Jie Xiao

List of Publications by Year in descending order

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74	1,105	430442	500791
papers	citations	18	28
		h-index	g-index

76	76	76	961
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	CFDâ€“DEM modeling of gasâ€“solid flow and catalytic MTO reaction in a fluidized bed reactor. Computers and Chemical Engineering, 2014, 60, 1-16.	2.0	86
2	Increasing the Efficiency of Photocatalytic Reactions via Surface Microenvironment Engineering. Journal of the American Chemical Society, 2020, 142, 2738-2743.	6.6	84
3	Design of Anti-Icing Coatings Using Supercooled Droplets As Nano-to-Microscale Probes. Langmuir, 2012, 28, 4434-4446.	1.6	62
4	Filtered model for the cold-model gasâ€“solid flow in a large-scale MTO fluidized bed reactor. Chemical Engineering Science, 2016, 143, 369-383.	1.9	57
5	As(V) and Sb(V) co-adsorption onto ferrihydrite: synergistic effect of Sb(V) on As(V) under competitive conditions. Environmental Science and Pollution Research, 2018, 25, 14585-14594.	2.7	48
6	Effects of Edge Functional Groups on Water Transport in Graphene Oxide Membranes. ACS Applied Materials & Interfaces, 2019, 11, 8483-8491.	4.0	36
7	Detailed numerical analysis of evaporation of a micrometer water droplet suspended on a glass filament. Chemical Engineering Science, 2017, 165, 33-47.	1.9	28
8	Mixing in a soft-elastic reactor (SER) characterized using an RGB based image analysis method. Chemical Engineering Science, 2018, 181, 272-285.	1.9	25
9	On the importance of droplet shrinkage in CFD-modeling of spray drying. Drying Technology, 2018, 36, 1785-1801.	1.7	25
10	Towards predictive modeling of crystallization fouling: A pseudo-dynamic approach. Food and Bioproducts Processing, 2015, 93, 188-196.	1.8	23
11	On the effect of turbulence models on CFD simulations of a counter-current spray drying process. Chemical Engineering Research and Design, 2019, 141, 592-607.	2.7	23
12	A Softâ€Elastic Reactor Inspired by the Animal Upper Digestion Tract. Chemical Engineering and Technology, 2018, 41, 1051-1056.	0.9	22
13	ACSâ€“based dynamic optimization for curing of polymeric coating. AICHE Journal, 2006, 52, 1410-1422.	1.8	21
14	Integrated process and product analysis: A multiscale approach to paint spray. AICHE Journal, 2007, 53, 2841-2857.	1.8	21
15	Multiscale modeling for surface composition of sprayâ€dried twoâ€component powders. AICHE Journal, 2014, 60, 2416-2427.	1.8	20
16	How motility can enhance mass transfer and absorption in the duodenum: Taking the structure of the villi into account. Chemical Engineering Science, 2020, 213, 115406.	1.9	20
17	Identification of regions in a spray dryer susceptible to forced agglomeration by CFD simulations. Powder Technology, 2019, 346, 23-37.	2.1	19
18	Mixing in a softâ€elastic reactor (SER): A simulation study. Canadian Journal of Chemical Engineering, 2019, 97, 676-686.	0.9	19

