

# Shu-Yuan Pan

## List of Publications by Year in descending order

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117  
papers

6,531  
citations

57758

44  
h-index

66911

78  
g-index

119  
all docs

119  
docs citations

119  
times ranked

5277  
citing authors

#	ARTICLE	IF	CITATIONS
1	Characteristics of steel slags and their use in cement and concrete—A review. <i>Resources, Conservation and Recycling</i> , 2018, 136, 187-197.	10.8	455
2	Strategies on implementation of waste-to-energy (WTE) supply chain for circular economy system: a review. <i>Journal of Cleaner Production</i> , 2015, 108, 409-421.	9.3	421
3	Recent advances in carbon dioxide utilization. <i>Renewable and Sustainable Energy Reviews</i> , 2020, 125, 109799.	16.4	369
4	CO <sub>2</sub> Capture by Accelerated Carbonation of Alkaline Wastes: A Review on Its Principles and Applications. <i>Aerosol and Air Quality Research</i> , 2012, 12, 770-791.	2.1	313
5	Advances and challenges in sustainable tourism toward a green economy. <i>Science of the Total Environment</i> , 2018, 635, 452-469.	8.0	300
6	Implementation of green chemistry principles in circular economy system towards sustainable development goals: Challenges and perspectives. <i>Science of the Total Environment</i> , 2020, 716, 136998.	8.0	228
7	CO <sub>2</sub> mineralization and utilization by alkaline solid wastes for potential carbon reduction. <i>Nature Sustainability</i> , 2020, 3, 399-405.	23.7	182
8	Accelerated carbonation of steelmaking slags in a high-gravity rotating packed bed. <i>Journal of Hazardous Materials</i> , 2012, 227-228, 97-106.	12.4	175
9	Integrated and innovative steel slag utilization for iron reclamation, green material production and CO <sub>2</sub> fixation via accelerated carbonation. <i>Journal of Cleaner Production</i> , 2016, 137, 617-631.	9.3	175
10	Performance evaluation for carbonation of steel-making slags in a slurry reactor. <i>Journal of Hazardous Materials</i> , 2011, 186, 558-564.	12.4	147
11	CO <sub>2</sub> sequestration by carbonation of steelmaking slags in an autoclave reactor. <i>Journal of Hazardous Materials</i> , 2011, 195, 107-114.	12.4	135
12	Establishment of enhanced geothermal energy utilization plans: Barriers and strategies. <i>Renewable Energy</i> , 2019, 132, 19-32.	8.9	130
13	Ex Situ CO <sub>2</sub> Capture by Carbonation of Steelmaking Slag Coupled with Metalworking Wastewater in a Rotating Packed Bed. <i>Environmental Science &amp; Technology</i> , 2013, 47, 3308-3315.	10.0	123
14	Brackish water desalination using reverse osmosis and capacitive deionization at the water-energy nexus. <i>Water Research</i> , 2020, 183, 116064.	11.3	123
15	Building green supply chains in eco-industrial parks towards a green economy: Barriers and strategies. <i>Journal of Environmental Management</i> , 2015, 162, 158-170.	7.8	117
16	Cooling water use in thermoelectric power generation and its associated challenges for addressing water-energy nexus. <i>Water-Energy Nexus</i> , 2018, 1, 26-41.	4.0	110
17	Performance evaluation and optimization of flocculation process for removing heavy metal. <i>Chemical Engineering Journal</i> , 2020, 385, 123911.	12.7	104
18	Carbonation of basic oxygen furnace slag with metalworking wastewater in a slurry reactor. <i>International Journal of Greenhouse Gas Control</i> , 2013, 12, 382-389.	4.6	97

