Michael J Hounslow

List of Publications by Year
in descending order

124 papers	4,780 citations	70961 41 h-index	114278 63 g-index
133 all docs	133 docs citations	133 times ranked	2294 citing authors

#	Article	IF	Citations
1	A discretized population balance for continuous systems at steady state. AICHE Journal, 1990, 36, 106-116.	1.8	162
2	An investigation into the kinetics of liquid distribution and growth in high shear mixer agglomeration. Powder Technology, 1998, 97, 246-257.	2.1	146
3	An experimental investigation of particle fragmentation using single particle impact studies. Powder Technology, 2002, 128, 36-46.	2.1	137
4	Twin screw wet granulation: Granule properties. Chemical Engineering Journal, 2010, 164, 322-329.	6.6	137
5	Tracer studies of high-shear granulation: II. Population balance modeling. AICHE Journal, 2001, 47, 1984-1999.	1.8	131
6	Breakage in granulation: A review. Chemical Engineering Science, 2005, 60, 3969-3992.	1.9	122
7	Aggregation during Precipitation from Solution: A Method for Extracting Rates from Experimental Data. Journal of Colloid and Interface Science, 1996, 183, 155-165.	5.0	110
8	Twin screw wet granulation: Effects of properties of granulation liquid. Powder Technology, 2012, 229, 126-136.	2.1	110
9	Twin screw granulation using conveying screws: Effects of viscosity of granulation liquids and flow of powders. Powder Technology, 2013, 238, 77-90.	2.1	105
10	A micro-mechanical model for the rate of aggregation during precipitation from solution. Chemical Engineering Science, 2001, 56, 2543-2552.	1.9	94
11	Kinetics of fluidised bed melt granulation I: The effect of process variables. Chemical Engineering Science, 2006, 61, 1585-1601.	1.9	92
12	Direct evidence of heterogeneity during high-shear granulation. Powder Technology, 2000, 113, 205-213.	2.1	91
13	Twin screw wet granulation: Effect of powder feed rate. Advanced Powder Technology, 2011, 22, 162-166.	2.0	86
14	Twin screw granulation: Steps in granule growth. International Journal of Pharmaceutics, 2012, 438, 20-32.	2.6	86
15	The Population Balance as a Tool for Understanding Particle Rate Processes. KONA Powder and Particle Journal, 1998, 16, 179-193.	0.9	84
16	Impact breakage of fertiliser granules. Powder Technology, 2003, 130, 359-366.	2.1	83
17	The coefficient of restitution of different representative types of granules. Chemical Engineering Science, 2007, 62, 437-450.	1.9	77
18	Growth and aggregation of vaterite in seeded-batch experiments. AICHE Journal, 2004, 50, 2772-2782.	1.8	75

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19	Impact deformation and rebound of wet granules. Powder Technology, 2004, 140, 248-257.	2.1	74
20	Building population balance model for fluidized bed melt granulation: lessons from kinetic theory of granular flow. Powder Technology, 2004, 142, 103-109.	2.1	74
21	A basic population balance model for fluid bed spray granulation. Chemical Engineering Science, 2009, 64, 4389-4398.	1.9	72
22	Monte Carlo simulation of size-enlargement mechanisms in crystallization. AICHE Journal, 1996, 42, 1864-1874.	1.8	71
23	Coupling granule properties and granulation rates in high-shear granulation. Powder Technology, 2003, 130, 162-168.	2.1	71
24	A new capillary force model implemented in micro-scale CFDâ€"DEM coupling for wet granulation. Chemical Engineering Science, 2013, 93, 197-205.	1.9	71
25	Population balance modelling of activated sludge flocculation: Investigating the size dependence of aggregation, breakage and collision efficiency. Chemical Engineering Science, 2006, 61, 63-74.	1.9	69
26	Aggregation and gelationâ€"I. Analytical solutions for CST and batch operation. Chemical Engineering Science, 1994, 49, 1025-1035.	1.9	68
27	Modelling droplet size distributions in polydispersed wet-steam flows. International Journal of Heat and Mass Transfer, 2000, 43, 1873-1884.	2.5	68
28	Studies of fluid bed granulation in an industrial R&D context. Chemical Engineering Science, 2005, 60, 3879-3890.	1.9	68
29	Growth and aggregation rates for calcite and calcium oxalate monohydrate. AICHE Journal, 1999, 45, 2298-2305.	1.8	61
30	Particle fragmentation in dilute phase pneumatic conveying. Powder Technology, 2002, 126, 109-115.	2.1	60
31	Particle Formation during Anatase Precipitation of Seeded Titanyl Sulfate Solution. Crystal Growth and Design, 2001, 1, 123-129.	1.4	53
32	Nucleation, growth, and aggregation rates from steady-state experimental data. AICHE Journal, 1990, 36, 1748-1752.	1.8	52
33	Kinetics of fluidized bed melt granulationâ€"II: Modelling the net rate of growth. Chemical Engineering Science, 2006, 61, 3930-3941.	1.9	51
34	Modelling fragment size distribution using two-parameter Weibull equation. International Journal of Mineral Processing, 2004, 74, S227-S237.	2.6	50
35	Determining kinetics of calcium carbonate precipitation by inline technique. Chemical Engineering Science, 2008, 63, 1381-1389.	1.9	50
36	Aggregation during precipitation from solution. Kinetics for calcium oxalate monohydrate. Chemical Engineering Science, 1997, 52, 747-757.	1.9	48

