4053-4062.	5.3	38
60	Theoretical framework for designing a desalination plant based on membrane capacitive deionization. Water Research, 2019, 158, 359-369.	5.3	37
61	Exact Analytical Expressions for the Potential of Electrical Double Layer Interactions for a Sphereâ"Plate System. Langmuir, 2010, 26, 16638-16641.	1.6	36
62	High-performance polyamide nanofiltration membrane with arch-bridge structure on a highly hydrated cellulose nanofiber support. Science China Materials, 2020, 63, 2570-2581.	3.5	35
63	Nutrient recovery from treated wastewater by a hybrid electrochemical sequence integrating bipolar membrane electrodialysis and membrane capacitive deionization. Environmental Science: Water Research and Technology, 2020, 6, 383-391.	1.2	33
64	Gross vs. net energy: Towards a rational framework for assessing the practical viability of pressure retarded osmosis. Journal of Membrane Science, 2016, 503, 132-147.	4.1	31
65	Comparison of the photosensitivity and bacterial toxicity of spherical and tubular fullerenes of variable aggregate size. Journal of Nanoparticle Research, 2011, 13, 5121-5127.	0.8	29
66	Theoretical Investigation on the Steric Interaction in Colloidal Deposition. Langmuir, 2012, 28, 15233-15245.	1.6	27
67	Multifold Enhancement of Loose Nanofiltration Membrane Performance by Intercalation of Surfactant Assemblies. Environmental Science and Technology Letters, 2018, 5, 668-674.	3.9	27
68	Mitigation of bidirectional solute flux in forward osmosis via membrane surface coating of zwitterion functionalized carbon nanotubes. Environment International, 2019, 131, 104970.	4.8	27
69	Negative Pressure Membrane Distillation for Excellent Gypsum Scaling Resistance and Flux Enhancement. Environmental Science & Technology, 2022, 56, 1405-1412.	4.6	26
70	Enhanced adsorption and slow release of phosphate by dolomiteâ€"alginate composite beads as potential fertilizer. Water Environment Research, 2019, 91, 797-804.	1.3	25
71	Mechanism of Permselectivity Enhancement in Polyelectrolyte-Dense Nanofiltration Membranes via Surfactant-Assembly Intercalation. Environmental Science & Technology, 2021, 55, 738-748.	4.6	23
72	Polyamide Nanofiltration Membranes from Emulsion-Mediated Interfacial Polymerization. ACS ES&T Engineering, 2021, 1, 533-542.	3.7	23

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73	Quantifying the kinetics-energetics performance tradeoff in bipolar membrane electrodialysis. Journal of Membrane Science, 2020, 612, 118279.	4.1	22
74	Equivalent film-electrode model for flow-electrode capacitive deionization: Experimental validation and performance analysis. Water Research, 2020, 181, 115917.	5.3	22
75	Understanding Selectivity in Soluteâ€“Solute Separation: Definitions, Measurements, and Comparability. Environmental Science & Technology, 2022, 56, 2605-2616.	4.6	22
76	Intercalation of zwitterionic surfactants dramatically enhances the performance of low-pressure nanofiltration membrane. Journal of Membrane Science, 2020, 596, 117726.	4.1	19
77	Paradox of Stability of Nanoparticles at Very Low Ionic Strength. Langmuir, 2012, 28, 11032-11041.	1.6	18
78	Mass transfer in forward osmosis with hollow fiber membranes. Journal of Membrane Science, 2016, 514, 176-185.	4.1	18
79	Colloidal interactions between model foulants and engineered surfaces: Interplay between roughness and surface energy. Chemical Engineering Journal Advances, 2021, 8, 100138.	2.4	18
80	Theoretical investigation on the interaction between a soft particle and a rigid surface. Chemical Engineering Journal, 2012, 191, 297-305.	6.6	17
81	On-site treatment capacity of membrane distillation powered by waste heat or natural gas for unconventional oil and gas wastewater in the Denver-Julesburg Basin. Environment International, 2020, 145, 106142.	4.8	17
82	Thermodynamic reversible cycles of electrochemical desalination with intercalation materials in symmetric and asymmetric configurations. Journal of Colloid and Interface Science, 2020, 574, 152-161.	5.0	17
83	Electric Double Layer Formed by Polarized Ferroelectric Thin Films. ACS Applied Materials & Interfaces, 2013, 5, 2610-2617.	4.0	16
84	Emerging Challenges and Opportunities for Electrified Membranes to Enhance Water Treatment. Environmental Science & Technology, 2022, 56, 3832-3835.	4.6	16
85	Nanoparticle core properties affect attachment of macromolecule-coated nanoparticles to silica surfaces. Environmental Chemistry, 2014, 11, 257.	0.7	15
86	In-situ monitoring of polyelectrolytes adsorption kinetics by electrochemical impedance spectroscopy: Application in fabricating nanofiltration membranes via layer-by-layer deposition. Journal of Membrane Science, 2021, 619, 118747.	4.1	12
87	Mining resources from water. Resources, Conservation and Recycling, 2021, 175, 105853.	5.3	12
88	Gypsum scaling in membrane distillation: Impacts of temperature and vapor flux. Desalination, 2022, 525, 115499.	4.0	12
89	The use of anti-scalants in gypsum scaling mitigation: Comparison with membrane surface modification and efficiency in combined reverse osmosis and membrane distillation. Journal of Membrane Science, 2022, 643, 120077.	4.1	10
90	Environmental implications and applications of carbon nanomaterials in water treatment. Water Science and Technology, 2013, 67, 2582-2586.	1.2	8

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91	Proton-Conducting Composite Membranes Derived from Ferroxane-Polyvinyl Alcohol Complex. Environmental Engineering Science, 2012, 29, 124-132.	0.8	7
92	Interpreting contact angles of surfactant solutions on microporous hydrophobic membranes. , 2022, 2, 100015.		7
93	Contact Thermal Resistance between Silver Nanowires with Poly(vinylpyrrolidone) Interlayers. Nano Letters, 2021, 21, 4388-4393.	4.5	5
94	Thermodynamics and Energy Efficiency of Zero Liquid Discharge. ACS ES&T Engineering, 2022, 2, 1491-1503.	3.7	5
95	Emerging investigator series: toward the ultimate limit of seawater desalination with mesopelagic open reverse osmosis. Environmental Science: Water Research and Technology, 2021, 7, 1212-1219.	1.2	1
96	Exceptional Mineral Scaling Resistance from the Surface Gas Layer: Impacts of Surface Wetting Properties and the Gas Layer Charging Mechanism. ACS Environmental Au, 0, , .	3.3	1