

# Pei Xu

## List of Publications by Year in descending order

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83  
papers

6,964  
citations

70961

41  
h-index

60497

81  
g-index

84  
all docs

84  
docs citations

84  
times ranked

6443  
citing authors

#	ARTICLE	IF	CITATIONS
1	Factors affecting the rejection of organic solutes during NF/RO treatment—a literature review. <i>Water Research</i> , 2004, 38, 2795-2809.	5.3	863
2	Treatment of brackish produced water using carbon aerogel-based capacitive deionization technology. <i>Water Research</i> , 2008, 42, 2605-2617.	5.3	521
3	Effect of membrane fouling on transport of organic contaminants in NF/RO membrane applications. <i>Journal of Membrane Science</i> , 2006, 279, 165-175.	4.1	389
4	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.	4.0	324
5	Forward osmosis treatment of drilling mud and fracturing wastewater from oil and gas operations. <i>Desalination</i> , 2013, 312, 60-66.	4.0	284
6	Fouling of nanofiltration and reverse osmosis membranes during municipal wastewater reclamation: Membrane autopsy results from pilot-scale investigations. <i>Journal of Membrane Science</i> , 2010, 353, 111-121.	4.1	228
7	Microbial desalination cells for improved performance in wastewater treatment, electricity production, and desalination. <i>Bioresource Technology</i> , 2012, 105, 60-66.	4.8	203
8	Rejection of Trace Organic Compounds by Forward Osmosis Membranes: A Literature Review. <i>Environmental Science &amp; Technology</i> , 2014, 48, 3612-3624.	4.6	174
9	Rejection of Emerging Organic Micropollutants in Nanofiltration-Reverse Osmosis Membrane Applications. <i>Water Environment Research</i> , 2005, 77, 40-48.	1.3	168
10	Comprehensive Bench- and Pilot-Scale Investigation of Trace Organic Compounds Rejection by Forward Osmosis. <i>Environmental Science &amp; Technology</i> , 2011, 45, 8483-8490.	4.6	168
11	Immobilized TiO <sub>2</sub> -reduced graphene oxide nanocomposites on optical fibers as high performance photocatalysts for degradation of pharmaceuticals. <i>Chemical Engineering Journal</i> , 2017, 310, 389-398.	6.6	150
12	Sustainable desalination using a microbial capacitive desalination cell. <i>Energy and Environmental Science</i> , 2012, 5, 7161.	15.6	130
13	Beneficial use of co-produced water through membrane treatment: technical-economic assessment. <i>Desalination</i> , 2008, 225, 139-155.	4.0	129
14	Critical Review of Desalination Concentrate Management, Treatment and Beneficial Use. <i>Environmental Engineering Science</i> , 2013, 30, 502-514.	0.8	129
15	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.	4.1	129
16	Viability of nanofiltration and ultra-low pressure reverse osmosis membranes for multi-beneficial use of methane produced water. <i>Separation and Purification Technology</i> , 2006, 52, 67-76.	3.9	126
17	Geochemistry of formation waters from the Wolfcamp and Cline-shales: Insights into brine origin, reservoir connectivity, and fluid flow in the Permian Basin, USA. <i>Chemical Geology</i> , 2016, 425, 76-92.	1.4	124
18	Can we beneficially reuse produced water from oil and gas extraction in the U.S.?. <i>Science of the Total Environment</i> , 2020, 717, 137085.	3.9	111

