

# Neil Balmforth

## List of Publications by Year in descending order

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142  
papers

5,089  
citations

87843

38  
h-index

102432

66  
g-index

142  
all docs

142  
docs citations

142  
times ranked

3373  
citing authors

#	ARTICLE	IF	CITATIONS
1	Lubricated rolling over a pool. <i>Journal of Fluid Mechanics</i> , 2022, 934, .	1.4	1
2	Fracture patterns in viscoplastic gravity currents. <i>Journal of Fluid Mechanics</i> , 2022, 934, .	1.4	3
3	Locomotion with a wavy cylindrical filament in a yield-stress fluid. <i>Journal of Fluid Mechanics</i> , 2022, 936, .	1.4	2
4	One-dimensional compression of a saturated elastoviscoplastic medium. <i>Physical Review Fluids</i> , 2022, 7, .	1.0	1
5	Viscoelastic ribbons. <i>Journal of Fluid Mechanics</i> , 2021, 908, .	1.4	3
6	Instability of sliding viscoplastic films. <i>Journal of Fluid Mechanics</i> , 2021, 912, .	1.4	2
7	Spreading of viscoplastic droplets. <i>Journal of Fluid Mechanics</i> , 2021, 914, .	1.4	22
8	Viscoplastic fingers and fractures in a Hele-Shaw cell. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2021, 289, 104492.	1.0	15
9	Nonlinear dynamics of forced baroclinic critical layers II. <i>Journal of Fluid Mechanics</i> , 2021, 917, .	1.4	3
10	On two-phase modeling of dewatering pulp suspensions. <i>AIChE Journal</i> , 2021, 67, e17277.	1.8	3
11	Building on Oldroyd's viscoplastic legacy: Perspectives and new developments. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2021, 294, 104580.	1.0	8
12	Viscoplastic plates. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2021, 477, .	1.0	1
13	Translating and squirming cylinders in a viscoplastic fluid. <i>Journal of Fluid Mechanics</i> , 2020, 882, .	1.4	3
14	Dewatering saturated, networked suspensions with a screw press. <i>Journal of Engineering Mathematics</i> , 2020, 120, 1-28.	0.6	5
15	Nonlinear dynamics of forced baroclinic critical layers. <i>Journal of Fluid Mechanics</i> , 2020, 883, .	1.4	3
16	Obstructed viscoplastic flow in a Hele-Shaw cell. <i>Physical Review Fluids</i> , 2020, 5, .	1.0	13
17	Indentation into a plastic fluid layer. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2019, 475, 20180747.	1.0	0
18	Viscoplastic surges down an incline. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2019, 268, 1-11.	1.0	8

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19	Instability of sheared density interfaces. <i>Journal of Fluid Mechanics</i> , 2019, 860, 145-171.	1.4	8
20	Viscoplastic Asymptotics and Other Analytical Methods. <i>CISM International Centre for Mechanical Sciences, Courses and Lectures</i> , 2019, , 41-82.	0.3	6
21	Damping of surface waves by floating particles. <i>Physical Review Fluids</i> , 2019, 4, .	1.0	15
22	Flow-driven compaction of a fibrous porous medium. <i>Physical Review Fluids</i> , 2019, 4, .	1.0	9
23	Gel-controlled droplet spreading. <i>Journal of Fluid Mechanics</i> , 2018, 837, 115-128.	1.4	15
24	Axisymmetric viscoplastic dambreaks and the slump test. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2018, 258, 45-57.	1.0	28
25	Instabilities in a staircase stratified shear flow. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2018, 112, 1-19.	0.4	3
26	Viscoplastic slender-body theory. <i>Journal of Fluid Mechanics</i> , 2018, 856, 870-897.	1.4	38
27	From episodic avalanching to continuous flow in a granular drum. <i>Granular Matter</i> , 2018, 20, 1.	1.1	13
28	Strato-rotational instability without resonance. <i>Journal of Fluid Mechanics</i> , 2018, 846, 815-833.	1.4	7
29	Viscoplastic boundary layers. <i>Journal of Fluid Mechanics</i> , 2017, 813, 929-954.	1.4	28
30	On the rheology of Pluronic F127 aqueous solutions. <i>Journal of Rheology</i> , 2017, 61, 139-146.	1.3	73
31	Taylor's swimming sheet in a yield-stress fluid. <i>Journal of Fluid Mechanics</i> , 2017, 828, 33-56.	1.4	36
32	Rolling resistance of shallow granular deformation. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2017, 473, 20170375.	1.0	1
33	Noisy homoclinic pulse dynamics. <i>Chaos</i> , 2016, 26, 043104.	1.0	2
34	Dewatering of fibre suspensions by pressure filtration. <i>Physics of Fluids</i> , 2016, 28, 063304.	1.6	17
35	Obstructed and channelized viscoplastic flow in a Hele-Shaw cell. <i>Journal of Fluid Mechanics</i> , 2016, 790, 173-204.	1.4	22
36	Two-dimensional viscoplastic dambreaks. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2016, 238, 65-79.	1.0	37