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19	Advances and challenges of green materials for electronics and energy storage applications: from design to end-of-life recovery. <i>Journal of Materials Chemistry A</i> , 2018, 6, 20546-20563.	10.3	96
20	An Innovative Approach to Integrated Carbon Mineralization and Waste Utilization: A Review. <i>Aerosol and Air Quality Research</i> , 2015, 15, 1072-1091.	2.1	83
21	CO <sub>2</sub> Mineralization and Utilization using Steel Slag for Establishing a Waste-to-Resource Supply Chain. <i>Scientific Reports</i> , 2017, 7, 17227.	3.3	81
22	Green transportation for sustainability: Review of current barriers, strategies, and innovative technologies. <i>Journal of Cleaner Production</i> , 2021, 326, 129392.	9.3	80
23	Kinetics of carbonation reaction of basic oxygen furnace slags in a rotating packed bed using the surface coverage model: Maximization of carbonation conversion. <i>Applied Energy</i> , 2014, 113, 267-276.	10.1	71
24	High-Gravity Carbonation Process for Enhancing CO <sub>2</sub> Fixation and Utilization Exemplified by the Steelmaking Industry. <i>Environmental Science &amp; Technology</i> , 2015, 49, 12380-12387.	10.0	71
25	Advances in state-of-art valorization technologies for captured CO <sub>2</sub> toward sustainable carbon cycle. <i>Critical Reviews in Environmental Science and Technology</i> , 2018, 48, 471-534.	12.8	70
26	High-gravity carbonation of basic oxygen furnace slag for CO <sub>2</sub> fixation and utilization in blended cement. <i>Journal of Cleaner Production</i> , 2016, 124, 350-360.	9.3	64
27	Towards carbon-neutral construction materials: Carbonation of cement-based materials and the future perspective. <i>Journal of Building Engineering</i> , 2020, 28, 101062.	3.4	64
28	Development of a Resin Wafer Electrodeionization Process for Impaired Water Desalination with High Energy Efficiency and Productivity. <i>ACS Sustainable Chemistry and Engineering</i> , 2017, 5, 2942-2948.	6.7	60
29	Kinetic modeling on CO <sub>2</sub> capture using basic oxygen furnace slag coupled with cold-rolling wastewater in a rotating packed bed. <i>Journal of Hazardous Materials</i> , 2013, 260, 937-946.	12.4	59
30	Systematic Approach to Determination of Maximum Achievable Capture Capacity via Leaching and Carbonation Processes for Alkaline Steelmaking Wastes in a Rotating Packed Bed. <i>Environmental Science &amp; Technology</i> , 2013, 47, 13677-13685.	10.0	58
31	A cross-disciplinary overview of naturally derived materials for electrochemical energy storage. <i>Materials Today Energy</i> , 2018, 7, 58-79.	4.7	58
32	Novel chitosan-based flocculants for chromium and nickle removal in wastewater via integrated chelation and flocculation. <i>Journal of Environmental Management</i> , 2019, 248, 109241.	7.8	56
33	Addressing environmental sustainability of plasma vitrification technology for stabilization of municipal solid waste incineration fly ash. <i>Journal of Hazardous Materials</i> , 2020, 398, 122959.	12.4	56
34	Integration of green and gray infrastructures for sponge city: Water and energy nexus. <i>Water-Energy Nexus</i> , 2020, 3, 29-40.	4.0	54
35	An Overview: Reaction Mechanisms and Modelling of CO <sub>2</sub> Utilization via Mineralization. <i>Aerosol and Air Quality Research</i> , 2018, 18, 829-848.	2.1	54
36	Engineering, environmental and economic performance evaluation of high-gravity carbonation process for carbon capture and utilization. <i>Applied Energy</i> , 2016, 170, 269-277.	10.1	53

