

# Neil Balmforth

## List of Publications by Year in descending order

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142  
papers

5,089  
citations

87843

38  
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102432

66  
g-index

142  
all docs

142  
docs citations

142  
times ranked

3373  
citing authors

#	ARTICLE	IF	CITATIONS
1	Yielding to Stress: Recent Developments in Viscoplastic Fluid Mechanics. Annual Review of Fluid Mechanics, 2014, 46, 121-146.	10.8	468
2	Granular collapse in two dimensions. Journal of Fluid Mechanics, 2005, 538, 399.	1.4	226
3	A consistent thin-layer theory for Bingham plastics. Journal of Non-Newtonian Fluid Mechanics, 1999, 84, 65-81.	1.0	167
4	Solar pulsational stability - I. Pulsation-mode thermodynamics. Monthly Notices of the Royal Astronomical Society, 1992, 255, 603-631.	1.6	156
5	On the excitation mechanism in roAp stars. Monthly Notices of the Royal Astronomical Society, 2001, 323, 362-372.	1.6	147
6	Solar pulsational stability - III. Acoustical excitation by turbulent convection. Monthly Notices of the Royal Astronomical Society, 1992, 255, 639-649.	1.6	125
7	Ocean waves and ice sheets. Journal of Fluid Mechanics, 1999, 395, 89-124.	1.4	125
8	Tidal Conversion by Subcritical Topography. Journal of Physical Oceanography, 2002, 32, 2900-2914.	0.7	124
9	Dynamics of interfaces and layers in a stratified turbulent fluid. Journal of Fluid Mechanics, 1998, 355, 329-358.	1.4	116
10	Building a better snail: Lubrication and adhesive locomotion. Physics of Fluids, 2005, 17, 113101.	1.6	116
11	Dynamics of roll waves. Journal of Fluid Mechanics, 2004, 514, 1-33.	1.4	110
12	Visco-plastic models of isothermal lava domes. Journal of Fluid Mechanics, 2000, 403, 37-65.	1.4	100
13	Solitary Waves and Homoclinic Orbits. Annual Review of Fluid Mechanics, 1995, 27, 335-373.	10.8	91
14	Shallow viscoplastic flow on an inclined plane. Journal of Fluid Mechanics, 2002, 470, 1-29.	1.4	77
15	Weakly nonlinear viscoplastic convection. Journal of Non-Newtonian Fluid Mechanics, 2009, 158, 36-45.	1.0	75
16	A shocking display of synchrony. Physica D: Nonlinear Phenomena, 2000, 143, 21-55.	1.3	73
17	On the rheology of Pluronic F127 aqueous solutions. Journal of Rheology, 2017, 61, 139-146.	1.3	73
18	Roll waves in mud. Journal of Fluid Mechanics, 2004, 519, 33-54.	1.4	72

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19	Tidal Conversion by Supercritical Topography. <i>Journal of Physical Oceanography</i> , 2009, 39, 1965-1974.	0.7	71
20	Viscoplastic dam breaks and the Bostwick consistometer. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2007, 142, 63-78.	1.0	70
21	Viscoplastic flow over an inclined surface. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2006, 139, 103-127.	1.0	68
22	Peristaltic pumping of viscous fluid in an elastic tube. <i>Journal of Fluid Mechanics</i> , 2011, 672, 196-218.	1.4	66
23	Effluent stellar pulsation. <i>Astrophysical Journal</i> , 1990, 362, 256.	1.6	65
24	Disturbing vortices. <i>Journal of Fluid Mechanics</i> , 2001, 426, 95-133.	1.4	64
25	Stratified Kolmogorov flow. <i>Journal of Fluid Mechanics</i> , 2002, 450, 131-167.	1.4	61
26	Blown by wind: nonlinear dynamics of aeolian sand ripples. <i>Physica D: Nonlinear Phenomena</i> , 2004, 195, 207-228.	1.3	61
27	Elastic-plated gravity currents. <i>European Journal of Applied Mathematics</i> , 2015, 26, 1-31.	1.4	60
28	Bounds on horizontal convection. <i>Journal of Fluid Mechanics</i> , 2004, 517, 55-70.	1.4	58
29	Identifying unstable modes in stratified shear layers. <i>Physics of Fluids</i> , 2010, 22, .	1.6	57
30	Enhanced dispersion of near-inertial waves in an idealized geostrophic flow. <i>Journal of Marine Research</i> , 1998, 56, 1-40.	0.3	51
31	Solar pulsational stability - II. Pulsation frequencies. <i>Monthly Notices of the Royal Astronomical Society</i> , 1992, 255, 632-638.	1.6	50
32	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
33	Instability in flow through elastic conduits and volcanic tremor. <i>Journal of Fluid Mechanics</i> , 2005, 527, 353-377.	1.4	47
34	Non-linear dynamics of the corotation torque. <i>Monthly Notices of the Royal Astronomical Society</i> , 2001, 326, 833-851.	1.6	46
35	An Experimental Investigation of Internal Tide Generation by Two-Dimensional Topography. <i>Journal of Physical Oceanography</i> , 2008, 38, 235-242.	0.7	46
36	Near-inertial parametric subharmonic instability. <i>Journal of Fluid Mechanics</i> , 2008, 607, 25-49.	1.4	44

