Daniele L. Marchisio

List of Publications by Year
in descending order

204 papers	8,740 citations	47006 47 h-index	58581 82 g-index
211 all docs	211 docs citations	211 times ranked	4853 citing authors

#	Article	IF	Citations
1	Solution of population balance equations using the direct quadrature method of moments. Journal of Aerosol Science, 2005, 36, 43-73.	3.8	654
2	Quadrature method of moments for aggregationâ€"breakage processes. Journal of Colloid and Interface Science, 2003, 258, 322-334.	9.4	441
3	Quadrature method of moments for population-balance equations. AIChE Journal, 2003, 49, 1266-1276.	3.6	355
4	Application of the direct quadrature method of moments to polydisperse gasâ€"solid fluidized beds. Powder Technology, 2004, 139, 7-20.	4.2	245
5	Implementation of the quadrature method of moments in CFD codes for aggregationâ€"breakage problems. Chemical Engineering Science, 2003, 58, 3337-3351.	3.8	210
6	Strategies to control the particle size distribution of poly-Îµ-caprolactone nanoparticles for pharmaceutical applications. Journal of Colloid and Interface Science, 2008, 322, 505-515.	9.4	197
7	Synthesis, characterization, and photocatalytic application of novel TiO2 nanoparticles. Chemical Engineering Journal, 2010, 157, 45-51.	12.7	183
8	Development of simplified models for the freeze-drying process and investigation of the optimal operating conditions. Chemical Engineering Research and Design, 2008, 86, 9-22.	5.6	148
9	Design and scale-up of chemical reactors for nanoparticle precipitation. AIChE Journal, 2006, 52, 1877-1887.	3.6	142
10	CFD modelling and scale-up of Confined Impinging Jet Reactors. Chemical Engineering Science, 2007, 62, 2228-2241.	3.8	132
11	On the Comparison between Population Balance Models for CFD Simulation of Bubble Columns. Industrial & Engineering Chemistry Research, 2005, 44, 5063-5072.	3.7	120
12	Implementation of the population balance equation in CFD codes for modelling soot formation in turbulent flames. Chemical Engineering Science, 2006, 61, 87-95.	3.8	107
13	Advanced approach to build the design space for the primary drying of a pharmaceutical freezeâ€drying process. Journal of Pharmaceutical Sciences, 2011, 100, 4922-4933.	3.3	102
14	Multidimensional population balance model for the simulation of turbulent gasâ€"liquid systems in stirred tank reactors. Chemical Engineering Science, 2012, 70, 31-44.	3.8	101
15	Validation of a novel open-source work-flow for the simulation of packed-bed reactors. Chemical Engineering Journal, 2015, 279, 809-820.	12.7	101
16	On the Use of Mathematical Models to Build the Design Space for the Primary Drying Phase of a Pharmaceutical Lyophilization Process. Journal of Pharmaceutical Sciences, 2011, 100, 311-324.	3.3	99
17	Nucleation, growth, and agglomeration in barium sulfate turbulent precipitation. AIChE Journal, 2002, 48, 2039-2050.	3.6	98
18	Monitoring of the primary drying of a lyophilization process in vials. Chemical Engineering and Processing: Process Intensification, 2009, 48, 408-423.	3.6	97

#	Article	IF	Citations
19	Numerical simulation of soot filtration and combustion within diesel particulate filters. Chemical Engineering Science, 2010, 65, 357-363.	3.8	95
20	Modelling of diesel particulate filtration in wall-flow traps. Chemical Engineering Journal, 2009, 154, 211-218.	12.7	93
21	CFD simulation of aggregation and breakage processes in laminar Taylorâ€"Couette flow. Journal of Colloid and Interface Science, 2005, 282, 380-396.	9.4	85
22	Bubble size distribution modeling in stirred gasâ€"liquid reactors with QMOM augmented by a new correction algorithm. AICHE Journal, 2010, 56, 36-53.	3.6	81
23	Multivariate Quadrature-Based Moments Methods for turbulent polydisperse gasâ€"liquid systems. International Journal of Multiphase Flow, 2013, 50, 41-57.	3.4	78
24	Pore-scale simulation of fluid flow and solute dispersion in three-dimensional porous media. Physical Review E, 2014, 90, 013032.	2.1	78
25	Simulation of turbulent precipitation in a semi-batch Taylor-Couette reactor using CFD. AICHE Journal, 2001, 47, 664-676.	3.6	77
