Murray Rudman

List of Publications by Year
in descending order

107 papers	4,223 citations	159585 30 h-index	118850 62 g-index
116 all docs	116 docs citations	116 times ranked	2835 citing authors

#	Article	IF	Citations
1	An SPH Projection Method. Journal of Computational Physics, 1999, 152, 584-607.	3.8	738
2	VOLUME-TRACKING METHODS FOR INTERFACIAL FLOW CALCULATIONS. International Journal for Numerical Methods in Fluids, 1997, 24, 671-691.	1.6	639
3	A volume-tracking method for incompressible multifluid flows with large density variations. International Journal for Numerical Methods in Fluids, 1998, 28, 357-378.	1.6	275
4	An analysis of parasitic current generation in Volume of Fluid simulations. Applied Mathematical Modelling, 2006, 30, 1056-1066.	4.2	146
5	An investigation of the flow regimes resulting from splashing drops. Physics of Fluids, 2000, 12, 747-763.	4.0	119
6	Turbulent pipe flow of shear-thinning fluids. Journal of Non-Newtonian Fluid Mechanics, 2004, 118, 33-48.	2.4	107
7	Analytical Modeling and Numerical Simulation of Forces in an Endoluminal Graft. Journal of Endovascular Therapy, 2001, 8, 358-371.	1.5	105
8	VOLUME-OF-FLUID CALCULATION OF HEAT OR MASS TRANSFER ACROSS DEFORMING INTERFACES IN TWO-FLUID FLOW. Numerical Heat Transfer, Part B: Fundamentals, 2002, 41, 291-308.	0.9	94
9	Analytical Modeling and Numerical Simulation of Forces in an Endoluminal Graft. Journal of Endovascular Therapy, 2001, 8, 358-371.	1.5	81
10	A 3D unsplit-advection volume tracking algorithm with planarity-preserving interface reconstruction. Computers and Fluids, 2006, 35, 1011-1032.	2.5	79
11	Direct numerical simulation of turbulent non-Newtonian flow using a spectral element method. Applied Mathematical Modelling, 2006, 30, 1229-1248.	4.2	75
12	Composing chaos: An experimental and numerical study of an open duct mixing flow. AICHE Journal, 2006, 52, 9-28.	3.6	59
13	A reduced-order model of three-dimensional unsteady flow in a cavity based on the resolvent operator. Journal of Fluid Mechanics, 2016, 798, .	3.4	57
14	Mixing and particle dispersion in the wavy vortex regime of Taylorâ€“Couette flow. AICHE Journal, 1998, 44, 1015-1026.	3.6	53
15	A Volume of Fluid (VOF) Method for the Simulation of Metallurgical Flows. ISIJ International, 2001, 41, 225-233.	1.4	49
16	Effect of Shear on Particulate Suspension Dewatering. Chemical Engineering Research and Design, 2005, 83, 933-936.	5.6	49
17	Aggregate densification and batch settling. Chemical Engineering Journal, 2011, 171, 141-151.	12.7	48
18	Temperature and strain rate effects in cold spray investigated by smoothed particle hydrodynamics. Surface and Coatings Technology, 2014, 254, 121-130.	4.8	46