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37	Long bubbles in tubes filled with viscoplastic fluid. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2016, 238, 100-106.	1.0	22
38	Shallow, gravity-driven flow in a poro-elastic layer. <i>Journal of Fluid Mechanics</i> , 2015, 778, 335-360.	1.4	17
39	The speed of an inclined ruck. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2015, 471, 20140740.	1.0	9
40	Elastic-plated gravity currents. <i>European Journal of Applied Mathematics</i> , 2015, 26, 1-31.	1.4	60
41	Slip of Spreading Viscoplastic Droplets. <i>Langmuir</i> , 2015, 31, 12071-12075.	1.6	30
42	Yielding to Stress: Recent Developments in Viscoplastic Fluid Mechanics. <i>Annual Review of Fluid Mechanics</i> , 2014, 46, 121-146.	10.8	468
43	Slender axisymmetric Stokesian swimmers. <i>Journal of Fluid Mechanics</i> , 2014, 746, 273-299.	1.4	6
44	Bulldozing of granular material. <i>Journal of Fluid Mechanics</i> , 2014, 748, 143-174.	1.4	8
45	Editorial: Viscoplastic fluids: From theory to application. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2013, 193, 1-2.	1.0	2
46	Locomotion over a viscoplastic film. <i>Journal of Fluid Mechanics</i> , 2013, 727, 1-29.	1.4	11
47	Thixotropic gravity currents. <i>Journal of Fluid Mechanics</i> , 2013, 727, 56-82.	1.4	28
48	Viscoplastic sheets and threads. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2013, 193, 28-42.	1.0	23
49	Granular and fluid washboards. <i>Journal of Fluid Mechanics</i> , 2012, 692, 446-463.	1.4	13
50	Cyclic steps and roll waves in shallow water flow over an erodible bed. <i>Journal of Fluid Mechanics</i> , 2012, 695, 35-62.	1.4	28
51	Dynamics of vorticity defects in stratified shear flow. <i>Journal of Fluid Mechanics</i> , 2012, 694, 292-331.	1.4	18
52	BGK states from the bump-on-tail instability. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2012, 17, 1989-1997.	1.7	6
53	Viscoplastic lubrication theory with application to bearings and the washboard instability of a planing plate. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2012, 169-170, 74-90.	1.0	14
54	Flow-destabilized seiches in a reservoir with a movable dam. <i>Journal of Fluid Mechanics</i> , 2011, 678, 294-316.	1.4	1

