

Tzahi Y Cath

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

114
papers

11,202
citations

50
h-index

105
g-index

118
ext. papers

12,337
ext. citations

9
avg, IF

6.73
L-index

#	Paper	IF	Citations
114	Forward osmosis: Principles, applications, and recent developments. <i>Journal of Membrane Science</i> , 2006 , 281, 70-87	9.6	1819
113	The forward osmosis membrane bioreactor: A low fouling alternative to MBR processes. <i>Desalination</i> , 2009 , 239, 10-21	10.3	644
112	Power generation with pressure retarded osmosis: An experimental and theoretical investigation. <i>Journal of Membrane Science</i> , 2009 , 343, 42-52	9.6	574
111	Selection of inorganic-based draw solutions for forward osmosis applications. <i>Journal of Membrane Science</i> , 2010 , 364, 233-241	9.6	533
110	Forward osmosis for concentration of anaerobic digester centrate. <i>Water Research</i> , 2007 , 41, 4005-14	12.5	431
109	High recovery of concentrated RO brines using forward osmosis and membrane distillation. <i>Journal of Membrane Science</i> , 2009 , 331, 31-39	9.6	417
108	Solute coupled diffusion in osmotically driven membrane processes. <i>Environmental Science & Technology</i> , 2009 , 43, 6769-75	10.3	362
107	Standard Methodology for Evaluating Membrane Performance in Osmotically Driven Membrane Processes. <i>Desalination</i> , 2013 , 312, 31-38	10.3	304
106	Experimental study of desalination using direct contact membrane distillation: a new approach to flux enhancement. <i>Journal of Membrane Science</i> , 2004 , 228, 5-16	9.6	299
105	The sweet spot of forward osmosis: Treatment of produced water, drilling wastewater, and other complex and difficult liquid streams. <i>Desalination</i> , 2014 , 333, 23-35	10.3	290
104	A multi-barrier osmotic dilution process for simultaneous desalination and purification of impaired water. <i>Journal of Membrane Science</i> , 2010 , 362, 417-426	9.6	256
103	Forward osmosis treatment of drilling mud and fracturing wastewater from oil and gas operations. <i>Desalination</i> , 2013 , 312, 60-66	10.3	254
102	Membrane contactor processes for wastewater reclamation in space: II. Combined direct osmosis, osmotic distillation, and membrane distillation for treatment of metabolic wastewater. <i>Journal of Membrane Science</i> , 2005 , 257, 111-119	9.6	198
101	Membrane contactor processes for wastewater reclamation in space: Part I. Direct osmotic concentration as pretreatment for reverse osmosis. <i>Journal of Membrane Science</i> , 2005 , 257, 85-98	9.6	194
100	Removal of natural steroid hormones from wastewater using membrane contactor processes. <i>Environmental Science & Technology</i> , 2006 , 40, 7381-6	10.3	159
99	Treatment of RO brine from CSG produced water by spiral-wound air gap membrane distillation □ A pilot study. <i>Desalination</i> , 2015 , 366, 121-129	10.3	156
98	Comprehensive bench- and pilot-scale investigation of trace organic compounds rejection by forward osmosis. <i>Environmental Science & Technology</i> , 2011 , 45, 8483-90	10.3	152