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37	Influence of liquid binder dispersion on agglomeration in an intensive mixer. Powder Technology, 2008, 179, 190-194.	2.1	45
38	Identification of models for control of wet granulation. Powder Technology, 2009, 188, 255-263.	2.1	45
39	Development of a predictive high-shear granulation model. Powder Technology, 2003, 138, 18-24.	2.1	44
40	A Mechanistic Model for Amorphous Protein Aggregation of Immunoglobulin-like Domains. Journal of the American Chemical Society, 2013, 135, 6456-6464.	6.6	44
41	An experimental study of the variability in the properties and quality of wet granules. Powder Technology, 2004, 140, 209-216.	2.1	43
42	Non-uniformity of binder distribution in high-shear granulation. Powder Technology, 2004, 140, 203-208.	2.1	41
43	Surface velocity measurement in a high shear mixer. Chemical Engineering Science, 2006, 61, 4172-4178.	1.9	41
44	Binder addition methods and binder distribution in high shear and fluidised bed granulation. Chemical Engineering Research and Design, 2011, 89, 553-559.	2.7	39
45	Mapping the rate-limiting regimes of food powder reconstitution in a standard mixing vessel. Powder Technology, 2015, 270, 520-527.	2.1	39
46	Kinetics of fluidised bed melt granulation V: Simultaneous modelling of aggregation and breakage. Chemical Engineering Science, 2005, 60, 3847-3866.	1.9	37
47	An experimental study of the impact breakage of wet granules. Chemical Engineering Science, 2005, 60, 4005-4018.	1.9	36
48	Product engineering for crystal size distribution. AICHE Journal, 2006, 52, 2507-2517.	1.8	36
49	Aggregation during precipitation from solution: an experimental investigation using Poiseuille flow. Chemical Engineering Science, 2000, 55, 5671-5681.	1.9	35
50	The production of binderless granules and their mechanical characteristics. Chemical Engineering Science, 2005, 60, 4045-4053.	1.9	35
51	Effect of batch size on mechanical properties of granules in high shear granulation. Powder Technology, 2011, 206, 44-52.	2.1	32
52	Granule nucleation and growth: Competing drop spreading and infiltration processes. Powder Technology, 2011, 206, 63-71.	2.1	32
53	Direct numerical simulation of solidâ€"liquidâ€"gas three-phase flow: Fluidâ€"solid interaction. Powder Technology, 2011, 206, 161-169.	2.1	32
54	Tracer studies of high-shear granulation: I. Experimental results. AICHE Journal, 2001, 47, 1978-1983.	1.8	31

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55	Twin screw granulation: Understanding the mechanism of granule formation along the barrel length. Chemical Engineering Research and Design, 2016, 110, 43-53.	2.7	31
56	Effect of impact angle and velocity on the fragment size distribution of glass spheres. Powder Technology, 2003, 138, 189-200.	2.1	30
57	A microscopic study of granulation mechanisms and their effect on granule properties. Powder Technology, 2011, 206, 18-24.	2.1	30
58	Twin screw wet granulation: Binder delivery. International Journal of Pharmaceutics, 2015, 487, 124-134.	2.6	30
59	Influence of stirrer speed on the precipitation of anatase particles from titanyl sulphate solution. Journal of Crystal Growth, 2001, 223, 225-234.	0.7	28
60	Kinetic models for granule nucleation by the immersion mechanism. Powder Technology, 2009, 189, 177-189.	2.1	28
61	The kinetics of the granulation process: Right from the early stages. Powder Technology, 2009, 189, 149-157.	2.1	28
62	Population balance modelling of droplet coalescence and break-up in an oscillatory baffled reactor. Chemical Engineering Science, 2004, 59, 819-828.	1.9	26
63	Granulation behaviour of increasingly hydrophobic mixtures. Powder Technology, 2013, 238, 64-76.	2.1	26
64	Alignment mechanisms between particles in crystalline aggregates. Journal of Crystal Growth, 2000, 208, 513-519.	0.7	25
65	Direct measurement of surface granular temperature in a high shear granulator. Powder Technology, 2008, 182, 211-217.	2.1	25
66	Investigating the influence of moisture content and pressure on the bonding mechanisms during roller compaction of an amorphous material. Chemical Engineering Science, 2013, 86, 61-69.	1.9	25
67	Roller compaction: Effect of morphology and amorphous content of lactose powder on product quality. International Journal of Pharmaceutics, 2015, 496, 63-74.	2.6	25
68	Time scale analysis for fluidized bed melt granulation I: Granuleâ€“granule and granuleâ€“droplet collision rates. Chemical Engineering Science, 2011, 66, 318-326.	1.9	24
69	Controlling particle size during anatase precipitation. AICHE Journal, 2001, 47, 2012-2024.	1.8	23
70	Kinetics of fluidised bed melt granulation III: Tracer studies. Chemical Engineering Science, 2005, 60, 3835-3845.	1.9	23
71	Inline monitoring the effect of chemical inhibitor on the calcium carbonate precipitation and agglomeration. Chemical Engineering Research and Design, 2011, 89, 500-511.	2.7	22
72	Dem investigation of horizontal high shear mixer flow behaviour and implications for scale-up. Powder Technology, 2015, 270, 561-568.	2.1	22

