Shihong Lin

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/2314370/publications.pdf

Version: 2024-02-01

96 papers	9,453 citations	36203 51 h-index	39575 94 g-index
97 all docs	97 docs citations	97 times ranked	6854 citing authors

#	Article	IF	Citations
1	Solar-driven desalination and resource recovery of shale gas wastewater by on-site interfacial evaporation. Chemical Engineering Journal, 2022, 428, 132624.	6.6	41
2	Robust zirconia ceramic membrane with exceptional performance for purifying nano-emulsion oily wastewater. Water Research, 2022, 208, 117859.	5.3	55
3	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
4	Gypsum scaling in membrane distillation: Impacts of temperature and vapor flux. Desalination, 2022, 525, 115499.	4.0	12
5	Understanding Selectivity in Soluteâ€"Solute Separation: Definitions, Measurements, and Comparability. Environmental Science & Technology, 2022, 56, 2605-2616.	4.6	22
6	Interpreting contact angles of surfactant solutions on microporous hydrophobic membranes. , 2022, 2, 100015.		7
7	Metal-organic framework enables ultraselective polyamide membrane for desalination and water reuse. Science Advances, 2022, 8, eabm4149.	4.7	87
8	Thermodynamics and Energy Efficiency of Zero Liquid Discharge. ACS ES&T Engineering, 2022, 2, 1491-1503.	3.7	5
9	Emerging Challenges and Opportunities for Electrified Membranes to Enhance Water Treatment. Environmental Science & Technology, 2022, 56, 3832-3835.	4.6	16
10	Negative Pressure Membrane Distillation for Excellent Gypsum Scaling Resistance and Flux Enhancement. Environmental Science & Technology, 2022, 56, 1405-1412.	4.6	26
11	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
12	Pore model for nanofiltration: History, theoretical framework, key predictions, limitations, and prospects. Journal of Membrane Science, 2021, 620, 118809.	4.1	83
13	Mechanism of Permselectivity Enhancement in Polyelectrolyte-Dense Nanofiltration Membranes via Surfactant-Assembly Intercalation. Environmental Science & Technology, 2021, 55, 738-748.	4.6	23
14	Superhydrophobic-omniphobic membrane with anti-deformable pores for membrane distillation with excellent wetting resistance. Journal of Membrane Science, 2021, 620, 118768.	4.1	68
15	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
16	Differentiating Solutes with Precise Nanofiltration for Next Generation Environmental Separations: A Review. Environmental Science & Technology, 2021, 55, 1359-1376.	4.6	156
17	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
18	Polyamide Nanofiltration Membranes from Emulsion-Mediated Interfacial Polymerization. ACS ES&T Engineering, 2021, 1, 533-542.	3.7	23

#	Article	IF	Citations
19	Contact Thermal Resistance between Silver Nanowires with Poly(vinylpyrrolidone) Interlayers. Nano Letters, 2021, 21, 4388-4393.	4.5	5
20	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
21	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
22	Colloidal interactions between model foulants and engineered surfaces: Interplay between roughness and surface energy. Chemical Engineering Journal Advances, 2021, 8, 100138.	2.4	18
23	Mining resources from water. Resources, Conservation and Recycling, 2021, 175, 105853.	5.3	12
24	Nanopore-Based Power Generation from Salinity Gradient: Why It Is Not Viable. ACS Nano, 2021, 15, 4093-4107.	7.3	101
25	Bipolar Membrane Electrodialysis for Ammonia Recovery from Synthetic Urine: Experiments, Modeling, and Performance Analysis. Environmental Science & Technology, 2021, 55, 14886-14896.	4.6	39
26	Energy Efficiency of Desalination: Fundamental Insights from Intuitive Interpretation. Environmental Science & Technology, 2020, 54, 76-84.	4.6	126
27	Distinct Behaviors between Gypsum and Silica Scaling in Membrane Distillation. Environmental Science & Technology, 2020, 54, 568-576.	4.6	105
28	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
29	Intercalation of zwitterionic surfactants dramatically enhances the performance of low-pressure nanofiltration membrane. Journal of Membrane Science, 2020, 596, 117726.	4.1	19
30	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
31	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
32	Energy efficiency of membrane distillation: Simplified analysis, heat recovery, and the use of waste-heat. Environment International, 2020, 138, 105588.	4.8	54
33	Quantifying the kinetics-energetics performance tradeoff in bipolar membrane electrodialysis. Journal of Membrane Science, 2020, 612, 118279.	4.1	22
34	Polyamide nanofiltration membrane with highly uniform sub-nanometre pores for sub-1â€‰Ã… precision separation. Nature Communications, 2020, 11, 2015.	5.8	398
35	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
36	Equivalent film-electrode model for flow-electrode capacitive deionization: Experimental validation and performance analysis. Water Research, 2020, 181, 115917.	5.3	22