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55	Fingering instability in buoyancy-driven fluid-filled cracks. <i>Journal of Fluid Mechanics</i> , 2011, 672, 60-77.	1.4	18
56	Peristaltic pumping of viscous fluid in an elastic tube. <i>Journal of Fluid Mechanics</i> , 2011, 672, 196-218.	1.4	66
57	Peristaltic pumping of rigid objects in an elastic tube. <i>Journal of Fluid Mechanics</i> , 2011, 672, 219-244.	1.4	32
58	Continual skipping on water. <i>Journal of Fluid Mechanics</i> , 2011, 669, 328-353.	1.4	26
59	An interacting particle model with compact hierarchical structure. <i>Physica D: Nonlinear Phenomena</i> , 2011, 240, 101-113.	1.3	3
60	Tidally generated internal-wave attractors between double ridges. <i>Journal of Fluid Mechanics</i> , 2011, 669, 354-374.	1.4	35
61	Contact in a viscous fluid. Part 1. A falling wedge. <i>Journal of Fluid Mechanics</i> , 2010, 646, 327-338.	1.4	15
62	Contact in a viscous fluid. Part 2. A compressible fluid and an elastic solid. <i>Journal of Fluid Mechanics</i> , 2010, 646, 339-361.	1.4	24
63	Extensional dynamics of viscoplastic filaments: I. Long-wave approximation and the Rayleigh instability. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2010, 165, 1139-1146.	1.0	26
64	Extensional dynamics of viscoplastic filaments: II. Drips and bridges. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2010, 165, 1147-1160.	1.0	38
65	Microelastohydrodynamics of Swimming Organisms Near Solid Boundaries in Complex Fluids. <i>Quarterly Journal of Mechanics and Applied Mathematics</i> , 2010, 63, 267-294.	0.5	26
66	Identifying unstable modes in stratified shear layers. <i>Physics of Fluids</i> , 2010, 22, .	1.6	57
67	Tidal Conversion by Supercritical Topography. <i>Journal of Physical Oceanography</i> , 2009, 39, 1965-1974.	0.7	71
68	Surface wrinkling of a channelized flow. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2009, 465, 123-142.	1.0	9
69	The viscoplastic Stokes layer. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 158, 46-53.	1.0	27
70	Weakly nonlinear viscoplastic convection. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 158, 36-45.	1.0	75
71	What is the final shape of a viscoplastic slump?. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 158, 91-100.	1.0	27
72	Visco-plastic fluids: From Theory to Application. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 158, 1-3.	1.0	8

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73	Dam-breaking seiches. <i>Journal of Fluid Mechanics</i> , 2009, 628, 1-21.	1.4	19
74	Dam breaking by wave-induced erosional incision. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	32
75	The feasibility of generating low-frequency volcano seismicity by flow through a deformable channel. <i>Geological Society Special Publication</i> , 2008, 307, 45-56.	0.8	36
76	An Experimental Investigation of Internal Tide Generation by Two-Dimensional Topography. <i>Journal of Physical Oceanography</i> , 2008, 38, 235-242.	0.7	46
77	Near-inertial parametric subharmonic instability. <i>Journal of Fluid Mechanics</i> , 2008, 607, 25-49.	1.4	44
78	Visco-plastic Fluids: From Theory to Application. <i>Applied Rheology</i> , 2008, 18, 48-50.	3.5	0
79	Dissipative descent: rocking and rolling down an incline. <i>Journal of Fluid Mechanics</i> , 2007, 590, 295-318.	1.4	6
80	Viscoplastic dam breaks and the Bostwick consistometer. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2007, 142, 63-78.	1.0	70
81	Surface tension driven fingering of a viscoplastic film. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2007, 142, 143-149.	1.0	17
82	Viscoplastic flow over an inclined surface. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2007, 142, 219-243.	1.0	38
83	Bounds on double-diffusive convection. <i>Journal of Fluid Mechanics</i> , 2006, 569, 29.	1.4	14
84	Viscoplastic flow over an inclined surface. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2006, 139, 103-127.	1.0	68
85	Roll waves on flowing cornstarch suspensions. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2005, 338, 479-484.	0.9	13
86	On the bifurcation to moving fronts in discrete systems. <i>Nonlinearity</i> , 2005, 18, 2145-2170.	0.6	2
87	Granular collapse in two dimensions. <i>Journal of Fluid Mechanics</i> , 2005, 538, 399.	1.4	226
88	Stratified Kolmogorov flow. Part 2. <i>Journal of Fluid Mechanics</i> , 2005, 528, 23-42.	1.4	29
89	Instability in flow through elastic conduits and volcanic tremor. <i>Journal of Fluid Mechanics</i> , 2005, 527, 353-377.	1.4	47
90	Building a better snail: Lubrication and adhesive locomotion. <i>Physics of Fluids</i> , 2005, 17, 113101.	1.6	116