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19	Composite Geochemical Database for Coalbed Methane Produced Water Quality in the Rocky Mountain Region. <i>Environmental Science &amp; Technology</i> , 2011, 45, 7655-7663.	4.6	107
20	Comparison study on photocatalytic oxidation of pharmaceuticals by TiO <sub>2</sub> -Fe and TiO <sub>2</sub> -reduced graphene oxide nanocomposites immobilized on optical fibers. <i>Journal of Hazardous Materials</i> , 2017, 333, 162-168.	6.5	105
21	Long-term performance and characterization of microbial desalination cells in treating domestic wastewater. <i>Bioresource Technology</i> , 2012, 120, 187-193.	4.8	103
22	Selective removal of arsenic and monovalent ions from brackish water reverse osmosis concentrate. <i>Journal of Hazardous Materials</i> , 2013, 260, 885-891.	6.5	100
23	Adsorption and photocatalytic oxidation of ibuprofen using nanocomposites of TiO <sub>2</sub> nanofibers combined with BN nanosheets: Degradation products and mechanisms. <i>Chemosphere</i> , 2019, 220, 921-929.	4.2	97
24	Shale gas produced water treatment using innovative microbial capacitive desalination cell. <i>Journal of Hazardous Materials</i> , 2015, 283, 847-855.	6.5	93
25	Comparative study on pharmaceuticals adsorption in reclaimed water desalination concentrate using biochar: Impact of salts and organic matter. <i>Science of the Total Environment</i> , 2017, 601-602, 857-864.	3.9	89
26	Ionic composition and transport mechanisms in microbial desalination cells. <i>Journal of Membrane Science</i> , 2012, 409-410, 16-23.	4.1	88
27	Microbial desalination cell with capacitive adsorption for ion migration control. <i>Bioresource Technology</i> , 2012, 120, 332-336.	4.8	86
28	Simultaneous recovery of ammonium, potassium and magnesium from produced water by struvite precipitation. <i>Chemical Engineering Journal</i> , 2020, 382, 123001.	6.6	86
29	Sorption of metals and metalloids from reverse osmosis concentrate on drinking water treatment solids. <i>Separation and Purification Technology</i> , 2014, 134, 37-45.	3.9	85
30	Volatile-organic molecular characterization of shale-oil produced water from the Permian Basin. <i>Chemosphere</i> , 2016, 148, 126-136.	4.2	85
31	Treatment of Produced Water with Photocatalysis: Recent Advances, Affecting Factors and Future Research Prospects. <i>Catalysts</i> , 2020, 10, 924.	1.6	80
32	Rejection of wastewater-derived micropollutants in high-pressure membrane applications leading to indirect potable reuse. <i>Environmental Progress</i> , 2005, 24, 400-409.	0.8	73
33	Enhanced photocatalysis using side-glowing optical fibers coated with Fe-doped TiO <sub>2</sub> nanocomposite thin films. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , 2015, 307-308, 88-98.	2.0	70
34	Selective separation of mono- and di-valent cations in electrodialysis during brackish water desalination: Bench and pilot-scale studies. <i>Desalination</i> , 2018, 428, 146-160.	4.0	70
35	Enhancing the performance of a single-basin single-slope solar still by using Fresnel lens: Experimental study. <i>Journal of Cleaner Production</i> , 2019, 239, 118094.	4.6	61
36	Effect of calcium silicate hydrates (CSH) on phosphorus immobilization and speciation in shallow lake sediment. <i>Chemical Engineering Journal</i> , 2017, 317, 844-853.	6.6	56