#	Article	IF	Citations
37	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
38	Pathways and challenges for efficient solar-thermal desalination. Science Advances, 2019, 5, eaax0763.	4.7	311
39	Robust Superhydrophobic Membrane for Membrane Distillation with Excellent Scaling Resistance. Environmental Science & Technology, 2019, 53, 11801-11809.	4.6	157
40	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
41	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
42	Mechanism of Selective Ion Removal in Membrane Capacitive Deionization for Water Softening. Environmental Science & Technology, 2019, 53, 5797-5804.	4.6	115
43	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
44	Theoretical framework for designing a desalination plant based on membrane capacitive deionization. Water Research, 2019, 158, 359-369.	5.3	37
45	Energy Efficiency of Capacitive Deionization. Environmental Science & Technology, 2019, 53, 3366-3378.	4.6	184
46	Significance of surface excess concentration in the kinetics of surfactant-induced pore wetting in membrane distillation. Desalination, 2019, 450, 46-53.	4.0	40
47	Mechanism of pore wetting in membrane distillation with alcohol vs. surfactant. Journal of Membrane Science, 2018, 559, 183-195.	4.1	109
48	Membrane Capacitive Deionization with Constant Current vs Constant Voltage Charging: Which Is Better?. Environmental Science & Technology, 2018, 52, 4051-4060.	4.6	75
49	Membrane distillation at the water-energy nexus: limits, opportunities, and challenges. Energy and Environmental Science, 2018, 11, 1177-1196.	15.6	740
50	Reversible thermodynamic cycle analysis for capacitive deionization with modified Donnan model. Journal of Colloid and Interface Science, 2018, 512, 522-528.	5.0	53
51	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
52	Intrinsic tradeoff between kinetic and energetic efficiencies in membrane capacitive deionization. Water Research, 2018, 129, 394-401.	5.3	86
53	Multifold Enhancement of Loose Nanofiltration Membrane Performance by Intercalation of Surfactant Assemblies. Environmental Science and Technology Letters, 2018, 5, 668-674.	3.9	27
54	Nanoparticle-templated nanofiltration membranes for ultrahigh performance desalination. Nature Communications, 2018, 9, 2004.	5.8	457