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37	Performance evaluation of modified bioretention systems with alkaline solid wastes for enhanced nutrient removal from stormwater runoff. <i>Water Research</i> , 2019, 161, 61-73.	11.3	53
38	Challenges and Perspectives on Carbon Fixation and Utilization Technologies: An Overview. <i>Aerosol and Air Quality Research</i> , 2016, 16, 1327-1344.	2.1	52
39	Integrated CO <sub>2</sub> Fixation, Waste Stabilization, and Product Utilization via High-Gravity Carbonation Process Exemplified by Circular Fluidized Bed Fly Ash. <i>ACS Sustainable Chemistry and Engineering</i> , 2016, 4, 3045-3052.	6.7	52
40	Development of high-gravity technology for removing particulate and gaseous pollutant emissions: Principles and applications. <i>Journal of Cleaner Production</i> , 2017, 149, 540-556.	9.3	52
41	Enhanced corn-stover fermentation for biogas production by NaOH pretreatment with CaO additive and ultrasound. <i>Journal of Cleaner Production</i> , 2019, 238, 117813.	9.3	52
42	Non-conventional water reuse in agriculture: A circular water economy. <i>Water Research</i> , 2021, 199, 117193.	11.3	51
43	Accelerated carbonation using municipal solid waste incinerator bottom ash and cold-rolling wastewater: Performance evaluation and reaction kinetics. <i>Waste Management</i> , 2015, 43, 283-292.	7.4	47
44	Integration of Green Energy and Advanced Energy-Efficient Technologies for Municipal Wastewater Treatment Plants. <i>International Journal of Environmental Research and Public Health</i> , 2019, 16, 1282.	2.6	47
45	CO <sub>2</sub> Treatment of Hydrated Cement Powder: Characterization and Application Consideration. <i>Journal of Materials in Civil Engineering</i> , 2021, 33, .	2.9	46
46	Anaerobic co-digestion of agricultural wastes toward circular bioeconomy. <i>IScience</i> , 2021, 24, 102704.	4.1	46
47	Environmental Benefit Assessment for the Carbonation Process of Petroleum Coke Fly Ash in a Rotating Packed Bed. <i>Environmental Science &amp; Technology</i> , 2017, 51, 10674-10681.	10.0	43
48	Enhanced removal of tris(2-chloroethyl) phosphate using a resin-based nanocomposite hydrated iron oxide through a Fenton-like process: Capacity evaluation and pathways. <i>Water Research</i> , 2020, 175, 115655.	11.3	41
49	Deployment of Accelerated Carbonation Using Alkaline Solid Wastes for Carbon Mineralization and Utilization Toward a Circular Economy. <i>ACS Sustainable Chemistry and Engineering</i> , 2017, 5, 6429-6437.	6.7	40
50	Environmental benefit assessment of steel slag utilization and carbonation: A systematic review. <i>Science of the Total Environment</i> , 2022, 806, 150280.	8.0	40
51	Electrokinetic desalination of brackish water and associated challenges in the water and energy nexus. <i>Environmental Science: Water Research and Technology</i> , 2018, 4, 613-638.	2.4	39
52	Performance evaluation of integrated adsorption-nanofiltration system for emerging compounds removal: Exemplified by caffeine, diclofenac and octylphenol. <i>Journal of Environmental Management</i> , 2019, 231, 121-128.	7.8	39
53	The Role of Biochar in Regulating the Carbon, Phosphorus, and Nitrogen Cycles Exemplified by Soil Systems. <i>Sustainability</i> , 2021, 13, 5612.	3.2	39
54	Environmental impacts and benefits of organic Rankine cycle power generation technology and wood pellet fuel exemplified by electric arc furnace steel industry. <i>Applied Energy</i> , 2016, 183, 369-379.	10.1	36

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55	Optimization of resin wafer electrodeionization for brackish water desalination. Separation and Purification Technology, 2018, 194, 346-354.	7.9	35
56	Energy-efficient resin wafer electrodeionization for impaired water reclamation. Journal of Cleaner Production, 2018, 174, 1464-1474.	9.3	35
57	Systematic approach to evaluating environmental and ecological technologies for wastewater treatment. Chemosphere, 2019, 218, 778-792.	8.2	35
58	Comparative life cycle assessment to maximize CO2 sequestration of steel slag products. Construction and Building Materials, 2021, 298, 123876.	7.2	34
59	Validating carbonation parameters of alkaline solid wastes via integrated thermal analyses: Principles and applications. Journal of Hazardous Materials, 2016, 307, 253-262.	12.4	33
60	Multiple model approach to evaluation of accelerated carbonation for steelmaking slag in a slurry reactor. Chemosphere, 2016, 154, 63-71.	8.2	32
61	Addressing nitrogenous gases from croplands toward low-emission agriculture. Npj Climate and Atmospheric Science, 2022, 5, .	6.8	32
62	Mechanism of organic pollutants sorption from aqueous solution by cationic tunable organoclays. Journal of Colloid and Interface Science, 2018, 529, 90-99.	9.4	30
63	Development and deployment of integrated air pollution control, CO2 capture and product utilization via a high-gravity process: comprehensive performance evaluation. Environmental Pollution, 2019, 252, 1464-1475.	7.5	29
64	CO2 Capture by Using Blended Hydraulic Slag Cement via a Slurry Reactor. Aerosol and Air Quality Research, 2012, 12, 1433-1443.	2.1	28
65	Socioeconomic costs of replacing nuclear power with fossil and renewable energy in Taiwan. Energy, 2016, 114, 369-381.	8.8	27
66	Carbon Dioxide Mineralization and Utilization. , 2017, , .		26
67	Opportunities and challenges of electrochemical water treatment integrated with renewable energy at the water-energy nexus. Water-Energy Nexus, 2020, 3, 110-116.	4.0	26
68	Systematic approach to determination of optimum gas-phase mass transfer rate for high-gravity carbonation process of steelmaking slags in a rotating packed bed. Applied Energy, 2015, 148, 23-31.	10.1	25
69	Sustainable Recovery of Gaseous Mercury by Adsorption and Electrothermal Desorption Using Activated Carbon Fiber Cloth. Environmental Science & Technology, 2020, 54, 1857-1866.	10.0	24
70	A multiple model approach for evaluating the performance of time-lapse capsules in trapping heavy metals from water bodies. RSC Advances, 2020, 10, 16490-16501.	3.6	24
71	Impact of HCl and O2 on removal of elemental mercury by heat-treated activated carbon: Integrated X-ray analysis. Fuel Processing Technology, 2017, 167, 11-17.	7.2	23
72	Efficacy of carbonated petroleum coke fly ash as supplementary cementitious materials in cement mortars. Journal of Cleaner Production, 2018, 180, 689-697.	9.3	23

