

Jyeshtharaj B Joshi

List of Publications by Year in descending order

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138
papers

6,886
citations

71102

41
h-index

69250

77
g-index

139
all docs

139
docs citations

139
times ranked

5179
citing authors

#	ARTICLE	IF	CITATIONS
1	Bubble Formation and Bubble Rise Velocity in Gas-Liquid Systems: A Review. Industrial & Engineering Chemistry Research, 2005, 44, 5873-5931.	3.7	613
2	Catalytic carbon dioxide hydrogenation to methanol: A review of recent studies. Chemical Engineering Research and Design, 2014, 92, 2557-2567.	5.6	484
3	CFD simulation of bubble column—An analysis of interphase forces and turbulence models. Chemical Engineering Journal, 2008, 139, 589-614.	12.7	298
4	Effect of impeller design on the flow pattern and mixing in stirred tanks. Chemical Engineering Journal, 2006, 115, 173-193.	12.7	255
5	CFD simulation of stirred tanks: Comparison of turbulence models. Part I: Radial flow impellers. Canadian Journal of Chemical Engineering, 2011, 89, 23-82.	1.7	159
6	Lipase-Catalyzed Esterification. Catalysis Reviews - Science and Engineering, 2000, 42, 439-480.	12.9	147
7	Petroleum Residue Upgradation via Visbreaking: A Review. Industrial & Engineering Chemistry Research, 2008, 47, 8960-8988.	3.7	142
8	Petroleum Residue Upgrading Via Delayed Coking: A Review. Canadian Journal of Chemical Engineering, 2007, 85, 1-24.	1.7	139
9	Droplet impact dynamics on a spherical particle. Chemical Engineering Science, 2013, 100, 105-119.	3.8	122
10	Characterization of flow phenomena induced by ultrasonic horn. Chemical Engineering Science, 2006, 61, 7410-7420.	3.8	120
11	CFD simulations of bubble column reactors: 1D, 2D and 3D approach. Chemical Engineering Science, 2005, 60, 6733-6746.	3.8	117
12	CFD analysis of flow pattern and heat transfer in direct contact steam condensation. Chemical Engineering Science, 2006, 61, 5204-5220.	3.8	115
13	Fluidized bed synthesis of carbon nanotubes — A review. Chemical Engineering Journal, 2011, 171, 841-869.	12.7	112
14	Liquid-Phase Mixing in Stirred Vessels: A Turbulent Flow Regime. Industrial & Engineering Chemistry Research, 2003, 42, 2661-2698.	3.7	108
15	Critical impeller speed for solid suspension in mechanically agitated three-phase reactors. 1. Experimental part. Industrial & Engineering Chemistry Research, 1991, 30, 1770-1784.	3.7	103
16	Relation between Flow Pattern and Blending in Stirred Tanks. Industrial & Engineering Chemistry Research, 1999, 38, 3131-3143.	3.7	102
17	CFD simulation of stirred tanks: Comparison of turbulence models (Part II: Axial flow impellers,) Tj ETQq1 1 0.784314 rgBT /Overlock 10 754-816.	1.7	98
18	Analysis of flow through an orifice meter: CFD simulation. Chemical Engineering Science, 2012, 71, 300-309.	3.8	96