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19	Relationship between Desalination Performance of Graphene Oxide Membranes and Edge Functional Groups. ACS Applied Materials & Interfaces, 2020, 12, 4769-4776.	4.0	19
20	The role of circular folds in mixing intensification in the small intestine: A numerical study. Chemical Engineering Science, 2021, 229, 116079.	1.9	19
21	Direct concurrent multi-scale CFD modeling: The effect of intraparticle transfer on the flow field in a MTO FBR. Chemical Engineering Science, 2013, 104, 690-700.	1.9	18
22	Computational Study of Single Droplet Deposition on Randomly Rough Surfaces: Surface Morphological Effect on Droplet Impact Dynamics. Industrial & Engineering Chemistry Research, 2018, 57, 7664-7675.	1.8	17
23	The impact of self-sustained oscillations on particle residence time in a commercial scale spray dryer. Powder Technology, 2020, 360, 1177-1191.	2.1	17
24	Computational Design of Polymer Nanocomposite Coatings: A Multiscale Hierarchical Approach for Barrier Property Prediction. Industrial & Engineering Chemistry Research, 2010, 49, 7718-7727.	1.8	16
25	Intraparticle Mass and Heat Transfer Modeling of Methanol to Olefins Process on SAPO-34: A Single Particle Model. Industrial & Engineering Chemistry Research, 2013, 52, 3693-3707.	1.8	15
26	Three-Dimensional Numerical Investigation of a Mono-Disperse Droplet Spray Dryer: Validation Aspects and Multi-Physics Exploration. Drying Technology, 2015, 33, 742-756.	1.7	15
27	Homogenization of liquids inside a new soft elastic reactor: Revealing mixing behavior through dimensional analysis. Chemical Engineering Science, 2018, 192, 1071-1080.	1.9	15
28	Numerical simulation of the mixing process in a soft elastic reactor with bionic contractions. Chemical Engineering Science, 2020, 220, 115623.	1.9	14
29	A probability distribution estimation based method for dynamic optimization. AICHE Journal, 2007, 53, 1805-1816.	1.8	13
30	Mixing and emptying of gastric contents in human-stomach: A numerical study. Journal of Biomechanics, 2021, 118, 110293.	0.9	13
31	Cure-Window-Based Proactive Quality Control in Topcoat Curing. Industrial & Engineering Chemistry Research, 2006, 45, 2351-2360.	1.8	12
32	Microstructureâ€“propertyâ€“qualityâ€correlated paint design: An LMCâ€based approach. AICHE Journal, 2009, 55, 132-149.	1.8	12
33	An effective rate approach to modeling singleâ€stage spray drying. AICHE Journal, 2015, 61, 4140-4151.	1.8	12
34	Numerical simulation of milk fouling: Taking fouling layer domain and localized surface reaction kinetics into account. Chemical Engineering Science, 2019, 197, 306-316.	1.9	12
35	Recent initiatives in effective modeling of spray drying. Drying Technology, 2021, 39, 1614-1647.	1.7	12
36	Comparison of the effects of edge functionalized graphene oxide membranes on monovalent cation selectivity. Journal of Membrane Science, 2021, 620, 118892.	4.1	11

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37	Numerical investigation of droplet pre-dispersion in a monodisperse droplet spray dryer. Particuology, 2018, 38, 44-60.	2.0	10
38	Numerical simulation of mono-disperse droplet spray dryer under the influence of nozzle motion. Powder Technology, 2019, 355, 93-105.	2.1	10
39	Mechanistic exploration of glycemic lowering by soluble dietary fiber ingestion: Predictive modeling and simulation. Chemical Engineering Science, 2020, 228, 115965.	1.9	10
40	Precise patterning of single crystal arrays of organic semiconductors by a patterned microchannel dip-coating method for organic field-effect transistors. Journal of Materials Chemistry C, 2021, 9, 5174-5181.	2.7	10
41	Numerical Simulation of Crystallization Fouling: Taking into Account Fouling Layer Structures. Heat Transfer Engineering, 2017, 38, 775-785.	1.2	9
42	Predicting the Mixing Time of Soft Elastic Reactors: Physical Models and Empirical Correlations. Industrial & Engineering Chemistry Research, 2020, 59, 6258-6268.	1.8	9
43	Analyzing industrial CVD reactors using a porous media approach. Chemical Engineering Journal, 2021, 415, 129038.	6.6	9
44	Waferâ€Scale Growth of Aligned C₆₀ Single Crystals via Solutionâ€Phase Epitaxy for Highâ€Performance Transistors. Advanced Functional Materials, 2021, 31, 2105459.	7.8	9
45	NEURAL NETWORKâ€“BASED MODELING AND OPTIMIZATION FOR EFFECTIVE VEHICLE EMISSION TESTING AND ENGINE CALIBRATION. Chemical Engineering Communications, 2008, 195, 706-720.	1.5	8
46	An Improved Calculation Procedure on Surface Composition of Spray-Dried Protein-Sugar Two-Component Systems. Drying Technology, 2015, 33, 817-821.	1.7	8
47	Multiscale modeling for nanoscale surface composition of spray-dried powders: The effect of initial droplet size. Drying Technology, 2016, 34, 1063-1072.	1.7	8
48	Numerical simulation of mono-disperse droplet spray dryer: Coupling distinctively different sized chambers. Chemical Engineering Science, 2019, 200, 12-26.	1.9	8
49	Computationally inexpensive simulation of agglomeration in spray drying while preserving structure related information using CFD. Powder Technology, 2020, 372, 372-393.	2.1	8
50	Breakup behavior of a shear-thinning droplet on randomly rough surfaces: A numerical study. Chemical Engineering Science, 2022, 247, 117071.	1.9	7
51	Proactive product quality control: An integrated product and process control approach to MIMO systems. Chemical Engineering Journal, 2009, 149, 435-446.	6.6	6
52	Effects of FluorolinkÂ® S10 surface coating on WPC fouling of stainless steel surfaces and subsequent cleaning. Food and Bioproducts Processing, 2019, 118, 130-138.	1.8	6
53	Integrated product and process control of Single-Input-Single-Output systems. AICHE Journal, 2007, 53, 891-901.	1.8	5
54	Multiscale Modeling and Optimization of Nanoclearcoat Curing for Energy Efficient and Quality Assured Coating Manufacturing. Industrial & Engineering Chemistry Research, 2016, 55, 3351-3359.	1.8	5