97	Rejection of trace organic compounds by forward osmosis membranes: a literature review. <i>Environmental Science & Technology</i> , 2014 , 48, 3612-24	10.3	151
96	A scaling mitigation approach during direct contact membrane distillation. <i>Separation and Purification Technology</i> , 2011 , 80, 315-322	8.3	137
95	A comparative life cycle assessment of hybrid osmotic dilution desalination and established seawater desalination and wastewater reclamation processes. <i>Water Research</i> , 2012 , 46, 1145-54	12.5	133
94	Effects of transmembrane hydraulic pressure on performance of forward osmosis membranes. <i>Environmental Science & Technology</i> , 2013 , 47, 2386-93	10.3	130
93	Data-driven performance analyses of wastewater treatment plants: A review. <i>Water Research</i> , 2019 , 157, 498-513	12.5	127
92	Long-term pilot scale investigation of novel hybrid ultrafiltration-osmotic membrane bioreactors. <i>Desalination</i> , 2015 , 363, 64-74	10.3	119
91	Hybrid pressure retarded osmosis-membrane distillation system for power generation from low-grade heat: thermodynamic analysis and energy efficiency. <i>Environmental Science & Technology</i> , 2014 , 48, 5306-13	10.3	114
90	Towards direct potable reuse with forward osmosis: Technical assessment of long-term process performance at the pilot scale. <i>Journal of Membrane Science</i> , 2013 , 445, 34-46	9.6	113
89	Electrochemical Stripping to Recover Nitrogen from Source-Separated Urine. <i>Environmental Science & Technology</i> , 2018 , 52, 1453-1460	10.3	111
88	Removal of trace organic chemicals and performance of a novel hybrid ultrafiltration-osmotic membrane bioreactor. <i>Environmental Science & Technology</i> , 2014 , 48, 10859-68	10.3	110
87	Sustainable operation of membrane distillation for enhancement of mineral recovery from hypersaline solutions. <i>Journal of Membrane Science</i> , 2014 , 454, 426-435	9.6	106
86	Forward osmosis desalination of oil and gas wastewater: Impacts of membrane selection and operating conditions on process performance. <i>Journal of Membrane Science</i> , 2015 , 488, 40-55	9.6	101
85	Critical Review of Desalination Concentrate Management, Treatment and Beneficial Use. <i>Environmental Engineering Science</i> , 2013 , 30, 502-514	2	95
84	The osmotic membrane bioreactor: a critical review. <i>Environmental Science: Water Research and Technology</i> , 2015 , 1, 581-605	4.2	92
83	The role of nanotechnology in industrial water treatment. <i>Nature Nanotechnology</i> , 2018 , 13, 670-672	28.7	92
82	Produced water treatment using forward osmosis membranes: Evaluation of extended-time performance and fouling. <i>Journal of Membrane Science</i> , 2017 , 525, 77-88	9.6	88
81	Rejection and fate of trace organic compounds (TrOCs) during membrane distillation. <i>Journal of Membrane Science</i> , 2014 , 453, 636-642	9.6	87
80	Bidirectional permeation of electrolytes in osmotically driven membrane processes. <i>Environmental Science & Technology</i> , 2011 , 45, 10642-51	10.3	85

79	Optimising thermal efficiency of direct contact membrane distillation by brine recycling for small-scale seawater desalination. <i>Desalination</i> , 2015 , 374, 1-9	10.3	82
78	Scaling control during membrane distillation of coal seam gas reverse osmosis brine. <i>Journal of Membrane Science</i> , 2015 , 493, 673-682	9.6	81
77	Disturbance and temporal partitioning of the activated sludge metacommunity. <i>ISME Journal</i> , 2015 , 9, 425-35	11.9	80
76	Selective removal of arsenic and monovalent ions from brackish water reverse osmosis concentrate. <i>Journal of Hazardous Materials</i> , 2013 , 260, 885-91	12.8	78
75	Antiwetting and Antifouling Janus Membrane for Desalination of Saline Oily Wastewater by Membrane Distillation. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 18456-18465	9.5	71
74	Hybrid membrane bio-systems for sustainable treatment of oil and gas produced water and fracturing flowback water. <i>Separation and Purification Technology</i> , 2016 , 171, 297-311	8.3	70
73	Microbial electrochemical nutrient recovery in anaerobic osmotic membrane bioreactors. <i>Water Research</i> , 2017 , 114, 181-188	12.5	66
72	Life-cycle assessment of two potable water reuse technologies: MF/RO/UV/AOP treatment and hybrid osmotic membrane bioreactors. <i>Journal of Membrane Science</i> , 2016 , 507, 165-178	9.6	64
71	A novel membrane distillation-thermophilic bioreactor system: biological stability and trace organic compound removal. <i>Bioresource Technology</i> , 2014 , 159, 334-41	11	61
70	Membrane distillation for concentration of hypersaline brines from the Great Salt Lake: Effects of scaling and fouling on performance, efficiency, and salt rejection. <i>Separation and Purification Technology</i> , 2016 , 170, 78-91	8.3	60
69	Evaluation of forward osmosis membrane performance and fouling during long-term osmotic membrane bioreactor study. <i>Journal of Membrane Science</i> , 2016 , 517, 1-13	9.6	59
68	Enhanced Flux and Electrochemical Cleaning of Silicate Scaling on Carbon Nanotube-Coated Membrane Distillation Membranes Treating Geothermal Brines. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 38594-38605	9.5	58
67	Assessing the current state of commercially available membranes and spacers for energy production with pressure retarded osmosis. <i>Desalination</i> , 2016 , 389, 108-118	10.3	56
66	Indirect determination of zeta potential at high ionic strength: Specific application to semipermeable polymeric membranes. <i>Journal of Membrane Science</i> , 2015 , 478, 58-64	9.6	55
65	Mixed draw solutions for improved forward osmosis performance. <i>Journal of Membrane Science</i> , 2015 , 491, 121-131	9.6	54
64	Temporal characterization and statistical analysis of flowback and produced waters and their potential for reuse. <i>Science of the Total Environment</i> , 2018 , 619-620, 654-664	10.2	50
63	Biologically active filtration for fracturing flowback and produced water treatment. <i>Journal of Water Process Engineering</i> , 2017 , 18, 29-40	6.7	46
62	Produced water impact on membrane integrity during extended pilot testing of forward osmosis □ reverse osmosis treatment. <i>Desalination</i> , 2018 , 440, 99-110	10.3	46