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19	Computational Fluid Dynamics for Designing Process Equipment:Â Expectations, Current Status, and Path Forward. Industrial & Engineering Chemistry Research, 2003, 42, 1115-1128.	3.7	95
20	Petroleum coke gasification: A review. Canadian Journal of Chemical Engineering, 2014, 92, 441-468.	1.7	95
21	Advanced PIV/LIF and shadowgraphy system to visualize flow structure in two-phase bubbly flows. Chemical Engineering Science, 2010, 65, 2431-2442.	3.8	84
22	CFD modeling of solidâ€liquid fluidized beds of mono and binary particle mixtures. Chemical Engineering Science, 2009, 64, 3641-3658.	3.8	79
23	Application of multiresolution analysis for simultaneous measurement of gas and liquid velocities and fractional gas hold-up in bubble column using LDA. Chemical Engineering Science, 2001, 56, 5037-5048.	3.8	77
24	Studies on the lipozyme-catalyzed synthesis of butyl laurate. Biotechnology and Bioengineering, 1995, 46, 1-12.	3.3	76
25	Investigation of flow and temperature patterns in direct contact condensation using PIV, PLIF and CFD. Chemical Engineering Science, 2010, 65, 4606-4620.	3.8	74
26	CFD simulations of shell-side flow in a shell-and-tube type heat exchanger with and without baffles. Chemical Engineering Science, 2016, 143, 314-340.	3.8	70
27	Analysis of flow pattern and heat transfer in direct contact condensation. Chemical Engineering Science, 2009, 64, 1719-1738.	3.8	65
28	Design of Gas-Inducing Reactors. Industrial & Engineering Chemistry Research, 1999, 38, 49-80.	3.7	64
29	CFD Simulation of Bubble Column Reactor Using Population Balance. Industrial & Engineering Chemistry Research, 2008, 47, 8505-8516.	3.7	64
30	CFD modeling of pressure drop and drag coefficient in fixed and expanded beds. Chemical Engineering Research and Design, 2008, 86, 444-453.	5.6	63
31	CFD modeling of pressure drop and drag coefficient in fixed beds: Wall effects. Particuology, 2010, 8, 37-43.	3.6	59
32	Specificity of a lipase in ester synthesis: effect of alcohol. Biotechnology Progress, 1995, 11, 282-287.	2.6	55
33	Dynamics of Flow Structures and Transport Phenomena, 1. Experimental and Numerical Techniques for Identification and Energy Content of Flow Structures. Industrial & Engineering Chemistry Research, 2009, 48, 8244-8284.	3.7	55
34	Segregation and dispersion of binary solids in liquid fluidised beds: A CFD-DEM study. Chemical Engineering Science, 2016, 152, 65-83.	3.8	53
35	Analysis of dominant flow structures and their flow dynamics in chemical process equipment using snapshot proper orthogonal decomposition technique. Chemical Engineering Science, 2008, 63, 3695-3715.	3.8	51
36	CFD simulation for steam distribution in header and tube assemblies. Chemical Engineering Research and Design, 2012, 90, 487-506.	5.6	51

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37	Development of support vector regression (SVR)-based correlation for prediction of overall gas hold-up in bubble column reactors for various gas-liquid systems. Chemical Engineering Science, 2007, 62, 7078-7089.	3.8	49
38	Computational fluid dynamic modelling of FCC riser: A review. Chemical Engineering Research and Design, 2016, 111, 403-448.	5.6	49
39	Bubble generated turbulence and direct numerical simulations. Chemical Engineering Science, 2017, 157, 26-75.	3.8	45
40	Liquid phase axial mixing in solid-liquid circulating multistage fluidized bed: CFD modeling and RTD measurements. Chemical Engineering Journal, 2012, 191, 475-490.	12.7	42
41	Stability analysis in solid-liquid fluidized beds: Experimental and computational. Chemical Engineering Journal, 2014, 256, 169-186.	12.7	42
42	Kinetic Studies of Low Severity Visbreaking. Industrial & Engineering Chemistry Research, 2004, 43, 1373-1387.	3.7	41
43	Residence Time Distribution and Flow Patterns in the Single-Phase Annular Region of Annular Centrifugal Extractor. Industrial & Engineering Chemistry Research, 2009, 48, 37-46.	3.7	41
44	Bubbles in viscous liquids: Time dependent behaviour and wake characteristics. Chemical Engineering Science, 2016, 144, 298-309.	3.8	41
45	Gas Inducing Type Mechanically Agitated Contactors. Industrial & Engineering Chemistry Research, 1994, 33, 2226-2241.	3.7	40
46	Design and selection of sparger for bubble column reactor. Part I: Performance of different spargers. Chemical Engineering Research and Design, 2011, 89, 1972-1972.	5.6	40
47	Interactions in droplet and particle system of near unity size ratio. Chemical Engineering Science, 2017, 170, 154-175.	3.8	40
48	Determination of bubble size distributions in bubble columns using LDA. AIChE Journal, 2004, 50, 3068-3084.	3.6	38
49	Identification and characterization of flow structures in chemical process equipment using multiresolution techniques. Chemical Engineering Science, 2008, 63, 5330-5346.	3.8	38
50	Estimation of heat transfer coefficient in bubble column reactors using support vector regression. Chemical Engineering Journal, 2010, 160, 302-310.	12.7	38
51	Mass-Transfer Characteristics of Surface Aerators and Gas-Inducing Impellers. Industrial & Engineering Chemistry Research, 2004, 43, 2765-2774.	3.7	37
52	Two phase natural convection: CFD simulations and PIV measurement. Chemical Engineering Science, 2011, 66, 3152-3171.	3.8	37
53	Fluidized bed synthesis of carbon nanotubes: Reaction mechanism, rate controlling step and overall rate of reaction. AIChE Journal, 2014, 60, 2882-2892.	3.6	37
54	Comparison of turbulence models for bubble column reactors. Chemical Engineering Science, 2017, 164, 34-52.	3.8	37