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73	Assessing the environmental impacts and water consumption of pretreatment and conditioning processes of corn stover hydrolysate liquor in biorefineries. <i>Energy</i> , 2016, 116, 436-444.	8.8	22
74	CO <sub>2</sub> Mineralization and Utilization Using Various Calcium-Containing Wastewater and Refining Slag via a High-Gravity Carbonation Process. <i>Industrial &amp; Engineering Chemistry Research</i> , 2020, 59, 7140-7150.	3.7	21
75	Comparative Life Cycle Assessment (LCA) of Accelerated Carbonation Processes Using Steelmaking Slag for CO <sub>2</sub> Fixation. <i>Aerosol and Air Quality Research</i> , 2014, 14, 892-904.	2.1	19
76	Carbonation and utilization of basic oxygen furnace slag coupled with concentrated water from electrodeionization. <i>Journal of CO<sub>2</sub> Utilization</i> , 2018, 25, 46-55.	6.8	18
77	Advances in Circular Bioeconomy Technologies: From Agricultural Wastewater to Value-Added Resources. <i>Environments - MDPI</i> , 2021, 8, 20.	3.3	17
78	Development of Low-Carbon-Driven Bio-product Technology Using Lignocellulosic Substrates from Agriculture: Challenges and Perspectives. <i>Current Sustainable/Renewable Energy Reports</i> , 2015, 2, 145-154.	2.6	16
79	Advances and challenges of implementing carbon offset mechanism for a low carbon economy: The Taiwanese experience. <i>Journal of Cleaner Production</i> , 2019, 239, 117860.	9.3	16
80	Performance evaluation of integrated air pollution control with alkaline waste valorization via high-gravity technology. <i>Journal of the Taiwan Institute of Chemical Engineers</i> , 2018, 87, 165-173.	5.3	13
81	Toward Greener and More Sustainable Manufacture of Bauxite-Derived Adsorbents for Water Defluoridation. <i>ACS Sustainable Chemistry and Engineering</i> , 2019, 7, 18323-18331.	6.7	13
82	Mechanistic insight into mineral carbonation and utilization in cement-based materials at solid-liquid interfaces. <i>RSC Advances</i> , 2019, 9, 31052-31061.	3.6	12
83	An engineering-environmental-economic-energy assessment for integrated air pollutants reduction, CO <sub>2</sub> capture and utilization exemplified by the high-gravity process. <i>Journal of Environmental Management</i> , 2020, 255, 109870.	7.8	12
84	Process Intensification of Steel Slag Carbonation via a Rotating Packed Bed: Reaction Kinetics and Mass Transfer. <i>Energy Procedia</i> , 2014, 63, 2255-2260.	1.8	11
85	Development and Deployment of Green Technologies for Sustainable Environment. <i>Environments - MDPI</i> , 2019, 6, 114.	3.3	11
86	Composition-oriented estimation of biogas production from major culinary wastes in an anaerobic bioreactor and its associated CO <sub>2</sub> reduction potential. <i>Bioresource Technology</i> , 2020, 318, 124045.	9.6	10
87	Contribution of sewage to occurrence of phosphodiesterase-5 inhibitors in natural water. <i>Scientific Reports</i> , 2021, 11, 9470.	3.3	10
88	Removal of fine particles from IC chip carbonization process in a rotating packed bed: Modeling and assessment. <i>Chemosphere</i> , 2020, 238, 124600.	8.2	9
89	Kinetics of competitive cometabolism under aerobic conditions. <i>Water-Energy Nexus</i> , 2020, 3, 62-70.	4.0	9
90	Mercury vapor adsorption and sustainable recovery using novel electrothermal swing system with gold-electrodeposited activated carbon fiber cloth. <i>Journal of Hazardous Materials</i> , 2021, 410, 124586.	12.4	8