61	Removal of per- and polyfluoroalkyl substances using super-fine powder activated carbon and ceramic membrane filtration. <i>Journal of Hazardous Materials</i> , 2019 , 366, 160-168	12.8	46
60	Life cycle energy and greenhouse gas assessment of the co-production of biosolids and biochar for land application. <i>Journal of Cleaner Production</i> , 2015 , 91, 118-127	10.3	44
59	Assessing the feasibility of using produced water for irrigation in Colorado. <i>Science of the Total Environment</i> , 2018 , 640-641, 619-628	10.2	44
58	Life cycle and economic assessments of engineered osmosis and osmotic dilution for desalination of Haynesville shale pit water. <i>Desalination</i> , 2015 , 369, 188-200	10.3	43
57	Prevention and management of silica scaling in membrane distillation using pH adjustment. <i>Journal of Membrane Science</i> , 2018 , 554, 366-377	9.6	42
56	Osmotically and thermally driven membrane processes for enhancement of water recovery in desalination processes. <i>Desalination and Water Treatment</i> , 2010 , 15, 279-286		41
55	Forward osmosis: Novel desalination of produced water and fracturing flowback. <i>Journal - American Water Works Association</i> , 2014 , 106, E55-E66	0.5	39
54	Treatment of saline aqueous solutions using direct contact membrane distillation. <i>Desalination and Water Treatment</i> , 2011 , 32, 234-241		38
53	Selectivity and Mass Transfer Limitations in Pressure-Retarded Osmosis at High Concentrations and Increased Operating Pressures. <i>Environmental Science & Technology</i> , 2015 , 49, 12551-9	10.3	37
52	Assessment of alternative draw solutions for optimized performance of a closed-loop osmotic heat engine. <i>Journal of Membrane Science</i> , 2016 , 504, 162-175	9.6	37
51	Techno-economic analysis of wastewater sludge gasification: a decentralized urban perspective. <i>Bioresource Technology</i> , 2014 , 161, 385-94	11	37
50	Tracking oil and gas wastewater-derived organic matter in a hybrid biofilter membrane treatment system: A multi-analytical approach. <i>Science of the Total Environment</i> , 2018 , 613-614, 208-217	10.2	35
49	Evaluation of the transport parameters and physiochemical properties of forward osmosis membranes after treatment of produced water. <i>Journal of Membrane Science</i> , 2016 , 499, 491-502	9.6	33
48	Novel thermal efficiency-based model for determination of thermal conductivity of membrane distillation membranes. <i>Journal of Membrane Science</i> , 2018 , 548, 298-308	9.6	31
47	Coalbed methane produced water screening tool for treatment technology and beneficial use. <i>Journal of Unconventional Oil and Gas Resources</i> , 2014 , 5, 22-34		30
46	Impact of virus surface characteristics on removal mechanisms within membrane bioreactors. <i>Water Research</i> , 2015 , 84, 144-52	12.5	29
45	Techno-economic assessment of a closed-loop osmotic heat engine. <i>Journal of Membrane Science</i> , 2017 , 535, 178-187	9.6	27
44	Use of drinking water treatment solids for arsenate removal from desalination concentrate. <i>Journal of Colloid and Interface Science</i> , 2015 , 445, 252-261	9.3	27