26	On the Methods Based on the Pressure Rise Test for Monitoring a Freeze-Drying Process. Drying Technology, 2010, 29, 73-90.	3.1	77
27	Role of turbulent shear rate distribution in aggregation and breakage processes. AICHE Journal, 2006, 52, 158-173.	3.6	74
28	Functionalization of Cotton Fabrics with Polycaprolactone Nanoparticles for Transdermal Release of Melatonin. Journal of Functional Biomaterials, 2018, 9, 1.	4.4	73
29	Dynamic Parameters Estimation Method: Advanced Manometric Temperature Measurement Approach for Freeze-Drying Monitoring of Pharmaceutical Solutions. Industrial & Engineering Chemistry Research, 2008, 47, 8445-8457.	3.7	72
30	Simulation of coalescence, break-up and mass transfer in a gasâ€"liquid stirred tank with CQMOM. Chemical Engineering Journal, 2013, 228, 1182-1194.	12.7	71
31	Model-Based Monitoring and Control of Industrial Freeze-Drying Processes: Effect of Batch Nonuniformity. Drying Technology, 2010, 28, 577-590.	3.1	67
32	Extension of the Darcyâ€"Forchheimer Law for Shear-Thinning Fluids and Validation via Pore-Scale Flow Simulations. Transport in Porous Media, 2013, 96, 1-20.	2.6	66
33	Experimental investigation of soot deposition in diesel particulate filters. Catalysis Today, 2009, 147, S295-S300.	4.4	65
34	CFD simulation of mixing and reaction: the relevance of the micro-mixing model. Chemical Engineering Science, 2003, 58, 3579-3587.	3.8	62
35	Investigation of the flow field in a three-dimensional Confined Impinging Jets Reactor by means of microPIV and DNS. Chemical Engineering Journal, 2011, 166, 294-305.	12.7	62
36	CFD Modelling of Nano-Particle Precipitation in Confined Impinging Jet Reactors. Chemical Engineering Research and Design, 2007, 85, 735-744.	5.6	61

#	Article	IF	Citations
37	Drop breakage in liquidâ€“liquid stirred dispersions: Modelling of single drop breakage. Chemical Engineering Science, 2007, 62, 6297-6307.	3.8	60
38	Nanoprecipitation in confined impinging jets mixers: Production, characterization and scale-up of pegylated nanospheres and nanocapsules for pharmaceutical use. Chemical Engineering Science, 2012, 77, 217-227.	3.8	59
39	Simulation of droplet breakage in turbulent liquidâ€“liquid dispersions with CFD-PBM: Comparison of breakage kernels. Chemical Engineering Science, 2016, 142, 277-288.	3.8	59
40	Spray Freeze-Drying as a Solution to Continuous Manufacturing of Pharmaceutical Products in Bulk. Processes, 2020, 8, 709.	2.8	59
41	Validation of bivariate DQMOM for nanoparticle processes simulation. AIChE Journal, 2007, 53, 918-931.	3.6	57
42	Smart mixers and reactors for the production of pharmaceutical nanoparticles: Proof of concept. Chemical Engineering Research and Design, 2009, 87, 543-549.	5.6	56
43	Microscale simulation of particle deposition in porous media. Journal of Colloid and Interface Science, 2014, 417, 227-237.	9.4	55
44	Simulation of polydisperse multiphase systems using population balances and example application to bubbly flows. Chemical Engineering Research and Design, 2013, 91, 1859-1875.	5.6	50
45	Effect of Mixing and Other Operating Parameters in Solâˆ’Gel Processes. Industrial & Engineering Chemistry Research, 2008, 47, 7202-7210.	3.7	49
46	Large Eddy Simulation of mixing and reaction in a Confined Impinging Jets Reactor. Computers and Chemical Engineering, 2009, 33, 408-420.	3.8	49
47	A comparative study for nanoparticle production with passive mixers via solvent-displacement: Use of CFD models for optimization and design. Chemical Engineering and Processing: Process Intensification, 2011, 50, 356-368.	3.6	49
48	Quantification of mixing efficiency in turbulent supercritical water hydrothermal reactors. Chemical Engineering Science, 2011, 66, 1576-1589.	3.8	48
49	A computational workflow to study particle transport and filtration in porous media: Coupling CFD and deep learning. Chemical Engineering Journal, 2021, 417, 128936.	12.7	48
50	Process analytical technology for monitoring pharmaceuticals freeze-drying â€“ A comprehensive review. Drying Technology, 2018, 36, 1839-1865.	3.1	47
51	Achieving continuous manufacturing in lyophilization: Technologies and approaches. European Journal of Pharmaceutics and Biopharmaceutics, 2019, 142, 265-279.	4.3	47