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19	Comparative study on the accuracy and stability of SPH schemes in simulating energetic free-surface flows. European Journal of Mechanics, B/Fluids, 2012, 36, 1-16.	2.5	43
20	Rogue wave impact on a tension leg platform: The effect of wave incidence angle and mooring line tension. Ocean Engineering, 2013, 61, 123-138.	4.3	43
21	Low Reynolds number scalar transport enhancement in viscous and non-Newtonian fluids. International Journal of Heat and Mass Transfer, 2009, 52, 655-664.	4.8	42
22	A parametric study of droplet deformation through a microfluidic contraction: Low viscosity Newtonian droplets. Chemical Engineering Science, 2006, 61, 5149-5158.	3.8	41
23	Simulation of the near field of a jet in a cross flow. Experimental Thermal and Fluid Science, 1996, 12, 134-141.	2.7	38
24	Topological mixing study of non-Newtonian duct flows. Physics of Fluids, 2006, 18, 103103.	4.0	38
25	Experimental and numerical comparisons of the break-up of a large bubble. Experiments in Fluids, 1999, 26, 524-534.	2.4	37
26	ASSESSMENT OF HIGHER-ORDER UPWIND SCHEMES INCORPORATING FCT FOR CONVECTION-DOMINATEDPROBLEMS. Numerical Heat Transfer, Part B: Fundamentals, 1995, 27, 1-21.	0.9	33
27	Lagrangian topology of a periodically reoriented potential flow: Symmetry, optimization, and mixing. Physical Review E, 2009, 80, 036208.	2.1	33
28	Numerical modelling of free surface flows in metallurgical vessels. Applied Mathematical Modelling, 2002, 26, 113-140.	4.2	32
29	The influence of mooring system in rogue wave impact on an offshore platform. Ocean Engineering, 2016, 115, 168-181.	4.3	32
30	Computed oscillations of a confined submerged liquid jet. Applied Mathematical Modelling, 1998, 22, 843-850.	4.2	31
31	Global parametric solutions of scalar transport. Journal of Computational Physics, 2008, 227, 3032-3057.	3.8	31
32	Recent developments in techniques and methodologies for improving thickener performance. Chemical Engineering Journal, 2000, 80, 149-155.	12.7	29
33	Raking in gravity thickeners. International Journal of Mineral Processing, 2008, 86, 114-130.	2.6	29
34	Efficient simulation of surface tension-dominated flows through enhanced interface geometry interrogation. Journal of Computational Physics, 2010, 229, 7520-7544.	3.8	28
35	The importance of rheology characterization in predicting turbulent pipe flow of generalized Newtonian fluids. Journal of Non-Newtonian Fluid Mechanics, 2016, 232, 11-21.	2.4	28
36	Two-phase natural convection: implications for crystal settling in magma chambers. Physics of the Earth and Planetary Interiors, 1992, 72, 153-172.	1.9	27

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37	The effect of shear on gravity thickening: Pilot scale modelling. Chemical Engineering Science, 2010, 65, 4293-4301.	3.8	27
38	Scalar dispersion in a periodically reoriented potential flow: Acceleration via Lagrangian chaos. Physical Review E, 2010, 81, 046319.	2.1	27
39	The influence of shear-dependent rheology on turbulent pipe flow. Journal of Fluid Mechanics, 2017, 822, 848-879.	3.4	27
40	Direct numerical simulation of turbulent non-Newtonian flow using OpenFOAM. Applied Mathematical Modelling, 2019, 72, 50-67.	4.2	26
41	A parametric study of droplet deformation through a microfluidic contraction: Shear thinning liquids. International Journal of Multiphase Flow, 2007, 33, 545-556.	3.4	25
42	Aggregate densification in the thickening of flocculated suspensions in an un-networked bed. Chemical Engineering Science, 2015, 122, 585-595.	3.8	25
43	Turbulent coarse-particle suspension flow: Measurement and modelling. Powder Technology, 2020, 373, 647-659.	4.2	24
44	High concentration suspension pumping. Minerals Engineering, 2006, 19, 471-477.	4.3	23
45	Wave interaction with a tethered buoy: SPH simulation and experimental validation. Ocean Engineering, 2018, 156, 306-317.	4.3	22
46	Flow visualisation and computational prediction in thickener rake models. Minerals Engineering, 2003, 16, 93-102.	4.3	21
47	Efficiency of raking in gravity thickeners. International Journal of Mineral Processing, 2010, 95, 30-39.	2.6	21
48	An experimental and theoretical study of the mixing characteristics of a periodically reoriented irrotational flow. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 2147-2162.	3.4	21
49	The effect of yield stress on pipe flow turbulence for generalised newtonian fluids. Journal of Non-Newtonian Fluid Mechanics, 2017, 249, 53-62.	2.4	21
50	The separate roles of shear rate and mixing on gibbsite precipitation. Chemical Engineering Science, 2001, 56, 2521-2530.	3.8	20
51	Experimental validation of a 1-D continuous thickening model using a pilot column. Chemical Engineering Science, 2010, 65, 3937-3946.	3.8	20
52	Predicting chaotic dispersion with Eulerian symmetry measures: Wavy Taylor-vortex flow. Physics of Fluids, 2001, 13, 2522-2528.	4.0	19
53	Macroscopic dynamics of flocculated colloidal suspensions. Chemical Engineering Science, 2010, 65, 6362-6378.	3.8	18
54	Lagrangian Transport and Chaotic Advection in Three-Dimensional Laminar Flows. Applied Mechanics Reviews, 2021, 73, .	10.1	18