43	Closed circuit desalination of O&G produced water: An evaluation of NF/RO performance and integrity. <i>Desalination</i> , 2018 , 442, 51-61	10.3	26
42	Computational fluid dynamics simulations of polarization phenomena in direct contact membrane distillation. <i>Journal of Membrane Science</i> , 2019 , 591, 117150	9.6	24
41	Co-treatment of residential and oil and gas production wastewater with a hybrid sequencing batch reactor-membrane bioreactor process. <i>Journal of Water Process Engineering</i> , 2017 , 17, 82-94	6.7	23
40	Mineral Scale Prevention on Electrically Conducting Membrane Distillation Membranes Using Induced Electrophoretic Mixing. <i>Environmental Science & Technology</i> , 2020 , 54, 3678-3690	10.3	22
39	Comparison of linear and nonlinear dimension reduction techniques for automated process monitoring of a decentralized wastewater treatment facility. <i>Stochastic Environmental Research and Risk Assessment</i> , 2016 , 30, 1527-1544	3.5	22
38	Enhanced biofiltration of O&G produced water comparing granular activated carbon and nutrients. <i>Science of the Total Environment</i> , 2018 , 640-641, 419-428	10.2	21
37	Solid-phase extraction followed by gas chromatography-mass spectrometry for the quantitative analysis of semi-volatile hydrocarbons in hydraulic fracturing wastewaters. <i>Analytical Methods</i> , 2016 , 8, 2058-2068	3.2	20
36	Comparative life-cycle assessment of a novel osmotic heat engine and an organic Rankine cycle for energy production from low-grade heat. <i>Journal of Cleaner Production</i> , 2018 , 191, 490-501	10.3	20
35	Potential for Beneficial Reuse of Oil and Gas-Derived Produced Water in Agriculture: Physiological and Morphological Responses in Spring Wheat (<i>Triticum aestivum</i>). <i>Environmental Toxicology and Chemistry</i> , 2019 , 38, 1756-1769	3.8	18
34	iDST: An integrated decision support tool for treatment and beneficial use of non-traditional water supplies [Part I. Methodology. <i>Journal of Water Process Engineering</i> , 2018 , 25, 236-246	6.7	18
33	iDST: An integrated decision support tool for treatment and beneficial use of non-traditional water supplies [Part II. Marcellus and Barnett Shale case studies. <i>Journal of Water Process Engineering</i> , 2018 , 25, 258-268	6.7	18
32	A hybrid catalytic hydrogenation/membrane distillation process for nitrogen resource recovery from nitrate-contaminated waste ion exchange brine. <i>Water Research</i> , 2020 , 175, 115688	12.5	14
31	Decision support toolkit for integrated analysis and design of reclaimed water infrastructure. <i>Water Research</i> , 2018 , 134, 234-252	12.5	14
30	A liter-scale microbial capacitive deionization system for the treatment of shale gas wastewater. <i>Environmental Science: Water Research and Technology</i> , 2016 , 2, 353-361	4.2	14
29	Emergence and fate of volatile iodinated organic compounds during biological treatment of oil and gas produced water. <i>Science of the Total Environment</i> , 2020 , 699, 134202	10.2	13
28	Forward Osmosis/Reverse Osmosis Process Offers a Novel Hybrid Solution for Water Purification and Reuse. <i>IDA Journal of Desalination and Water Reuse</i> , 2010 , 2, 16-20		9
27	Evaluation of Membrane Processes for Reducing Total Dissolved Solids Discharged to the Truckee River. <i>Journal of Environmental Engineering, ASCE</i> , 2007 , 133, 1136-1144	2	8
26	Comparison of membrane distillation and high-temperature nanofiltration processes for treatment of silica-saturated water. <i>Journal of Membrane Science</i> , 2019 , 570-571, 258-269	9.6	8