52	An extended and total flux normalized correlation equation for predicting single-collector efficiency. Journal of Colloid and Interface Science, 2015, 446, 185-193.	9.4	46
53	Droplet breakage and coalescence in liquidâ€“liquid dispersions: Comparison of different kernels with EQMOM and QMOM. AIChE Journal, 2017, 63, 2293-2311.	3.6	46
54	From Batch to Continuous: Freeze-Drying of Suspended Vials for Pharmaceuticals in Unit-Doses. Industrial & Engineering Chemistry Research, 2019, 58, 1635-1649.	3.7	45

#	Article	IF	Citations
55	In-line monitoring of the primary drying phase of the freeze-drying process in vial by means of a Kalman filter based observer. Chemical Engineering Research and Design, 2009, 87, 1409-1419.	5.6	44
56	On the Use of a Dual-Scale Model to Improve Understanding of a Pharmaceutical Freeze-Drying Process. Journal of Pharmaceutical Sciences, 2010, 99, 4337-4350.	3.3	44
57	Modeling and simulation of turbulent polydisperse gas-liquid systems via the generalized population balance equation. Reviews in Chemical Engineering, 2014, 30, .	4.4	44
58	A computational fluid dynamics study of supercritical antisolvent precipitation: Mixing effects on particle size. AIChE Journal, 2012, 58, 385-398.	3.6	43
59	Quality by Design: Scale-Up of Freeze-Drying Cycles in Pharmaceutical Industry. AAPS PharmSciTech, 2013, 14, 1137-1149.	3.3	43
60	Overcoming the Limits of Flash Nanoprecipitation: Effective Loading of Hydrophilic Drug into Polymeric Nanoparticles with Controlled Structure. Polymers, 2018, 10, 1092.	4.5	41
61	On the role of micro- and mesomixing in a continuous Couette-type precipitator. Chemical Engineering Science, 1999, 54, 2339-2349.	3.8	39
62	Turbulent precipitation in micromixers: CFD simulation and flow field validation. Chemical Engineering Research and Design, 2010, 88, 1182-1193.	5.6	39
63	Use of a soft sensor for the fast estimation of dried cake resistance during a freeze-drying cycle. International Journal of Pharmaceutics, 2013, 451, 23-33.	5.2	38
64	Recirculation zones induce non-Fickian transport in three-dimensional periodic porous media. Physical Review E, 2016, 94, 053118.	2.1	38
65	In-Line Control of a Freeze-Drying Process in Vials. Drying Technology, 2008, 26, 685-694.	3.1	37
66	Validation of LES predictions for turbulent flow in a Confined Impinging Jets Reactor. Applied Mathematical Modelling, 2011, 35, 1591-1602.	4.2	37
67	New quadratureâ€based moment method for the mixing of inert polydisperse fluidized powders in commercial CFD codes. AIChE Journal, 2012, 58, 3054-3069.	3.6	37
68	In-Line and Off-Line Optimization of Freeze-Drying Cycles for Pharmaceutical Products. Drying Technology, 2013, 31, 905-919.	3.1	37
69	Numerical Methods for the Solution of Population Balance Equations Coupled with Computational Fluid Dynamics. Annual Review of Chemical and Biomolecular Engineering, 2020, 11, 339-366.	6.8	36
70	On the Comparison between Presumed and Full PDF Methods for Turbulent Precipitation. Industrial & Engineering Chemistry Research, 2001, 40, 5132-5139.	3.7	34
71	Preparation of polymer nanoparticles loaded with doxorubicin for controlled drug delivery. Chemical Engineering Research and Design, 2011, 89, 2410-2419.	5.6	34
72	CFD-based scale-up of hydrodynamics and mixing in bubble columns. Chemical Engineering Research and Design, 2018, 136, 846-858.	5.6	34

#	Article	IF	Citations
73	Scale-up and Process Transfer of Freeze-Drying Recipes. Drying Technology, 2011, 29, 1673-1684.	3.1	33
74	Model validation for precipitation in solvent-displacement processes. Chemical Engineering Science, 2012, 84, 671-683.	3.8	33
75	Hydrodynamics and bubble size in bubble columns: Effects of contaminants and spargers. Chemical Engineering Science, 2018, 184, 93-102.	3.8	33
76	A Model-Based Framework to Optimize Pharmaceuticals Freeze Drying. Drying Technology, 2012, 30, 946-958.	3.1	32
77	Bio-Functional Textiles: Combining Pharmaceutical Nanocarriers with Fibrous Materials for Innovative Dermatological Therapies. Pharmaceutics, 2019, 11, 403.	4.5	32