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55	Simulation of Flow in Stirred Vessels with Axial Flow Impellers: Effects of Various Numerical Schemes and Turbulence Model Parameters. Industrial & Engineering Chemistry Research, 1995, 34, 626-639.	3.7	36
56	Optimization of non-evacuated receiver of solar collector having non-uniform temperature distribution for minimum heat loss. Energy Conversion and Management, 2014, 85, 70-84.	9.2	35
57	Effect of Internals on the Flow Pattern and Mixing in Stirred Tanks. Industrial & Engineering Chemistry Research, 2005, 44, 9951-9961.	3.7	34
58	Computational and experimental fluid dynamics of jet loop reactor. AIChE Journal, 2009, 55, 2526-2544.	3.6	34
59	Forces acting on a single introduced particle in a solid-liquid fluidised bed. Chemical Engineering Science, 2014, 116, 49-70.	3.8	34
60	Flow past a single stationary sphere, 2. Regime mapping and effect of external disturbances. Powder Technology, 2020, 365, 215-243.	4.2	34
61	Simultaneous measurement of hold-up profiles and interfacial area using LDA in bubble columns: predictions by multiresolution analysis and comparison with experiments. Chemical Engineering Science, 2001, 56, 6437-6445.	3.8	33
62	Gas-Inducing-Type Mechanically Agitated Contactors: Hydrodynamic Characteristics of Multiple Impellers. Industrial & Engineering Chemistry Research, 1995, 34, 2499-2514.	3.7	32
63	Stability analysis of bubble columns: Predictions for regime transition. Chemical Engineering Science, 2005, 60, 4493-4507.	3.8	32
64	Laser Doppler Anemometer Measurements in Bubble Column: Effect of Sparger. Industrial & Engineering Chemistry Research, 2006, 45, 9201-9207.	3.7	32
65	Computational Fluid Dynamics Simulation and Experimental Investigation: Study of Two-Phase Liquid-Liquid Flow in a Vertical Taylor-Couette Contactor. Industrial & Engineering Chemistry Research, 2010, 49, 14-28.	3.7	32
66	Study of crystallization and morphology of ammonium diuranate and uranium oxide. Journal of Nuclear Materials, 2012, 424, 94-100.	2.7	32
67	Comparison of $k\epsilon$, RSM and LES models for the prediction of flow pattern in jet loop reactor. Chemical Engineering Science, 2015, 127, 323-333.	3.8	32
68	Design of stirred vessels with gas entrained from free liquid surface. Canadian Journal of Chemical Engineering, 1998, 76, 339-364.	1.7	31
69	Design of ring and spider type spargers for bubble column reactor: Experimental measurements and CFD simulation of flow and weeping. Chemical Engineering Research and Design, 2009, 87, 1612-1630.	5.6	31
70	Dynamics of Flow Structures and Transport Phenomena, 2. Relationship with Design Objectives and Design Optimization. Industrial & Engineering Chemistry Research, 2009, 48, 8285-8311.	3.7	31
71	Optimisation of vertical axis wind turbine: CFD simulations and experimental measurements. Canadian Journal of Chemical Engineering, 2012, 90, 1186-1201.	1.7	29
72	Reduction in thermal stratification in two phase natural convection in rectangular tanks: CFD simulations and PIV measurements. Chemical Engineering Science, 2013, 100, 300-325.	3.8	29