25	Enhancement of activated sludge wastewater treatment with hydraulic selection. <i>Separation and Purification Technology</i> , 2020 , 250, 117214	8.3	7
24	Hybrid statistical-machine learning ammonia forecasting in continuous activated sludge treatment for improved process control. <i>Journal of Water Process Engineering</i> , 2020 , 37, 101389	6.7	7
23	Effect of produced water treatment technologies on irrigation-induced metal and salt accumulation in wheat (<i>Triticum aestivum</i>) and sunflower (<i>Helianthus annuus</i>). <i>Science of the Total Environment</i> , 2020 , 740, 140003	10.2	5
22	Multistate multivariate statistical process control. <i>Applied Stochastic Models in Business and Industry</i> , 2018 , 34, 880-892	1.1	5
21	Fault isolation for a complex decentralized waste water treatment facility. <i>Journal of the Royal Statistical Society Series C: Applied Statistics</i> , 2020 , 69, 931-951	1.5	5
20	Development of the Direct Osmotic Concentration System 2010 ,		4
19	Evaluating air-blown gasification for energy recovery from wastewater solids: Impact of biological treatment and point of generation on energy recovery. <i>Sustainable Energy Technologies and Assessments</i> , 2015 , 9, 22-29	4.7	3
18	Evaluation of sequencing batch bioreactor followed by media filtration for organic carbon and nitrogen removal in produced water. <i>Journal of Water Process Engineering</i> , 2021 , 40, 101863	6.7	3
17	Computational fluid dynamics simulations of unsteady mixing in spacer-filled direct contact membrane distillation channels. <i>Journal of Membrane Science</i> , 2021 , 622, 118931	9.6	3
16	Membrane distillation crystallization of ammonium nitrate solutions to enable sustainable cold storage: Electrical conductivity as an in-situ saturation indicator. <i>Journal of Membrane Science</i> , 2021 , 631, 119321	9.6	3
15	THE NOVEL OSMOTIC MEMBRANE BIOREACTOR FOR WASTEWATER TREATMENT. <i>Proceedings of the Water Environment Federation</i> , 2008 , 2008, 6210-6221		2
14	Direct Osmotic Concentration System for Spacecraft Wastewater Recycling 2007 ,		2
13	New Concepts and Performance of the Direct Osmotic Concentration Process for Wastewater Recovery in Advanced Life Support Systems 2006 ,		2
12	Oil and Gas Produced Water Reuse: Opportunities, Treatment Needs, and Challenges. <i>ACS ES&T Engineering</i> ,		2
11	Net Zero Urban Water from Concept to Applications: Integrating Natural, Built, and Social Systems for Responsive and Adaptive Solutions. <i>ACS ES&T Water</i> , 2021 , 1, 518-529		2
10	Mass Transport in Osmotically Driven Membrane Processes. <i>Membranes</i> , 2021 , 11,	3.8	2
9	Tailored water treatment using enhanced primary clarification for nutrient recovery and production of water for turfgrass irrigation. <i>Environmental Science: Water Research and Technology</i> , 2017 , 3, 671-685	4.2	1
8	Hypoeration of activated sludge to reduce energy requirements at distributed reclaimed water plants: studies at bench and pilot scales. <i>Environmental Science: Water Research and Technology</i> , 2017 , 3, 235-248	4.2	1

7	Desalinating a real hyper-saline pre-treated produced water via direct-heat vacuum membrane distillation.. <i>Water Research</i> , 2022 , 218, 118503	12.5	1
6	Performance of reverse osmosis membrane with large feed pressure fluctuations from a wave-driven desalination system. <i>Desalination</i> , 2022 , 527, 115546	10.3	0
5	Case studies in real-time fault isolation in a decentralized wastewater treatment facility. <i>Journal of Water Process Engineering</i> , 2020 , 38, 101556	6.7	0
4	Membrane Bioreactor Pretreatment of High-Salinity O&G Produced Water. <i>ACS ES&T Water</i> , 2022 , 2, 484-494		0
3	The Critical Role of Pore Characteristics on the Performance of Novel Membrane Processes for Water Treatment and Desalination. <i>World Scientific Series in Nanoscience and Nanotechnology</i> , 2015 , 389-399	0.1	0
2	Osmotic Power Generation 2018 , 481-489		
1	Novel Hydraulic Selection Technology for the Improvement of Sludge Setting and Aerobic Granular Sludge Startup. <i>Proceedings of the Water Environment Federation</i> , 2018 , 2018, 3832-3835		