78	Fast freeze-drying cycle design and optimization using a PAT based on the measurement of product temperature. European Journal of Pharmaceutics and Biopharmaceutics, 2013, 85, 253-262.	4.3	31
79	Multi-scale modelling of expanding polyurethane foams: Coupling macro- and bubble-scales. Chemical Engineering Science, 2016, 148, 55-64.	3.8	31
80	Population balance modelling of bubble columns under the heterogeneous flow regime. Chemical Engineering Journal, 2019, 372, 590-604.	12.7	31
81	Production of TiO2 nanoparticles with controlled characteristics by means of a Vortex Reactor. Chemical Engineering Journal, 2009, 146, 456-465.	12.7	30
82	Development of a High Gain Observer for In-Line Monitoring of Sublimation in Vial Freeze Drying. Drying Technology, 2010, 28, 256-268.	3.1	30
83	Quality by Design in the Secondary Drying Step of a Freeze-Drying Process. Drying Technology, 2012, 30, 1307-1316.	3.1	30
84	CFD Modelling of Turbulent Drop Breakage in a Kenics Static Mixer and Comparison with Experimental Data. Chemical Engineering Research and Design, 2007, 85, 753-759.	5.6	29
85	Mixing atoms and coarse-grained beads in modelling polymer melts. Journal of Chemical Physics, 2012, 137, 164111.	3.0	29
86	Non-Invasive Temperature Monitoring in Freeze Drying: Control of Freezing as a Case Study. Drying Technology, 2015, 33, 1621-1630.	3.1	29
87	Flow field simulation and mixing efficiency assessment of the multi-inlet vortex mixer for molybdenum sulfide nanoparticle precipitation. Chemical Engineering Journal, 2014, 238, 66-77.	12.7	28
88	Simplified volume-averaged models for liquidâ€“liquid dispersions: Correct derivation and comparison with other approaches. Chemical Engineering Science, 2016, 153, 382-393.	3.8	28
89	Effect of Fluid Dynamics on Particle Size Distribution in Particulate Processes. Chemical Engineering and Technology, 2006, 29, 191-199.	1.5	27
90	Direct Quadrature Method of Moments for the Mixing of Inert Polydisperse Fluidized Powders and the Role of Numerical Diffusion. Industrial & Engineering Chemistry Research, 2010, 49, 5141-5152.	3.7	27

#	Article	IF	Citations
91	Empirical drag closure for polydisperse gasâ€“liquid systems in bubbly flow regime: Bubble swarm and micro-scale turbulence. Chemical Engineering Research and Design, 2016, 113, 284-303.	5.6	27
92	Simulation of a reacting gasâ€“liquid bubbly flow with CFD and PBM: Validation with experiments. Applied Mathematical Modelling, 2017, 44, 43-60.	4.2	27
93	Using the full turbulence spectrum for describing droplet coalescence and breakage in industrial liquid-liquid systems: Experiments and modeling. Chemical Engineering Journal, 2019, 374, 1420-1432.	12.7	27
94	On the Simulation of Turbulent Precipitation in a Tubular Reactor via Computational Fluid Dynamics (CFD). Chemical Engineering Research and Design, 2001, 79, 998-1004.	5.6	26
95	Development of a CFDâ€“PBE coupled model for the simulation of the drops behaviour in a pulsed column. Canadian Journal of Chemical Engineering, 2014, 92, 220-233.	1.7	26
96	Solvent Structuring and Its Effect on the Polymer Structure and Processability: The Case of Waterâ€“Acetone Poly-Îµ-caprolactone Mixtures. Journal of Physical Chemistry B, 2014, 118, 13258-13267.	2.6	26
97	Dissipative particle dynamics simulations of tri-block co-polymer and water: Phase diagram validation and microstructure identification. Journal of Chemical Physics, 2018, 149, 184903.	3.0	26
98	Tuning, measurement and prediction of the impact of freezing on product morphology: A step toward improved design of freeze-drying cycles. Drying Technology, 2019, 37, 579-599.	3.1	26
99	A numerically robust method of moments with number density function reconstruction and its application to soot formation, growth and oxidation. Journal of Aerosol Science, 2019, 128, 34-49.	3.8	26
100	Fine and ultrafine particle deposition in packed-bed catalytic reactors. Chemical Engineering Science, 2019, 198, 290-304.	3.8	26
101	Investigation of soot formation in turbulent flames with a pseudo-bivariate population balance model. Chemical Engineering Science, 2009, 64, 294-303.	3.8	25
102	Heat Transfer in Freeze-Drying Apparatus. , 0, , .		25