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55	Extreme wave interaction with a floating oil rig: prediction using SPH. Progress in Computational Fluid Dynamics, 2009, 9, 332.	0.2	16
56	Mixing of discontinuously deforming media. Chaos, 2016, 26, 023113.	2.5	16
57	SPH modelling of multi-fluid lock-exchange over and within porous media. Advances in Water Resources, 2017, 108, 15-28.	3.8	16
58	Turbulent coarse-particle non-Newtonian suspension flow in a pipe. International Journal of Multiphase Flow, 2021, 142, 103698.	3.4	16
59	Generating stable solitary waves with a piston-type wavemaker. Coastal Engineering, 2020, 157, 103633.	4.0	15
60	Application of SPH to Single and Multiphase Geophysical, Biophysical and Industrial Fluid Flows. International Journal of Computational Fluid Dynamics, 2021, 35, 22-78.	1.2	15
61	Flow and axial dispersion simulation for traveling axisymmetric Taylor vortices. AICHE Journal, 1998, 44, 255-262.	3.6	14
62	The flow of non-Newtonian fluids down inclines. Journal of Non-Newtonian Fluid Mechanics, 2006, 136, 64-75.	2.4	14
63	On the origin of frequency sparsity in direct numerical simulations of turbulent pipe flow. Physics of Fluids, 2014, 26, .	4.0	14
64	Smoothed Particle Hydrodynamics modelling of fresh and salt water dynamics in porous media. Journal of Hydrology, 2019, 576, 370-380.	5.4	13
65	Reynolds number effects in pipe flow turbulence of generalized Newtonian fluids. Physical Review Fluids, 2018, 3, .	2.5	13
66	Collisional SPH: A method to model frictional collisions with SPH. Applied Mathematical Modelling, 2021, 94, 13-35.	4.2	12
67	A parametric study of droplet deformation through a microfluidic contraction. ANZIAM Journal, 0, 46, 150.	0.0	12
68	Centrifugal pump performance calculation for homogeneous suspensions. Canadian Journal of Chemical Engineering, 2009, 87, 526-533.	1.7	11
69	Streamwise-varying steady transpiration control in turbulent pipe flow. Journal of Fluid Mechanics, 2016, 796, 588-616.	3.4	11
70	Creating analytically divergence-free velocity fields from grid-based data. Journal of Computational Physics, 2016, 323, 75-94.	3.8	11
71	The linear stability of swirling vortex rings. Physics of Fluids, 2016, 28, 114106.	4.0	10
72	Bifurcations and degenerate periodic points in a three dimensional chaotic fluid flow. Chaos, 2016, 26, 053106.	2.5	9