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73	Roller compaction: Effect of relative humidity of lactose powder. European Journal of Pharmaceutics and Biopharmaceutics, 2016, 106, 26-37.	2.0	22
74	Coincidence correction for electrical-zone (Coulter-counter) particle size analysers. Powder Technology, 1997, 93, 163-175.	2.1	21
75	In Situ Observation of the Conversion of Sodium Carbonate to Sodium Carbonate Monohydrate in Aqueous Suspension. Industrial & Engineering Chemistry Research, 2005, 44, 9921-9930.	1.8	21
76	An investigation of the influence of process and formulation variables on mechanical properties of high shear granules using design of experiment. International Journal of Pharmaceutics, 2012, 427, 328-336.	2.6	21
77	Monitoring of aggregation and scaling of calcium carbonate in the presence of ultrasound irradiation using focused beam reflectance measurement. Powder Technology, 2013, 238, 151-160.	2.1	21
78	Aggregation During Precipitation from Solution. A Pore Diffusionâ€"Reaction Model for Calcium Oxalate Monohydrate. Journal of Colloid and Interface Science, 1998, 203, 383-391.	5.0	20
79	Twin screw wet granulation: Effect of process and formulation variables on powder caking during production. International Journal of Pharmaceutics, 2015, 496, 571-582.	2.6	19
80	Investigating the effect of processing parameters on pharmaceutical tablet disintegration using a real-time particle imaging approach. European Journal of Pharmaceutics and Biopharmaceutics, 2016, 106, 88-96.	2.0	19
81	A compartmental CFDâ€PBM model of high shear wet granulation. AICHE Journal, 2017, 63, 438-458.	1.8	19
82	An improved discretized tracer mass distribution of Hounslow et al.. AICHE Journal, 2006, 52, 1326-1332.	1.8	18
83	A novel method to quantify tablet disintegration. Powder Technology, 2013, 238, 27-34.	2.1	18
84	The variability of pharmaceutical granulation. Chemical Engineering Journal, 2010, 164, 285-291.	6.6	16
85	A priori prediction of aggregation efficiency and rate constant for fluidized bed melt granulation. Chemical Engineering Science, 2013, 98, 291-297.	1.9	16
86	Roller compactor: The effect of mechanical properties of primary particles. International Journal of Pharmaceutics, 2015, 496, 124-136.	2.6	16
87	Roller compactor: Determining the nip angle and powder compaction progress by indentation of the pre-compacted body. Powder Technology, 2016, 300, 107-119.	2.1	16
88	Influence of environmental conditions on caking mechanisms in individual amorphous food particle contacts. AICHE Journal, 2014, 60, 2774-2787.	1.8	15
89	Hydrophobic/hydrophilic static powder beds: Competing horizontal spreading and vertical imbibition mechanisms of a single droplet. Powder Technology, 2018, 330, 275-283.	2.1	15
90	Short-cut models for particulate processes. Computers and Chemical Engineering, 1993, 17, 505-516.	2.0	14