103	Preparation of Poly(MePEGCA-co-HDCA) Nanoparticles with Confined Impinging Jets Reactor: Experimental and Modeling Study. Journal of Pharmaceutical Sciences, 2011, 100, 2391-2405.	3.3	25
104	Investigation of droplet breakup in liquidâ€“liquid dispersions by CFDâ€“PBM simulations: The influence of the surfactant type. Chinese Journal of Chemical Engineering, 2017, 25, 1369-1380.	3.5	25
105	Description of droplet coalescence and breakup in emulsions through a homogeneous population balance model. Chemical Engineering Journal, 2018, 354, 1197-1207.	12.7	25
106	An experimental rheological phase diagram of a tri-block co-polymer in water validated against dissipative particle dynamics simulations. Soft Matter, 2019, 15, 1396-1404.	2.7	25
107	Surface modification of iron oxide (Fe₂O₃) pigment particles with amino-functional polysiloxane for improved dispersion stability and hydrophobicity. Pigment and Resin Technology, 2014, 43, 219-227.	0.9	24
108	Use of computational fluid dynamics for improving freeze-dryers design and process understanding. Part 1: Modelling the lyophilisation chamber. European Journal of Pharmaceutics and Biopharmaceutics, 2018, 129, 30-44.	4.3	23

#	Article	IF	Citations
109	Effect of turbulent kinetic energy dissipation rate on the prediction of droplet size distribution in stirred tanks. International Journal of Multiphase Flow, 2021, 136, 103547.	3.4	23
110	Use of soft sensors to monitor a pharmaceuticals freeze-drying process in vials. Pharmaceutical Development and Technology, 2014, 19, 148-159.	2.4	22
111	Reduction of Nitrate and Ammonium Adsorption Using Microscale Iron Particles and Zeolitite. Water, Air, and Soil Pollution, 2012, 223, 1079-1089.	2.4	21
112	Inert Thermocouple With Nanometric Thickness for Lyophilization Monitoring. IEEE Transactions on Instrumentation and Measurement, 2013, 62, 1276-1283.	4.7	21
113	A novel multiscale model for the simulation of polymer flash nano-precipitation. Chemical Engineering Science, 2017, 171, 485-494.	3.8	21
114	Enzymatic Hydrolysis of Lignocellulosic Biomasses via CFD and Experiments. Industrial & Engineering Chemistry Research, 2012, 51, 7518-7525.	3.7	20
115	Freeze-Drying Monitoring Using a New Process Analytical Technology: Toward a â€œZero Defectâ€• Process. Drying Technology, 2013, 31, 1744-1755.	3.1	20
116	Design of a Robust Soft-Sensor to Monitor In-Line a Freeze-Drying Process. Drying Technology, 2015, 33, 1039-1050.	3.1	20
117	Automatic control of a freeze-drying process: Detection of the end point of primary drying. Drying Technology, 2022, 40, 140-157.	3.1	20
118	A new mathematical model for monitoring the temporal evolution of the ice crystal size distribution during freezing in pharmaceutical solutions. European Journal of Pharmaceutics and Biopharmaceutics, 2020, 148, 148-159.	4.3	20
119	Identification of nucleation rate parameters with MD and validation of the CFD model for polymer particle precipitation. Chemical Engineering Research and Design, 2013, 91, 2275-2290.	5.6	19
120	A Baseline Model for the Simulation of Polyurethane Foams via the Population Balance Equation. Macromolecular Theory and Simulations, 2015, 24, 291-300.	1.4	19
121	On the implementation of moment transport equations in OpenFOAM: Boundedness and realizability. International Journal of Multiphase Flow, 2016, 85, 223-235.	3.4	19
122	A <scp>CFDâ€DEM</scp> approach to study the breakup of fractal agglomerates in an internal mixer. Canadian Journal of Chemical Engineering, 2020, 98, 1880-1892.	1.7	19
123	From Computational Fluid Dynamics to Structure Interpretation via Neural Networks: An Application to Flow and Transport in Porous Media. Industrial & Engineering Chemistry Research, 2022, 61, 8530-8541.	3.7	19
124	CFD modelling of condensers for freeze-drying processes. Sadhana - Academy Proceedings in Engineering Sciences, 2013, 38, 1219-1239.	1.3	18
125	Multiscale Modeling of Expanding Polyurethane Foams via Computational Fluid Dynamics and Population Balance Equation. Macromolecular Symposia, 2016, 360, 108-122.	0.7	18