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91	Pattern dynamics in a checkerboard map. <i>Chaos</i> , 2004, 14, 784-792.	1.0	1
92	Blown by wind: nonlinear dynamics of aeolian sand ripples. <i>Physica D: Nonlinear Phenomena</i> , 2004, 195, 207-228.	1.3	61
93	Roll waves in mud. <i>Journal of Fluid Mechanics</i> , 2004, 519, 33-54.	1.4	72
94	Bounds on horizontal convection. <i>Journal of Fluid Mechanics</i> , 2004, 517, 55-70.	1.4	58
95	Dynamics of roll waves. <i>Journal of Fluid Mechanics</i> , 2004, 514, 1-33.	1.4	110
96	Dynamics of cooling viscoplastic domes. <i>Journal of Fluid Mechanics</i> , 2004, 499, 149-182.	1.4	37
97	Diffusion-limited scalar cascades. <i>Journal of Fluid Mechanics</i> , 2003, 482, 91-100.	1.4	14
98	Saturation of electrostatic instability in two-species plasma. <i>Journal of Plasma Physics</i> , 2002, 68, 87-117.	0.7	3
99	Tidal Conversion by Subcritical Topography. <i>Journal of Physical Oceanography</i> , 2002, 32, 2900-2914.	0.7	124
100	Shallow viscoplastic flow on an inclined plane. <i>Journal of Fluid Mechanics</i> , 2002, 470, 1-29.	1.4	77
101	Stratified Kolmogorov flow. <i>Journal of Fluid Mechanics</i> , 2002, 450, 131-167.	1.4	61
102	The onset of meandering in a barotropic jet. <i>Journal of Fluid Mechanics</i> , 2001, 449, 85-114.	1.4	23
103	Dynamics in coalescing critical layers. <i>Journal of Fluid Mechanics</i> , 2001, 449, 115-139.	1.4	4
104	Disturbing vortices. <i>Journal of Fluid Mechanics</i> , 2001, 426, 95-133.	1.4	64
105	On the excitation mechanism in roAp stars. <i>Monthly Notices of the Royal Astronomical Society</i> , 2001, 323, 362-372.	1.6	147
106	Non-linear dynamics of the corotation torque. <i>Monthly Notices of the Royal Astronomical Society</i> , 2001, 326, 833-851.	1.6	46
107	Dynamics of cooling domes of viscoplastic fluid. <i>Journal of Fluid Mechanics</i> , 2000, 422, 225-248.	1.4	43
108	Visco-plastic models of isothermal lava domes. <i>Journal of Fluid Mechanics</i> , 2000, 403, 37-65.	1.4	100