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37	Treatment of Produced Water in the Permian Basin for Hydraulic Fracturing: Comparison of Different Coagulation Processes and Innovative Filter Media. <i>Water (Switzerland)</i> , 2020, 12, 770.	1.2	53
38	A critical review of the application of electromagnetic fields for scaling control in water systems: mechanisms, characterization, and operation. <i>Npj Clean Water</i> , 2020, 3, .	3.1	51
39	Microbial capacitive desalination for integrated organic matter and salt removal and energy production from unconventional natural gas produced water. <i>Environmental Science: Water Research and Technology</i> , 2015, 1, 47-55.	1.2	50
40	Low-cost and reusable carbon black based solar evaporator for effective water desalination. <i>Desalination</i> , 2020, 483, 114412.	4.0	49
41	Physicochemical and electrochemical characterization of cation-exchange membranes modified with polyethyleneimine for elucidating enhanced monovalent permselectivity of electrodialysis. <i>Journal of Membrane Science</i> , 2019, 572, 545-556.	4.1	48
42	Biominalization of hypersaline produced water using microbially induced calcite precipitation. <i>Water Research</i> , 2021, 190, 116753.	5.3	39
43	Removal and fate of trace organic compounds in microbial fuel cells. <i>Chemosphere</i> , 2015, 125, 94-101.	4.2	38
44	Sacrificing power for more cost-effective treatment: A techno-economic approach for engineering microbial fuel cells. <i>Chemosphere</i> , 2016, 161, 10-18.	4.2	38
45	Microalgae cultivation and culture medium recycling by a two-stage cultivation system. <i>Frontiers of Environmental Science and Engineering</i> , 2018, 12, 1.	3.3	38
46	Interplay of the Factors Affecting Water Flux and Salt Rejection in Membrane Distillation: A State-of-the-Art Critical Review. <i>Water (Switzerland)</i> , 2020, 12, 2841.	1.2	38
47	A Thermal Model for Predicting the Performance of a Solar Still with Fresnel Lens. <i>Water (Switzerland)</i> , 2019, 11, 1860.	1.2	37
48	Study of polyethyleneimine coating on membrane permselectivity and desalination performance during pilot-scale electrodialysis of reverse osmosis concentrate. <i>Separation and Purification Technology</i> , 2018, 207, 396-405.	3.9	36
49	Photocatalytic membrane reactors for produced water treatment and reuse: Fundamentals, affecting factors, rational design, and evaluation metrics. <i>Journal of Hazardous Materials</i> , 2022, 424, 127493.	6.5	34
50	A Critical Review of Analytical Methods for Comprehensive Characterization of Produced Water. <i>Water (Switzerland)</i> , 2021, 13, 183.	1.2	33
51	Removal of low concentration nutrients in hydroponic wetlands integrated with zeolite and calcium silicate hydrate functional substrates. <i>Ecological Engineering</i> , 2015, 82, 442-450.	1.6	32
52	Effect of calcium silicate hydrates coupled with <i>Myriophyllum spicatum</i> on phosphorus release and immobilization in shallow lake sediment. <i>Chemical Engineering Journal</i> , 2018, 331, 462-470.	6.6	30
53	Use of drinking water treatment solids for arsenate removal from desalination concentrate. <i>Journal of Colloid and Interface Science</i> , 2015, 445, 252-261.	5.0	29
54	Characterization of produced water and surrounding surface water in the Permian Basin, the United States. <i>Journal of Hazardous Materials</i> , 2022, 430, 128409.	6.5	27