126	Production of mentholâ€loaded nanoparticles by solvent displacement. Canadian Journal of Chemical Engineering, 2017, 95, 1690-1706.	1.7	18

#	Article	IF	Citations
127	PUFoam : A novel open-source CFD solver for the simulation of polyurethane foams. Computer Physics Communications, 2017, 217, 138-148.	7.5	18
128	Detailed particle nucleation modeling in a sooting ethylene flame using a Conditional Quadrature Method of Moments (CQMOM). Proceedings of the Combustion Institute, 2017, 36, 771-779.	3.9	18
129	Controlled release of vancomycin from PCL microcapsules for an ophthalmic application. Chemical Engineering Research and Design, 2009, 87, 859-866.	5.6	17
130	Size Control in Production and Freeze-Drying of Poly-Îµ-Caprolactone Nanoparticles. Journal of Pharmaceutical Sciences, 2014, 103, 1839-1850.	3.3	17
131	On the use of bi-variate population balance equations for modelling barium titanate nanoparticle precipitation. Chemical Engineering Science, 2009, 64, 697-708.	3.8	16
132	Title is missing!. Magyar AprÃ³vad KÃ¶zlemÃ©nyek, 1999, 56, 1423-1433.	1.4	15
133	Bridging the gap across scales: Coupling CFD and MD/GCMC in polyurethane foam simulation. Chemical Engineering Science, 2018, 178, 39-47.	3.8	15
134	Simulation of Turbulent Coalescence and Breakage of Bubbles and Droplets in the Presence of Surfactants, Salts, and Contaminants. Advances in Chemical Engineering, 2018, 52, 125-188.	0.9	15
135	CFD-PBE modelling of continuous Ni-Mn-Co hydroxide co-precipitation for Li-ion batteries. Chemical Engineering Research and Design, 2022, 177, 461-472.	5.6	15
136	Life cycle assessment and life cycle costing of advanced anaerobic digestion of organic fraction municipal solid waste. Chemosphere, 2022, 289, 133058.	8.2	15
137	Sputtered thermocouple array for vial temperature mapping. , 2014, , .		14
138	On the Use of tert-Butanol/Water Cosolvent Systems in Production and Freeze-Drying of Poly-Îµ-Caprolactone Nanoparticles. Journal of Pharmaceutical Sciences, 2015, 104, 178-190.	3.3	14
139	Analysis of particles size distributions in Mg(OH)2 precipitation from highly concentrated MgCl2 solutions. Powder Technology, 2022, 398, 117106.	4.2	14
140	Momentum transfer in a swarm of bubbles: estimates from fluid-dynamic simulations. Chemical Engineering Science, 2004, 59, 5209-5215.	3.8	13
141	Nanospheres and nanocapsules of amphiphilic copolymers constituted by methoxypolyethylene glycol cyanoacrylate and hexadecyl cyanoacrylate units. EXPRESS Polymer Letters, 2013, 7, 2-20.	2.1	13
142	A New Method Based on the Regression of Step Response Data for Monitoring a Freeze-Drying Cycle. Journal of Pharmaceutical Sciences, 2014, 103, 1756-1765.	3.3	13
143	Limitations of simple mass transfer models in polydisperse liquidâ€"liquid dispersions. Chemical Engineering Journal, 2016, 296, 112-121.	12.7	13
144	Computational Fluid Dynamics data for improving freeze-dryers design. Data in Brief, 2018, 19, 1181-1213.	1.0	13

#	Article	IF	Citations
145	Use of computational fluid dynamics for improving freeze-dryers design and process understanding. Part 2: Condenser duct and valve modelling. European Journal of Pharmaceutics and Biopharmaceutics, 2018, 129, 45-57.	4.3	13
146	A multi-scale computational framework for modeling the freeze-drying of microparticles in packed-beds. Powder Technology, 2019, 343, 834-846.	4.2	13
147	Simulation of high Schmidt number fluids with dissipative particle dynamics: Parameter identification and robust viscosity evaluation. Physics of Fluids, 2021, 33, .	4.0	13
148	Actinides oxalate precipitation in emulsion modeling: From the drop scale to the industrial process. Chemical Engineering Research and Design, 2013, 91, 660-669.	5.6	12
149	Bivariate extensions of the Extended Quadrature Method of Moments (EQMOM) to describe coupled droplet evaporation and heat-up. Journal of Aerosol Science, 2016, 92, 53-69.	3.8	12
150	Nanoparticles obtained by confined impinging jet mixer: poly(lactide-<i>co</i>-glycolide) vs. Poly-Îµ-caprolactone. Drug Development and Industrial Pharmacy, 2018, 44, 934-941.	2.0	12
151	Comparison of Eulerian QBMM and classical Eulerianâ€"Eulerian method for the simulation of polydisperse bubbly flows. AICHE Journal, 2019, 65, e16732.	3.6	12