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73	Role of sparger design in mechanically agitated gas-liquid reactors. Part I: Power consumption. Chemical Engineering and Technology, 1991, 14, 333-347.	1.5	28
74	Wavelet transform of velocity-time data for the analysis of turbulent structures in a bubble column. Chemical Engineering Science, 2001, 56, 5305-5315.	3.8	27
75	Use of ultrasound in petroleum residue upgradation. Canadian Journal of Chemical Engineering, 2009, 87, 329-342.	1.7	26
76	Axial mixing in annular centrifugal extractors. Chemical Engineering Journal, 2012, 207-208, 462-472.	12.7	26
77	3D CFD simulation of air cooled condenser-I: Natural convection over a circular cylinder. International Journal of Heat and Mass Transfer, 2014, 78, 1265-1283.	4.8	26
78	Power Consumption in Gas-Inducing-Type Mechanically Agitated Contactors. Industrial & Engineering Chemistry Research, 1996, 35, 1583-1602.	3.7	25
79	Simultaneous measurement of flow pattern and mass transfer coefficient in bubble columns. Chemical Engineering Science, 2004, 59, 271-281.	3.8	25
80	Numerical investigation of three-dimensional natural circulation phenomenon in passive safety systems for decay heat removal in large pools. International Journal of Heat and Mass Transfer, 2015, 81, 659-680.	4.8	24
81	Particle-liquid mass transfer in solid-liquid fluidized beds. Chemical Engineering Journal, 2014, 245, 323-341.	12.7	23
82	CFD Simulation of Residence Time Distribution and Mixing in Bubble Column Reactors. Canadian Journal of Chemical Engineering, 2003, 81, 669-676.	1.7	22
83	Analysis of Particle Segregation and Intermixing in Solid-Liquid Fluidized Beds. Industrial & Engineering Chemistry Research, 2008, 47, 8458-8470.	3.7	22
84	Effect of impeller design and power consumption on crystal size distribution. AIChE Journal, 2014, 60, 3596-3613.	3.6	22
85	Segregation and dispersion studies in binary solid-liquid fluidised beds: A theoretical and computational study. Powder Technology, 2017, 314, 400-411.	4.2	22
86	Development of Correlations for Overall Gas Hold-up, Volumetric Mass Transfer Coefficient, and Effective Interfacial Area in Bubble Column Reactors Using Hybrid Genetic Algorithm-Support Vector Regression Technique: Viscous Newtonian and Non-Newtonian Liquids. Industrial & Engineering Chemistry Research, 2009, 48, 9631-9654.	3.7	21
87	Investigation of flow structures and transport phenomena in bubble columns using particle image velocimetry and miniature pressure sensors. Chemical Engineering Science, 2011, 66, 3087-3107.	3.8	21
88	Expansion behaviour of a binary solid-liquid fluidised bed with different solid mass ratio. Advanced Powder Technology, 2017, 28, 3111-3129.	4.1	21
89	Computational fluid dynamics. , 2019, , 21-238.		21
90	Development of Efficient Designs of Cooking Systems. II. Computational Fluid Dynamics and Optimization. Industrial & Engineering Chemistry Research, 2012, 51, 1897-1922.	3.7	20