#	Article	IF	Citations
55	Kinetic model for surfactant-induced pore wetting in membrane distillation. Journal of Membrane Science, 2018, 564, 275-288.	4.1	54
56	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
57	Coaxially electrospun super-amphiphobic silica-based membrane for anti-surfactant-wetting membrane distillation. Journal of Membrane Science, 2017, 531, 122-128.	4.1	100
58	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
59	Novel Janus Membrane for Membrane Distillation with Simultaneous Fouling and Wetting Resistance. Environmental Science & Technology, 2017, 51, 13304-13310.	4.6	227
60	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
61	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
62	Kinetics and energetics trade-off in reverse osmosis desalination with different configurations. Desalination, 2017, 401, 42-52.	4.0	61
63	Composite Membrane with Underwater-Oleophobic Surface for Anti-Oil-Fouling Membrane Distillation. Environmental Science & Technology, 2016, 50, 3866-3874.	4.6	190
64	Mass transfer in forward osmosis with hollow fiber membranes. Journal of Membrane Science, 2016, 514, 176-185.	4.1	18
65	Harvesting low-grade heat energy using thermo-osmotic vapour transport through nanoporousÂmembranes. Nature Energy, 2016, 1, .	19.8	226
66	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
67	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
68	Environmental Applications of Interfacial Materials with Special Wettability. Environmental Science & Technology, 2016, 50, 2132-2150.	4.6	273
69	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
70	Staged reverse osmosis operation: Configurations, energy efficiency, and application potential. Desalination, 2015, 366, 9-14.	4.0	121
71	Desalination by forward osmosis: Identifying performance limiting parameters through module-scale modeling. Journal of Membrane Science, 2015, 491, 159-167.	4.1	111
72	Forward osmosis: Where are we now?. Desalination, 2015, 356, 271-284.	4.0	681

#	Article	IF	Citations
73	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
74	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
75	Direct contact membrane distillation with heat recovery: Thermodynamic insights from module scale modeling. Journal of Membrane Science, 2014, 453, 498-515.	4.1	168
76	Thermodynamic limits of extractable energy by pressure retarded osmosis. Energy and Environmental Science, 2014, 7, 2706-2714.	15.6	149
77	Omniphobic Membrane for Robust Membrane Distillation. Environmental Science and Technology Letters, 2014, 1, 443-447.	3.9	288
78	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
79	Nanoparticle core properties affect attachment of macromolecule-coated nanoparticles to silica surfaces. Environmental Chemistry, 2014, 11, 257.	0.7	15
80	Silver nanoparticle-alginate composite beads for point-of-use drinking water disinfection. Water Research, 2013, 47, 3959-3965.	5.3	145
81	Electric Double Layer Formed by Polarized Ferroelectric Thin Films. ACS Applied Materials & Interfaces, 2013, 5, 2610-2617.	4.0	16
82	Environmental implications and applications of carbon nanomaterials in water treatment. Water Science and Technology, 2013, 67, 2582-2586.	1.2	8
83	Polymeric Coatings on Silver Nanoparticles Hinder Autoaggregation but Enhance Attachment to Uncoated Surfaces. Langmuir, 2012, 28, 4178-4186.	1.6	112
84	Proton-Conducting Composite Membranes Derived from Ferroxane-Polyvinyl Alcohol Complex. Environmental Engineering Science, 2012, 29, 124-132.	0.8	7
85	Theoretical Investigation on the Steric Interaction in Colloidal Deposition. Langmuir, 2012, 28, 15233-15245.	1.6	27
86	Paradox of Stability of Nanoparticles at Very Low Ionic Strength. Langmuir, 2012, 28, 11032-11041.	1.6	18
87	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
88	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
89	Theoretical investigation on the interaction between a soft particle and a rigid surface. Chemical Engineering Journal, 2012, 191, 297-305.	6.6	17
90	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

#	Article	IF	Citations
91	Toxicity Reduction of Polymer-Stabilized Silver Nanoparticles by Sunlight. Journal of Physical Chemistry C, 2011, 115, 4425-4432.	1.5	190
92	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
93	Synthesis and characterization of a carbon nanotube/polymer nanocomposite membrane for water treatment. Desalination, 2011, 272, 46-50.	4.0	221
94	Exact Analytical Expressions for the Potential of Electrical Double Layer Interactions for a Sphereâ˜Plate System. Langmuir, 2010, 26, 16638-16641.	1.6	36
95	Heterogeneities in Fullerene Nanoparticle Aggregates Affecting Reactivity, Bioactivity, and Transport. ACS Nano, 2010, 4, 5011-5018.	7.3	69
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