152	An open-source workflow for open-cell foams modelling: Geometry generation and CFD simulations for momentum and mass transport. Chemical Engineering Science, 2022, 255, 117583.	3.8	12
153	Transfer of a nanoparticle product between different mixers using latent variable model inversion. AICHE Journal, 2014, 60, 123-135.	3.6	11
154	Modeling of turbulent drop coalescence in the presence of electrostatic forces. Chemical Engineering Research and Design, 2016, 108, 30-41.	5.6	11
155	A review of transport of nanoparticles in porous media. , 2020, , 351-381.		11
156	Effect of different good solvents in flash nano-precipitation via multi-scale population balance modeling-CFD coupling approach. Chemical Engineering Science, 2021, 245, 116833.	3.8	11
157	Investigation of the Freezing Phenomenon in Vials Using an Infrared Camera. Pharmaceutics, 2021, 13, 1664.	4.5	11
158	Molecular modeling of the interface of an egg yolk protein-based emulsion. Physics of Fluids, 2022, 34, .	4.0	11
159	Efficient simulation of gasâ€"liquid pipe flows using a generalized population balance equation coupled with the algebraic slip model. Applied Mathematical Modelling, 2014, 38, 4277-4290.	4.2	10
160	Extended Charge-On-Particle Optimized Potentials for Liquid Simulation Acetone Model: The Case of Acetoneâ€"Water Mixtures. Journal of Physical Chemistry B, 2018, 122, 5234-5241.	2.6	10
161	Quadrature-based moment closures for non-equilibrium flows: Hard-sphere collisions and approach to equilibrium. Journal of Computational Physics, 2012, 231, 7431-7449.	3.8	9
162	Production of PEGylated Nanocapsules through Solvent Displacement in Confined Impinging Jet Mixers. Journal of Pharmaceutical Sciences, 2012, 101, 2490-2501.	3.3	9

#	Article	IF	Citations
163	Dynamic Light Scattering and X-ray Photoelectron Spectroscopy Characterization of PEGylated Polymer Nanocarriers: Internal Structure and Surface Properties. Langmuir, 2014, 30, 8326-8335.	3.5	9
164	Cotton fabric functionalisation with menthol/PCL micro- and nano-capsules for comfort improvement. Journal of Microencapsulation, 2015, 32, 650-660.	2.8	9
165	twoWayGPBEFoam: An open-source Eulerian QBMM solver for monokinetic bubbly flows. Computer Physics Communications, 2020, 250, 107036.	7.5	9
166	A novel finite-volume TVD scheme to overcome non-realizability problem in quadrature-based moment methods. Journal of Computational Physics, 2020, 409, 109337.	3.8	9
167	QEEFoam: A Quasi-Eulerian-Eulerian model for polydisperse turbulent gas-liquid flows. Implementation in OpenFOAM, verification and validation. International Journal of Multiphase Flow, 2021, 136, 103544.	3.4	9
168	On the robustness of the soft sensors used to monitor a vial freeze-drying process. Drying Technology, 2017, 35, 1085-1097.	3.1	8
169	Use of microreactors and freeze-drying in the manufacturing process of chitosan coated PCL nanoparticles. European Journal of Pharmaceutical Sciences, 2018, 119, 135-146.	4.0	8
170	EFFECT OF DRAG MODELING ON THE PREDICTION OF CRITICAL REGIME TRANSITIONS IN AGITATED GAS-LIQUID REACTORS WITH BUBBLE SIZE DISTRIBUTION MODELING. Multiphase Science and Technology, 2009, 21, 95-106.	0.5	8
171	On the Production of Chitosan-Coated Polycaprolactone Nanoparticles in a Confined Impinging Jet Reactor. Journal of Pharmaceutical Sciences, 2018, 107, 1157-1166.	3.3	7
172	Quadrature Method of Moments for Poly-Disperse Flows. , 2007, , 41-77.		7
173	Comparison of different modelling approaches to turbulent precipitation. , 2000, , 77-84.		6
174	Photochemical synthesis of perfluoropolyether (PFPE) nanocomposites containing PFPE oligomer stabilized magnetite nanoparticles. Colloid and Polymer Science, 2014, 292, 3003-3011.	2.1	6
175	Nano-structured polymeric microparticles produced via cationic aerosol photopolymerization. Journal of Photochemistry and Photobiology A: Chemistry, 2017, 346, 364-371.	3.9	6
176	On the Comparison between Probability Density Function Models for CFD Applications. Canadian Journal of Chemical Engineering, 2002, 80, 1-11.	1.7	5