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91	Effect of turbulence on particle and bubble slip velocity. Chemical Engineering Science, 2013, 100, 120-136.	3.8	20
92	Computational Fluid Dynamics Study of Biomass Cook Stoveâ€™Part 1: Hydrodynamics and Homogeneous Combustion. Industrial & Engineering Chemistry Research, 2020, 59, 4161-4176.	3.7	20
93	Modeling Flow Pattern Induced by Ultrasound:Â The Influence of Modeling Approach and Turbulence Models. Industrial & Engineering Chemistry Research, 2007, 46, 2936-2950.	3.7	19
94	A hybridized snapshot proper orthogonal decomposition-discrete wavelet transform technique for the analysis of flow structures and their time evolution. Chemical Engineering Science, 2009, 64, 4319-4340.	3.8	19
95	Experimental and computational fluid dynamic study of reacting gas jet in liquid: Flow pattern and heat transfer. Chemical Engineering Science, 2010, 65, 827-849.	3.8	19
96	Study of two phase thermal stratification in cylindrical vessels: CFD simulations and PIV measurements. Chemical Engineering Science, 2013, 98, 125-151.	3.8	19
97	Numerical study of heat loss from a non-evacuated receiver of a solar collector. Energy Conversion and Management, 2014, 78, 617-626.	9.2	19
98	Effect of Flow Structures on Heat Transfer in Single and Multiphase Jet Reactors. Industrial & Engineering Chemistry Research, 2009, 48, 9428-9440.	3.7	18
99	Role of sparger design in mechanically agitated gas-liquid reactors. Part II: Liquid phase mixing. Chemical Engineering and Technology, 1991, 14, 386-393.	1.5	17
100	Hydrodynamics of a Stirred Vessel Equipped with a Gas-Inducing Impeller. Industrial & Engineering Chemistry Research, 1997, 36, 3904-3914.	3.7	17
101	Direct numerical simulations of a freely falling sphere using fictitious domain method: Breaking of axisymmetric wake. Chemical Engineering Science, 2010, 65, 2159-2171.	3.8	17
102	Hydrodynamic and heat transfer characteristics of a centrally heated cylindrical enclosure: CFD simulations and experimental measurements. Chemical Engineering Research and Design, 2011, 89, 2024-2037.	5.6	17
103	CFD simulation and comparison of industrial crystallizers. Canadian Journal of Chemical Engineering, 2014, 92, 2138-2156.	1.7	17
104	3D CFD simulations to study the effect of inclination of condenser tube on natural convection and thermal stratification in a passive decay heat removal system. Nuclear Engineering and Design, 2016, 305, 582-603.	1.7	17
105	Effect of Schmidt number and D/d ratio on mass transfer through gas-solid and liquid-solid packed beds: Direct numerical simulations. Powder Technology, 2019, 354, 529-539.	4.2	17
106	3D CFD simulation of turbulent flow distribution and pressure drop in a dividing manifold system using openfoam. International Journal of Heat and Mass Transfer, 2020, 151, 119420.	4.8	17
107	CFD simulation of flow pattern and plume dimensions in submerged condensation and reactive gas jets into a liquid bath. Chemical Engineering Science, 2008, 63, 2420-2435.	3.8	16
108	Lipozyme deactivation by butanol and temperature. Enzyme and Microbial Technology, 1995, 17, 373-380.	3.2	15