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55	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.	2.6	24
56	Innovative use of drinking water treatment solids for heavy metals removal from desalination concentrate: Synergistic effect of salts and natural organic matter. <i>Chemical Engineering Research and Design</i> , 2017, 120, 231-239.	2.7	23
57	Nanocomposite cation-exchange membranes for wastewater electrodialysis: organic fouling, desalination performance, and toxicity testing. <i>Separation and Purification Technology</i> , 2021, 275, 119217.	3.9	23
58	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.	2.6	22
59	A Pilot Study of an Electromagnetic Field for Control of Reverse Osmosis Membrane Fouling and Scaling During Brackish Groundwater Desalination. <i>Water (Switzerland)</i> , 2019, 11, 1015.	1.2	22
60	High performance spiral wound microbial fuel cell with hydraulic characterization. <i>Bioresource Technology</i> , 2014, 174, 287-293.	4.8	21
61	Potable-quality water recovery from primary effluent through a coupled algal-osmosis membrane system. <i>Chemosphere</i> , 2020, 240, 124883.	4.2	21
62	Solar distillation of highly saline produced water using low-cost and high-performance carbon black and airlaid paper-based evaporator (CAPER). <i>Chemosphere</i> , 2021, 269, 129372.	4.2	21
63	Enhanced visible light photocatalysis by TiO <sub>2</sub> @BN enabled electrospinning of nanofibers for pharmaceutical degradation and wastewater treatment. <i>Photochemical and Photobiological Sciences</i> , 2019, 18, 2921-2930.	1.6	20
64	Spatial variability of produced-water quality and alternative-source water analysis applied to the Permian Basin, USA. <i>Hydrogeology Journal</i> , 2019, 27, 2889-2905.	0.9	20
65	Minimum Performance Requirements for Microbial Fuel Cells to Achieve Energy-Neutral Wastewater Treatment. <i>Water (Switzerland)</i> , 2018, 10, 243.	1.2	19
66	Analysis and prediction of produced water quantity and quality in the Permian Basin using machine learning techniques. <i>Science of the Total Environment</i> , 2021, 801, 149693.	3.9	19
67	Photocatalytic Treatment of Desalination Concentrate Using Optical Fibers Coated With Nanostructured Thin Films: Impact of Water Chemistry and Seasonal Climate Variations. <i>Photochemistry and Photobiology</i> , 2016, 92, 379-387.	1.3	16
68	Sorption of Arsenic from Desalination Concentrate onto Drinking Water Treatment Solids: Operating Conditions and Kinetics. <i>Water (Switzerland)</i> , 2018, 10, 96.	1.2	16
69	Analysis of Brackish Water Desalination for Municipal Uses: Case Studies on Challenges and Opportunities. <i>ACS ES&amp;T Engineering</i> , 2022, 2, 306-322.	3.7	15
70	Developing anti-biofouling and energy-efficient cation-exchange membranes using conductive polymers and nanomaterials. <i>Journal of Membrane Science</i> , 2020, 603, 118034.	4.1	14
71	Interplay of Anode, Cathode, and Current in Microbial Fuel Cells: Implications for Wastewater Treatment. <i>Energy Technology</i> , 2016, 4, 583-592.	1.8	12
72	Toxicological characterization of produced water from the Permian Basin. <i>Science of the Total Environment</i> , 2022, 815, 152943.	3.9	11

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73	Pilot Demonstration of Reclaiming Municipal Wastewater for Irrigation Using Electrodialysis Reversal: Effect of Operational Parameters on Water Quality. <i>Membranes</i> , 2021, 11, 333.	1.4	10
74	Effectiveness and mechanisms of electromagnetic field on reverse osmosis membrane scaling control during brackish groundwater desalination. <i>Separation and Purification Technology</i> , 2022, 280, 119823.	3.9	9
75	Polydopamine-Assisted Modification of Anion-Exchange Membranes with Nanomaterials for Improved Biofouling Resistance and Electrodialysis Performance. <i>ACS ES&amp;T Engineering</i> , 2021, 1, 1009-1020.	3.7	6
76	Analysis of Regulatory Framework for Produced Water Management and Reuse in Major Oil- and Gas-Producing Regions in the United States. <i>Water (Switzerland)</i> , 2022, 14, 2162.	1.2	5
77	Numerical Investigation of the Effect of Two-Dimensional Surface Waviness on the Current Density of Ion-Selective Membranes for Electrodialysis. <i>Water (Switzerland)</i> , 2019, 11, 1397.	1.2	4
78	Spatiotemporal Analysis of Produced Water Demand for Fit-For-Purpose Reuse—A Permian Basin, New Mexico Case Study. <i>Water (Switzerland)</i> , 2022, 14, 1735.	1.2	3
79	Datasets associated with investigating the potential for beneficial reuse of produced water from oil and gas extraction outside of the energy sector. <i>Data in Brief</i> , 2020, 30, 105406.	0.5	2
80	Impacts of seasonality and operating conditions on water quality of algal versus conventional wastewater treatment: Part 1. <i>Journal of Environmental Management</i> , 2022, 304, 114291.	3.8	1
81	Datasets associated with the characterization of produced water and Pecos River water in the Permian Basin, the United States. <i>Data in Brief</i> , 2022, 43, 108443.	0.5	1
82	Simulation of Flow through Spacer of Bench-Scale Electrodialysis Desalination Stack. , 2020, , .		0
83	Impacts of seasonality and operating conditions on algal-dual osmosis membrane system for potable water reuse: Part 2. <i>Journal of Environmental Management</i> , 2022, 304, 114295.	3.8	0