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91	Performance Evaluation of Cascade Separation for a Humic Substance and Nutrient Recovery from Piggery Wastewater toward a Circular Bioeconomy. ACS Sustainable Chemistry and Engineering, 2021, 9, 8115-8124.	6.7	8
92	Iron and Steel Slags. , 2017, , 233-252.		8
93	Post-combustion Carbon Capture, Storage, and Utilization. , 2017, , 9-34.		6
94	Performance Evaluation of Aqueous Carbonation for Steelmaking Slag: Process Chemistry. Energy Procedia, 2013, 37, 115-121.	1.8	5
95	Establishment of an Automatic Real-Time Monitoring System for Irrigation Water Quality Management. International Journal of Environmental Research and Public Health, 2020, 17, 737.	2.6	5
96	CO <sub>2</sub> Mineralization and Utilization via Accelerated Carbonation. , 2017, , 35-49.		5
97	Carboxylic Acid fâ€MWCNT/Graphite and Safranin O/Graphite Based Voltammetric Sensors for Norfloxacin Detection. Electroanalysis, 2023, 35, .	2.9	5
98	Comprehensive performance evaluation of plasma vitrification for detoxification and valorization of residual wastes. Critical Reviews in Environmental Science and Technology, 2023, 53, 527-549.	12.8	4
99	System Optimization. , 2017, , 403-439.		3
100	Systematic approach to source-sink apportionment of copper in paddy fields: Experimental observation, dynamic modeling and prevention strategy. Journal of Hazardous Materials, 2021, 417, 126045.	12.4	2
101	Fly Ash, Bottom Ash, and Dust. , 2017, , 253-264.		2
102	Carbonation Mechanisms and Modelling. , 2017, , 127-158.		1
103	Utilization of Carbonation Products. , 2017, , 277-292.		1
104	System Analysis. , 2017, , 187-217.		1
105	Application of Mass Transfer Models in Environmental Engineering. , 0, , .		0
106	CO <sub>2</sub> Mineralization and Utilization by a High-Gravity Carbonation Process: Past, Present, and Future. ACS Symposium Series, 2018, , 97-104.	0.5	0
107	Integrated Wastewater Treatment with Steel Slags Stabilization and CO <sub>2</sub> Fixation via High-gravity Carbonation Process. Proceedings of the Water Environment Federation, 2015, 2015, 1-6.	0.0	0
108	Supplementary Cementitious Materials (SCMs) in Cement Mortar. , 2017, , 293-325.		0

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109	Aggregates and High Value Products. , 2017, , 327-334.		0
110	Waste-to-Resource (WTR) Green Supply Chain. , 2017, , 361-401.		0
111	Applications of Carbonation Technologies. , 2017, , 159-185.		0
112	Analytical Methods for Carbonation Material. , 2017, , 97-126.		0
113	Principles of Accelerated Carbonation Reaction. , 2017, , 71-96.		0
114	Carbon Capture with Flue Gas Purification. , 2017, , 337-359.		0
115	Paper Industry, Construction, and Mining Process Wastes. , 2017, , 265-274.		0
116	Development of Advanced Electrokinetic Process for Brackish Water Desalination. ECS Meeting Abstracts, 2018, , .	0.0	0
117	Evaluation of the dual-process approach for <i>in-situ</i> groundwater arsenic removal. Environmental Technology (United Kingdom), 2024, 45, 129-143.	2.2	0