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109	A shocking display of synchrony. <i>Physica D: Nonlinear Phenomena</i> , 2000, 143, 21-55.	1.3	73
110	Being stable and discrete. <i>Physica D: Nonlinear Phenomena</i> , 2000, 135, 212-232.	1.3	26
111	The Lorenzâ€“Fermiâ€“Pastaâ€“Ulam experiment. <i>Physica D: Nonlinear Phenomena</i> , 2000, 138, 1-43.	1.3	17
112	Radiative damping of near-inertial oscillations in the mixed layer. <i>Journal of Marine Research</i> , 1999, 57, 561-584.	0.3	34
113	A consistent thin-layer theory for Bingham plastics. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1999, 84, 65-81.	1.0	167
114	A Necessary and Sufficient Instability Condition for Inviscid Shear Flow. <i>Studies in Applied Mathematics</i> , 1999, 102, 309-344.	1.1	23
115	Shear instability in shallow water. <i>Journal of Fluid Mechanics</i> , 1999, 387, 97-127.	1.4	42
116	Ocean waves and ice sheets. <i>Journal of Fluid Mechanics</i> , 1999, 395, 89-124.	1.4	125
117	Synchronized family dynamics in globally coupled maps. <i>Chaos</i> , 1999, 9, 738-754.	1.0	25
118	Convection in a slowly diffusing, weakly stratified salt field. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1998, 238, 35-42.	0.9	1
119	Dynamics of interfaces and layers in a stratified turbulent fluid. <i>Journal of Fluid Mechanics</i> , 1998, 355, 329-358.	1.4	116
120	Stability of vorticity defects in viscous shear. <i>Journal of Fluid Mechanics</i> , 1998, 357, 199-224.	1.4	6
121	Double diffusive instability in a tall thin slot. <i>Journal of Fluid Mechanics</i> , 1998, 375, 203-233.	1.4	5
122	Enhanced dispersion of near-inertial waves in an idealized geostrophic flow. <i>Journal of Marine Research</i> , 1998, 56, 1-40.	0.3	51
123	Long-Wave Instability in Marginally Stable Shear Flows. <i>Physical Review Letters</i> , 1997, 79, 4155-4158.	2.9	3
124	Dynamics of vorticity defects in shear. <i>Journal of Fluid Mechanics</i> , 1997, 333, 197-230.	1.4	38
125	Synchronizing Moore and Spiegel. <i>Chaos</i> , 1997, 7, 738-752.	1.0	14
126	Pulse Dynamics in an Unstable Medium. <i>SIAM Journal on Applied Mathematics</i> , 1997, 57, 205-251.	0.8	18



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127	Stability of vorticity defects in viscoelastic shear flow. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1997, 72, 281-304.	1.0	1
128	Nonlinear ringing of polytropic disks. <i>Physica D: Nonlinear Phenomena</i> , 1996, 97, 1-28.	1.3	9
129	Structural changes to the Sun through the solar cycle. <i>Monthly Notices of the Royal Astronomical Society</i> , 1996, 278, 437-448.	1.6	50
130	Sinuous Modes and Steady Warps of Polytropic Disks. <i>Annals of the New York Academy of Sciences</i> , 1995, 773, 55-69.	1.8	0
131	Solitary Waves and Homoclinic Orbits. <i>Annual Review of Fluid Mechanics</i> , 1995, 27, 335-373.	10.8	91
132	Instability of Rapidly Rotating Polytropes. <i>SIAM Journal on Applied Mathematics</i> , 1995, 55, 298-331.	0.8	5
133	Topological entropy of one-dimensional maps: Approximations and bounds. <i>Physical Review Letters</i> , 1994, 72, 80-83.	2.9	22
134	Chaotic Pulse Trains. <i>SIAM Journal on Applied Mathematics</i> , 1994, 54, 1291-1334.	0.8	30
135	Equilibria of rapidly rotating polytropes. <i>Monthly Notices of the Royal Astronomical Society</i> , 1993, 260, 253-272.	1.6	8
136	Solar pulsational stability - III. Acoustical excitation by turbulent convection. <i>Monthly Notices of the Royal Astronomical Society</i> , 1992, 255, 639-649.	1.6	125
137	Solar pulsational stability - I. Pulsation-mode thermodynamics. <i>Monthly Notices of the Royal Astronomical Society</i> , 1992, 255, 603-631.	1.6	156
138	Solar pulsational stability - II. Pulsation frequencies. <i>Monthly Notices of the Royal Astronomical Society</i> , 1992, 255, 632-638.	1.6	50
139	Mixing-length theory and the excitation of solar acoustic oscillations. <i>Solar Physics</i> , 1990, 128, 161-193.	1.0	22
140	Effluent stellar pulsation. <i>Astrophysical Journal</i> , 1990, 362, 256.	1.6	65
141	Flow-destabilized seiches in a reservoir with a movable dam. <i>Journal of Fluid Mechanics</i> , 0, , 1-23.	1.4	1
142	Flow of a shallow film over a moving surface. <i>Physics of Fluids</i> , 0, , .	1.6	1