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73	A numerical approach for simulating flow through thin porous media. European Journal of Mechanics, B/Fluids, 2017, 65, 31-44.	2.5	9
74	Measuring atrial stasis during sinus rhythm in patients with paroxysmal atrial fibrillation using 4 Dimensional flow imaging. International Journal of Cardiology, 2020, 315, 45-50.	1.7	9
75	The feedback loop in impinging two-dimensional high-subsonic and supersonic jets. Experimental Thermal and Fluid Science, 1996, 12, 265-270.	2.7	8
76	Control mechanisms for the global structure of scalar dispersion in chaotic flows. Physical Review E, 2014, 90, 022908.	2.1	8
77	Experimental Investigation on Solitary Wave Interaction With Vertical Porous Barriers. Journal of Offshore Mechanics and Arctic Engineering, 2020, 142, .	1.2	8
78	Flow regime analysis of non-Newtonian duct flows. Physics of Fluids, 2006, 18, 013101.	4.0	7
79	Large Scale Simulation of Industrial, Engineering and Geophysical Flows Using Particle Methods. Computational Methods in Applied Sciences (Springer), 2011, , 89-111.	0.3	7
80	The evolution of swirling axisymmetric vortex rings. Physics of Fluids, 2015, 27, 087101.	4.0	7
81	Impact of discontinuous deformation upon the rate of chaotic mixing. Physical Review E, 2017, 95, 022213.	2.1	7
82	Nonmixing vortex cores in wavy Taylor vortex flow. Physics of Fluids, 2008, 20, 063602.	4.0	6
83	Rogue Wave Impact on a Semi-Submersible Offshore Platform. , 2008, , .		6
84	Localized shear generates three-dimensional transport. Chaos, 2017, 27, 043102.	2.5	6
85	One-field equations for two-phase flows. Journal of the Australian Mathematical Society Series B Applied Mathematics, 1997, 39, 149-170.	0.2	5
86	A hybrid method for simulation of axial flow impeller driven mixing vessels. Applied Mathematical Modelling, 2000, 24, 795-805.	4.2	5
87	A DNS Investigation of the Effect of Yield Stress for Turbulent Non-Newtonian Suspension Flow in Open Channels. Particulate Science and Technology, 2011, 29, 209-228.	2.1	5
88	The ventricular residence time distribution derived from 4D flow particle tracing: a novel marker of myocardial dysfunction. International Journal of Cardiovascular Imaging, 2018, 34, 1927-1935.	1.5	5
89	Experimental Realization of Periodic Deep-Water Wave Envelopes with and without Dissipation. Water Waves, 2020, 2, 113-122.	1.0	4
90	VOLUME-TRACKING METHODS FOR INTERFACIAL FLOW CALCULATIONS. , 1997, 24, 671.		4

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91	A volumeâ€tracking method for incompressible multifluid flows with large density variations. International Journal for Numerical Methods in Fluids, 1998, 28, 357-378.	1.6	4
92	Particle transport in a bottom-feed separation vessel. Applied Mathematical Modelling, 1998, 22, 1023-1036.	4.2	3
93	Pilot and full-scale validation of thickener and feedwell modelling. , 2011, , .		3
94	Dense <scp>nonâ€Newtonian</scp> suspension flow: Effect of solids properties and pipe size. AICHE Journal, 0, , .	3.6	3
95	Complete parametric scalar dispersion. Proceedings of SPIE, 2007, , .	0.8	2
96	Computational modelling of free surface flows for offshore application. Marine Systems and Ocean Technology, 2007, 3, 113-122.	1.0	2
97	Chaotic diffusion in steady wavy vortex flowâ€"Dependence on wave state and correlation with Eulerian symmetry measures. Fluid Dynamics Research, 2008, 40, 45-67.	1.3	2
98	Exact solutions of the Navier-Stokes equations generalized for flow in porous media. European Physical Journal Plus, 2018, 133, 1.	2.6	2
99	Global organization of three-dimensional, volume-preserving flows: Constraints, degenerate points, and Lagrangian structure. Chaos, 2020, 30, 033124.	2.5	2
100	Turbulent Pipe Flow of Non-Newtonian Fluids. , 2003, , 687-692.		2
101	Predicting Rebound of Ellipsoidal Granules Using SPH. Lecture Notes in Mechanical Engineering, 2021, , 673-691.	0.4	1
102	Influence of volume and aspect ratio of liquid bridges on capillary breakup rheometry. Physics of Fluids, 2022, 34, .	4.0	1
103	A DNS Investigation of Non-Newtonian Turbulent Open Channel Flow. , 2010, , .		0
104	The Effect of Pressure Solution in SPH Simulations of Sloshing Flow. , 2011, , .		0
105	Direct numerical simulation (DNS) investigation of turbulent open channel flow of a Herschel-Bulkley fluid. , 2011, , .		0
106	Solitary Wave Interaction With Vertical Porous Barriers. , 2019, , .		0
107	Optimal Operating Conditions for Capillary Breakup Rheometry Based on Half-times of Liquid Bridges. , 2020, , .		0