177	A molecular dynamics approach to nanostructuring of particles produced via aerosol cationic photopolymerization. Chemical Engineering Science, 2019, 195, 1021-1027.	3.8	5
178	A meshless Radial Basis Method (RBM) for solving the detailed population balance equation. Chemical Engineering Science, 2020, 228, 115973.	3.8	5
179	<scp>MARTINI</scp> coarseâ€grained model for polyâ€Îµâ€caprolactone in acetoneâ€water mixtures. Canadian Journal of Chemical Engineering, 2020, 98, 1868-1879.	1.7	5
180	Combining Mathematical Modeling and Thermal Infrared Data in the Freezing of Pharmaceutical Liquid Formulations. Industrial & Engineering Chemistry Research, 2022, 61, 4379-4389.	3.7	5

#	Article	IF	Citations
181	Simulation of Mixing in Structured Fluids with Dissipative Particle Dynamics and Validation with Experimental Data. Chemical Engineering and Technology, 2019, 42, 1654.	1.5	4
182	A Computational Workflow to Study Particle Transport in Porous Media: Coupling CFD and Deep Learning. Computer Aided Chemical Engineering, 2020, 48, 1759-1764.	0.5	4
183	Validation of the Diffusion Mixture Model for the simulation of bubbly flows and implementation in OpenFOAM. Computers and Fluids, 2021, 227, 105026.	2.5	4
184	Assessment of gel formation in colloidal dispersions during mixing in turbulent jets. AICHE Journal, 2013, 59, 4567-4581.	3.6	3
185	Equilibrium-Eulerian LES Model for Turbulent Poly-dispersed Particle-laden Flow. International Journal of Nonlinear Sciences and Numerical Simulation, 2013, 14, 139-158.	1.0	3
186	Numerical simulation of bubble columns: LES turbulence model and interphase forces blending approach. Chemical Engineering Research and Design, 2021, 173, 1-14.	5.6	3
187	Implementation of CHyQMOM in OpenFOAM for the simulation of non-equilibrium gas-particle flows under one-way and two-way coupling. Powder Technology, 2022, 396, 765-784.	4.2	3
188	Population Balance Models for Particulate Flows in Porous Media: Breakage and Shear-Induced Events. Transport in Porous Media, 2023, 146, 197-222.	2.6	3
189	Simulation of macromolecule self-assembly in solution: A multiscale approach. AIP Conference Proceedings, 2015, , .	0.4	2
190	Zero-flux approximations for multivariate quadrature-based moment methods. Journal of Computational Physics, 2019, 398, 108879.	3.8	2
191	<scp>GRICU</scp> 2019 special issue section preface. Canadian Journal of Chemical Engineering, 2020, 98, 1866-1867.	1.7	2
192	Numerical and Experimental Analysis of theÂDaughter Distribution in Liquidâ€Liquid Stirred Tanks. Chemical Engineering and Technology, 2021, 44, 1994.	1.5	2
193	A detailed CFD analysis of flow patterns and single-phase velocity variations in spiral jet mills affected by caking phenomena. Chemical Engineering Research and Design, 2021, 174, 234-253.	5.6	2
194	Quantification of mixing efficiency in turbulent supercritical water hydrothermal reactors. Chemical Engineering Science, 2011, , .	3.8	1
195	Mixing and segregation of wheat bran and vegetable pieces binary mixtures in fluidized and fluid-spout beds for atmospheric freeze-drying. Drying Technology, 0, , 1-16.	3.1	1
196	Multiphase flow in small-gap geometry: A combined numerical and experimental study. Progress in Nuclear Energy, 2019, 112, 107-122.	2.9	1
197	Supporting the transfer of products between different equipment through latent variable model inversion. Computer Aided Chemical Engineering, 2013, 32, 511-516.	0.5	1
198	ColHySE: An advanced column hydrodynamic-based model for solvent extraction. Chemical Engineering Research and Design, 2022, 179, 188-200.	5.6	1

#	Article	IF	Citations
199	Sensitivity Testing Revisited: The Case of Sol-Gel Transition. , 2008, , .		0
200	Reacting Flows and the Interaction between Turbulence and Chemistry. , 2016, , .		0
201	Simulation of Poly-Disperse Multiphase Systems via Computational Fluid Dynamics. , 2006, , .		0
202	Mathematical Modelling of Particle Formation in Combustion Processes. , 2006, , .		0
203	FBR for Polyolefin Production in Gas Phase: Validation of a Twoâ€phase Compartmentalized Model by Comparison with CFD. Macromolecular Reaction Engineering, 0, , 2100058.	1.5	0
204	10.1063/5.0079883.1. , 2022, , .		0