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91	Particle Impact Breakage in Particulate Processing. KONA Powder and Particle Journal, 2003, 21, 88-99.	0.9	14
92	Chapter 21 Breakage in granulation. Handbook of Powder Technology, 2007, 11, 979-1040.	0.1	14
93	Time scale analysis for fluidized bed melt granulation-II: Binder spreading rate. Chemical Engineering Science, 2011, 66, 327-335.	1.9	14
94	Spherical particle movement in dilute pneumatic conveying. Powder Technology, 2005, 153, 43-50.	2.1	13
95	Surface tension-driven effects in the reconstitution of food powders. Chemical Engineering Research and Design, 2019, 146, 464-469.	2.7	13
96	Hydrophobic/hydrophilic powders: Practical implications of screw element type on the reduction of fines in twin screw granulation. Powder Technology, 2019, 341, 94-103.	2.1	13
97	Blade-granule bed stress in a cylindrical high shear granulator: Further characterisation using DEM. Powder Technology, 2016, 300, 92-106.	2.1	11
98	Bladeâ€“granule bed stress in a cylindrical high shear granulator: Iâ€"Online measurement and characterisation. Chemical Engineering Science, 2013, 86, 38-49.	1.9	10
99	Accuracy and optimal sampling in <scp>M</scp>onte <scp>C</scp>arlo solution of population balance equations. AICHE Journal, 2015, 61, 2394-2402.	1.8	10
100	Time scale analysis for fluidized bed melt granulation III: Binder solidification rate. Chemical Engineering Science, 2011, 66, 336-341.	1.9	9
101	Chapter 26 A Mechanistic Description of Granule Deformation and Breakage. Handbook of Powder Technology, 2007, , 1055-1120.	0.1	7
102	Microscale study of particle agglomeration in oil-based food suspensions: The effect of binding liquid. Powder Technology, 2015, 270, 528-536.	2.1	7
103	Unwanted agglomeration of industrial amorphous food powder from a particle perspective. Chemical Engineering Research and Design, 2018, 132, 1160-1169.	2.7	7
104	Semi-solid Paste Binder Dispersion in a Moving Powder Bed. Procedia Engineering, 2015, 102, 626-633.	1.2	6
105	A novel technique for quantifying the cohesive strength of washcoat. Chemical Engineering Research and Design, 2016, 110, 108-113.	2.7	6
106	Studying model suspensions using high resolution synchrotron X-ray microtomography. Chemical Engineering Research and Design, 2017, 117, 756-772.	2.7	6
107	Dispersion of a semi-solid binder in a moving powder bed during detergent agglomeration. Chemical Engineering Research and Design, 2016, 110, 32-42.	2.7	5
108	Movement of a secondary immiscible liquid in a suspension using a non-invasive technique. Chemical Engineering Research and Design, 2016, 110, 160-170.	2.7	5

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109	Analysis of mesoscale effects in high-shear granulation through a computational fluid dynamicsâ€“population balance coupled compartment model. Particuology, 2018, 36, 1-12.	2.0	5
110	Moisture content distribution in semibatch drying processes. I. Constant particle drying rate. AICHE Journal, 2012, 58, 3697-3707.	1.8	4
111	Aggregation of growing crystals in suspension: II. Poiseuille flow crystalliser. Chemical Engineering Science, 2015, 122, 384-394.	1.9	4
112	Multi-stage granulation: An approach to enhance final granule attributes. Chemical Engineering Research and Design, 2018, 134, 26-35.	2.7	4
113	Cohesive strength measurement of catalyst layer: Uniform drying and on-line monitoring. Chemical Engineering Research and Design, 2018, 132, 1117-1130.	2.7	4
114	Wetting of binary powder mixtures. International Journal of Pharmaceutics, 2019, 572, 118770.	2.6	4
115	Tracking of powder lump formation and dispersion with the use of FBRM technology and video recordings. Powder Technology, 2020, 367, 10-19.	2.1	4
116	Chapter 25 Granule structure. Handbook of Powder Technology, 2007, 11, 1189-1212.	0.1	3
117	Developing a miniaturized approach for formulation development using twin screw granulation. Powder Technology, 2016, 300, 83-91.	2.1	3
118	Representing spray zone with cross flow as a well-mixed compartment in a high shear granulator. Powder Technology, 2016, 297, 429-437.	2.1	3
119	Implementation of an online thermal imaging to study the effect of process parameters of roller compactor. Drug Delivery and Translational Research, 2018, 8, 1604-1614.	3.0	3
120	Twin screw granulation: An evaluation of using micronized lactose as a solid binder. Chemical Engineering Research and Design, 2018, 133, 281-293.	2.7	2
121	Moisture content distribution in semibatch drying processes, part II. Falling particle drying rate. AICHE Journal, 2012, 58, 3708-3717.	1.8	1
122	Editorial - 5th International Workshop on Granulation: Granulation across the length scales. Powder Technology, 2013, 238, 1.	2.1	0
123	Food suspensions study with SR microtomography. Chemical Engineering Science, 2018, 175, 208-219.	1.9	0
124	An Experimental Study to the Effects of Super-Saturation Ratio, Impeller Design and Impeller Speed on Agglomeration of Aluminum Trihydroxide. , 2000, , 151-161.		0