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109	HYDRODYNAMIC STUDY OF FLOW IN THE ROTOR REGION OF ANNULAR CENTRIFUGAL CONTACTORS USING CFD SIMULATION. Chemical Engineering Communications, 2013, 200, 471-493.	2.6	15
110	A review on the thermal hydraulic characteristics of the air-cooled heat exchangers in forced convection. Sadhana - Academy Proceedings in Engineering Sciences, 2015, 40, 673-755.	1.3	15
111	Kinetics of reverse water-gas shift reaction over $\text{Pt}/\text{Al}_2\text{O}_3$ catalyst. Canadian Journal of Chemical Engineering, 2016, 94, 101-106.	1.7	15
112	Interaction dynamics of a spherical particle with a suspended liquid film. AIChE Journal, 2016, 62, 295-314.	3.6	15
113	Solid Dispersion Studies in Expanded Beds. Industrial & Engineering Chemistry Research, 2007, 46, 1836-1842.	3.7	14
114	Analysis of flow structures and energy spectra in chemical process equipment. Journal of Turbulence, 2010, 11, N5.	1.4	14
115	Evaporation of a sessile binary droplet on a heated spherical particle. Experimental Thermal and Fluid Science, 2018, 99, 558-571.	2.7	14
116	CFD Simulation of Heat Transfer in Turbulent Pipe Flow. Industrial & Engineering Chemistry Research, 2004, 43, 2816-2829.	3.7	12
117	Prediction of regime transition in three-phase sparged reactors using linear stability analysis. Chemical Engineering Journal, 2014, 235, 307-330.	12.7	12
118	Settling/rising of a foreign particle in solid-liquid fluidized beds: Application of dynamic mesh technique. Chemical Engineering Science, 2017, 170, 139-153.	3.8	12
119	Prediction of Flow Pattern in Stirred Tanks: A New Constitutive Equation for Eddy Viscosity. Industrial & Engineering Chemistry Research, 2001, 40, 1755-1772.	3.7	11
120	Effect of nozzle diameter and its orientation on the flow pattern and plume dimensions in gas-liquid jet reactors. Chemical Engineering Science, 2007, 62, 7471-7483.	3.8	11
121	Optimum Design of Multiple-Impeller Self-Inducing System. Industrial & Engineering Chemistry Research, 2003, 42, 1261-1265.	3.7	10
122	Measurement of eddy diffusivity in bubble column and validation based on the intermittency models. Chemical Engineering Science, 2005, 60, 6146-6159.	3.8	10
123	Mechanism of Gas Induction in a Self-Inducing Impeller. Industrial & Engineering Chemistry Research, 2005, 44, 1322-1328.	3.7	10
124	Process intensification in manufacture of nitric acid: NO absorption using enriched and pure oxygen. Chemical Engineering Journal, 2015, 278, 430-446.	12.7	10
125	Experimental and CFD simulations of fluid flow and temperature distribution in a natural circulation driven Passive Moderator Cooling System of an advanced nuclear reactor. Chemical Engineering Science, 2016, 155, 45-64.	3.8	9
126	Study of crystal growth and effect of temperature and mixing on properties of sodium diuranate. Progress in Nuclear Energy, 2016, 91, 132-139.	2.9	9

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127	Dissolution of nuclear materials in aqueous acid solutions. Reviews in Chemical Engineering, 2019, 35, 707-734.	4.4	9
128	A low reynolds number k- ϵ modelling of turbulent pipe flow: Flow pattern and energy balance. Canadian Journal of Chemical Engineering, 2001, 79, 214-226.	1.7	7
129	CFD Simulation of Gas Chamber for Gas Distributor Design. Canadian Journal of Chemical Engineering, 2008, 81, 677-683.	1.7	7
130	Flow and temperature patterns in an inductively coupled plasma reactor: Experimental measurements and CFD simulations. AIChE Journal, 2014, 60, 3647-3664.	3.6	7
131	Study on effect of process parameters and mixing on morphology of ammonium diuranate. Journal of Radioanalytical and Nuclear Chemistry, 2016, 310, 287-299.	1.5	6
132	Cost effective non-evacuated receiver for line-concentrating solar collectors characterized by experimentally validated computational fluid dynamics model. Canadian Journal of Chemical Engineering, 2022, 100, 2259-2278.	1.7	5
133	Computational Fluid Dynamics (CFD) Simulations and Experimental Measurements in an Inductively-Coupled Plasma Generator Operating at Atmospheric Pressure: Performance Analysis and Parametric Study. Processes, 2019, 7, 133.	2.8	4
134	Reply to "Comments on "Dynamics of Flow Structures and Transport Phenomena" Part I: Experimental and Numerical Techniques for Identification and Energy Content of Flow Structures" Industrial & Engineering Chemistry Research, 2010, 49, 4471-4473.	3.7	3
135	Instabilities due to turbulence through inlet jet in plunging jet bubble column. Chemical Engineering Science, 2017, 157, 76-87.	3.8	2
136	Reply to the Comments by I. Fort on "Effect of Internals on the Flow Pattern and Mixing in Stirred Tanks" Industrial & Engineering Chemistry Research, 2006, 45, 4850-4850.	3.7	1
137	CFD model development for two-phase flows. , 2019, , 239-335.		0
138	Segregation and intermixing in polydisperse liquid-solid fluidized beds: A multifluid model validation study. AIChE Journal, 0, , .	3.6	0