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37	Dynamics of cooling domes of viscoplastic fluid. <i>Journal of Fluid Mechanics</i> , 2000, 422, 225-248.	1.4	43
38	Shear instability in shallow water. <i>Journal of Fluid Mechanics</i> , 1999, 387, 97-127.	1.4	42
39	Dynamics of vorticity defects in shear. <i>Journal of Fluid Mechanics</i> , 1997, 333, 197-230.	1.4	38
40	Viscoplastic flow over an inclined surface. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2007, 142, 219-243.	1.0	38
41	Extensional dynamics of viscoplastic filaments: II. Drips and bridges. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2010, 165, 1147-1160.	1.0	38
42	Viscoplastic slender-body theory. <i>Journal of Fluid Mechanics</i> , 2018, 856, 870-897.	1.4	38
43	Dynamics of cooling viscoplastic domes. <i>Journal of Fluid Mechanics</i> , 2004, 499, 149-182.	1.4	37
44	Two-dimensional viscoplastic dambreaks. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2016, 238, 65-79.	1.0	37
45	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
46	Taylor's swimming sheet in a yield-stress fluid. <i>Journal of Fluid Mechanics</i> , 2017, 828, 33-56.	1.4	36
47	Tidally generated internal-wave attractors between double ridges. <i>Journal of Fluid Mechanics</i> , 2011, 669, 354-374.	1.4	35
48	Radiative damping of near-inertial oscillations in the mixed layer. <i>Journal of Marine Research</i> , 1999, 57, 561-584.	0.3	34
49	Dam breaking by wave-induced erosional incision. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	32
50	Peristaltic pumping of rigid objects in an elastic tube. <i>Journal of Fluid Mechanics</i> , 2011, 672, 219-244.	1.4	32
51	Chaotic Pulse Trains. <i>SIAM Journal on Applied Mathematics</i> , 1994, 54, 1291-1334.	0.8	30
52	Slip of Spreading Viscoplastic Droplets. <i>Langmuir</i> , 2015, 31, 12071-12075.	1.6	30
53	Stratified Kolmogorov flow. Part 2. <i>Journal of Fluid Mechanics</i> , 2005, 528, 23-42.	1.4	29
54	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

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55	Thixotropic gravity currents. <i>Journal of Fluid Mechanics</i> , 2013, 727, 56-82.	1.4	28
56	Viscoplastic boundary layers. <i>Journal of Fluid Mechanics</i> , 2017, 813, 929-954.	1.4	28
57	Axisymmetric viscoplastic dambreaks and the slump test. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2018, 258, 45-57.	1.0	28
58	The viscoplastic Stokes layer. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 158, 46-53.	1.0	27
59	What is the final shape of a viscoplastic slump?. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 158, 91-100.	1.0	27
60	Being stable and discrete. <i>Physica D: Nonlinear Phenomena</i> , 2000, 135, 212-232.	1.3	26
61	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
62	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
63	Continual skipping on water. <i>Journal of Fluid Mechanics</i> , 2011, 669, 328-353.	1.4	26
64	Synchronized family dynamics in globally coupled maps. <i>Chaos</i> , 1999, 9, 738-754.	1.0	25
65	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
66	A Necessary and Sufficient Instability Condition for Inviscid Shear Flow. <i>Studies in Applied Mathematics</i> , 1999, 102, 309-344.	1.1	23
67	The onset of meandering in a barotropic jet. <i>Journal of Fluid Mechanics</i> , 2001, 449, 85-114.	1.4	23
68	Viscoplastic sheets and threads. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2013, 193, 28-42.	1.0	23
69	Mixing-length theory and the excitation of solar acoustic oscillations. <i>Solar Physics</i> , 1990, 128, 161-193.	1.0	22
70	Topological entropy of one-dimensional maps: Approximations and bounds. <i>Physical Review Letters</i> , 1994, 72, 80-83.	2.9	22
71	Obstructed and channelized viscoplastic flow in a Hele-Shaw cell. <i>Journal of Fluid Mechanics</i> , 2016, 790, 173-204.	1.4	22
72	Long bubbles in tubes filled with viscoplastic fluid. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2016, 238, 100-106.	1.0	22