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55	Multi-Peptide Adsorption on Uncharged Solid Surfaces: A Coarse-Grained Simulation Study. Engineering, 2020, 6, 186-195.	3.2	5
56	Technology Integration for Sustainable Manufacturing: An Applied Study on Integrated Profitable Pollution Prevention in Surface Finishing Systems. Industrial & Engineering Chemistry Research, 2012, 51, 11434-11444.	1.8	4
57	Further understanding of the biased diffusion for peptide adsorption on uncharged solid surfaces that strongly interact with water molecules. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2017, 518, 197-207.	2.3	4
58	A systematic investigation of the fouling induction phenomena with artificial crystal structures and distributions. Chemical Engineering Science, 2017, 168, 137-155.	1.9	4
59	Deep neural network for generalizing and forecasting on-demand drying kinetics of droplet solutions. Powder Technology, 2022, 403, 117392.	2.1	4
60	Multiscale Characterization of Automotive Surface Coating Formation for Sustainable Manufacturing. Chinese Journal of Chemical Engineering, 2008, 16, 416-423.	1.7	3
61	Design of Sustainable Multifunctional Nanocoatings: A Goal-driven Multiscale Systems Approach. Chinese Journal of Chemical Engineering, 2011, 19, 666-673.	1.7	3
62	Single- and Dual-Stream Foam Fractionation of Protein â€“ Exploring a Simple and Effective System to Improve Fundamental Understanding. International Journal of Food Engineering, 2019, 15, .	0.7	3
63	How eyelashes can protect the eye through inhibiting ocular water evaporation: a chemical engineering perspective. Journal of the Royal Society Interface, 2019, 16, 20190425.	1.5	3
64	Vaporization and particle formation during drying of multisolvent droplet without and with antisolvent-vapor infusion. Chemical Engineering Science, 2020, 219, 115617.	1.9	3
65	A reference-component coordinate system approach to model the mass transfer of a droplet with binary volatiles. Drying Technology, 2023, 41, 202-221.	1.7	3
66	Mixing intensification with soft-elastic baffle (SEB) in a soft-elastic reactor (SER). Chemical Engineering and Processing: Process Intensification, 2022, 180, 108764.	1.8	3
67	Understanding hydrotropism: A chemical engineering perspective. AICHE Journal, 2016, 62, 1331-1346.	1.8	2
68	Numerical probing of suspended lactose droplet drying experiment. Journal of Food Engineering, 2019, 254, 51-63.	2.7	2
69	Simulation based investigation of 2D soft-elastic reactors for better mixing performance. Engineering Applications of Computational Fluid Mechanics, 2021, 15, 1229-1242.	1.5	2
70	A simulation study on expansion of a small intestine model reactor. Chemical Engineering Research and Design, 2022, 178, 369-381.	2.7	2
71	Understanding the formation of ultrafine maltodextrin particles under simultaneous convective drying and antisolvent vapour precipitation. Advanced Powder Technology, 2022, 33, 103440.	2.0	2
72	Integrated multiscale product and process control of polymeric coating curing. Chemical Engineering Journal, 2010, 161, 269-275.	6.6	1

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73	Towards Nanomaterial Design Automation: Hierarchical Computational Architecture Development. Computer Aided Chemical Engineering, 2009, , 81-86.	0.3	0
74	Understanding the impact of convective ethanol humidity on the precipitation behaviour of dissolved lactose in a water droplet. Chemical Engineering Science, 2022, 254, 117616.	1.9	0