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73	Spreading of viscoplastic droplets. <i>Journal of Fluid Mechanics</i> , 2021, 914, .	1.4	22
74	Dam-breaking seiches. <i>Journal of Fluid Mechanics</i> , 2009, 628, 1-21.	1.4	19
75	Pulse Dynamics in an Unstable Medium. <i>SIAM Journal on Applied Mathematics</i> , 1997, 57, 205-251.	0.8	18
76	Fingering instability in buoyancy-driven fluid-filled cracks. <i>Journal of Fluid Mechanics</i> , 2011, 672, 60-77.	1.4	18
77	Dynamics of vorticity defects in stratified shear flow. <i>Journal of Fluid Mechanics</i> , 2012, 694, 292-331.	1.4	18
78	The Lorenzâ€“Fermiâ€“Pastaâ€“Ulam experiment. <i>Physica D: Nonlinear Phenomena</i> , 2000, 138, 1-43.	1.3	17
79	Surface tension driven fingering of a viscoplastic film. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2007, 142, 143-149.	1.0	17
80	Shallow, gravity-driven flow in a poro-elastic layer. <i>Journal of Fluid Mechanics</i> , 2015, 778, 335-360.	1.4	17
81	Dewatering of fibre suspensions by pressure filtration. <i>Physics of Fluids</i> , 2016, 28, 063304.	1.6	17
82	Contact in a viscous fluid. Part 1. A falling wedge. <i>Journal of Fluid Mechanics</i> , 2010, 646, 327-338.	1.4	15
83	Gel-controlled droplet spreading. <i>Journal of Fluid Mechanics</i> , 2018, 837, 115-128.	1.4	15
84	Viscoplastic fingers and fractures in a Hele-Shaw cell. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2021, 289, 104492.	1.0	15
85	Damping of surface waves by floating particles. <i>Physical Review Fluids</i> , 2019, 4, .	1.0	15
86	Synchronizing Moore and Spiegel. <i>Chaos</i> , 1997, 7, 738-752.	1.0	14
87	Diffusion-limited scalar cascades. <i>Journal of Fluid Mechanics</i> , 2003, 482, 91-100.	1.4	14
88	Bounds on double-diffusive convection. <i>Journal of Fluid Mechanics</i> , 2006, 569, 29.	1.4	14
89	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
90	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

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91	Granular and fluid washboards. <i>Journal of Fluid Mechanics</i> , 2012, 692, 446-463.	1.4	13
92	From episodic avalanching to continuous flow in a granular drum. <i>Granular Matter</i> , 2018, 20, 1.	1.1	13
93	Obstructed viscoplastic flow in a Hele-Shaw cell. <i>Physical Review Fluids</i> , 2020, 5, .	1.0	13
94	Locomotion over a viscoplastic film. <i>Journal of Fluid Mechanics</i> , 2013, 727, 1-29.	1.4	11
95	Nonlinear ringing of polytropic disks. <i>Physica D: Nonlinear Phenomena</i> , 1996, 97, 1-28.	1.3	9
96	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
97	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
98	Flow-driven compaction of a fibrous porous medium. <i>Physical Review Fluids</i> , 2019, 4, .	1.0	9
99	Equilibria of rapidly rotating polytropes. <i>Monthly Notices of the Royal Astronomical Society</i> , 1993, 260, 253-272.	1.6	8
100	Visco-plastic fluids: From Theory to Application. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 158, 1-3.	1.0	8
101	Bulldozing of granular material. <i>Journal of Fluid Mechanics</i> , 2014, 748, 143-174.	1.4	8
102	Viscoplastic surges down an incline. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2019, 268, 1-11.	1.0	8
103	Instability of sheared density interfaces. <i>Journal of Fluid Mechanics</i> , 2019, 860, 145-171.	1.4	8
104	Building on Oldroyd's viscoplastic legacy: Perspectives and new developments. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2021, 294, 104580.	1.0	8
105	Strato-rotational instability without resonance. <i>Journal of Fluid Mechanics</i> , 2018, 846, 815-833.	1.4	7
106	Stability of vorticity defects in viscous shear. <i>Journal of Fluid Mechanics</i> , 1998, 357, 199-224.	1.4	6
107	Dissipative descent: rocking and rolling down an incline. <i>Journal of Fluid Mechanics</i> , 2007, 590, 295-318.	1.4	6
108	BCK states from the bump-on-tail instability. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2012, 17, 1989-1997.	1.7	6

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109	Slender axisymmetric Stokesian swimmers. <i>Journal of Fluid Mechanics</i> , 2014, 746, 273-299.	1.4	6
110	Viscoplastic Asymptotics and Other Analytical Methods. <i>CISM International Centre for Mechanical Sciences, Courses and Lectures</i> , 2019, , 41-82.	0.3	6
111	Instability of Rapidly Rotating Polytropes. <i>SIAM Journal on Applied Mathematics</i> , 1995, 55, 298-331.	0.8	5
112	Double diffusive instability in a tall thin slot. <i>Journal of Fluid Mechanics</i> , 1998, 375, 203-233.	1.4	5
113	Dewatering saturated, networked suspensions with a screw press. <i>Journal of Engineering Mathematics</i> , 2020, 120, 1-28.	0.6	5
114	Dynamics in coalescing critical layers. <i>Journal of Fluid Mechanics</i> , 2001, 449, 115-139.	1.4	4
115	Long-Wave Instability in Marginally Stable Shear Flows. <i>Physical Review Letters</i> , 1997, 79, 4155-4158.	2.9	3
116	Saturation of electrostatic instability in two-species plasma. <i>Journal of Plasma Physics</i> , 2002, 68, 87-117.	0.7	3
117	An interacting particle model with compact hierarchical structure. <i>Physica D: Nonlinear Phenomena</i> , 2011, 240, 101-113.	1.3	3
118	Instabilities in a staircase stratified shear flow. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2018, 112, 1-19.	0.4	3
119	Translating and squirming cylinders in a viscoplastic fluid. <i>Journal of Fluid Mechanics</i> , 2020, 882, .	1.4	3
120	Nonlinear dynamics of forced baroclinic critical layers. <i>Journal of Fluid Mechanics</i> , 2020, 883, .	1.4	3
121	Viscoelastic ribbons. <i>Journal of Fluid Mechanics</i> , 2021, 908, .	1.4	3
122	Nonlinear dynamics of forced baroclinic critical layers II. <i>Journal of Fluid Mechanics</i> , 2021, 917, .	1.4	3
123	On two-phase modeling of dewatering pulp suspensions. <i>AIChE Journal</i> , 2021, 67, e17277.	1.8	3
124	Fracture patterns in viscoplastic gravity currents. <i>Journal of Fluid Mechanics</i> , 2022, 934, .	1.4	3
125	On the bifurcation to moving fronts in discrete systems. <i>Nonlinearity</i> , 2005, 18, 2145-2170.	0.6	2
126	Editorial: Viscoelastic fluids: From theory to application. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2013, 193, 1-2.	1.0	2



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127	Noisy homoclinic pulse dynamics. <i>Chaos</i> , 2016, 26, 043104.	1.0	2
128	Instability of sliding viscoplastic films. <i>Journal of Fluid Mechanics</i> , 2021, 912, .	1.4	2
129	Locomotion with a wavy cylindrical filament in a yield-stress fluid. <i>Journal of Fluid Mechanics</i> , 2022, 936, .	1.4	2
130	Stability of vorticity defects in viscoelastic shear flow. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1997, 72, 281-304.	1.0	1
131	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
132	Pattern dynamics in a checkerboard map. <i>Chaos</i> , 2004, 14, 784-792.	1.0	1
133	Flow-destabilized seiches in a reservoir with a movable dam. <i>Journal of Fluid Mechanics</i> , 2011, 678, 294-316.	1.4	1
134	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
135	Flow-destabilized seiches in a reservoir with a movable dam. <i>Journal of Fluid Mechanics</i> , 0, , 1-23.	1.4	1
136	Viscoplastic plates. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2021, 477, .	1.0	1
137	Lubricated rolling over a pool. <i>Journal of Fluid Mechanics</i> , 2022, 934, .	1.4	1
138	One-dimensional compression of a saturated elastoviscoplastic medium. <i>Physical Review Fluids</i> , 2022, 7, .	1.0	1
139	Flow of a shallow film over a moving surface. <i>Physics of Fluids</i> , 0, , .	1.6	1
140	Sinusoidal Modes and Steady Warps of Polytropic Disks. <i>Annals of the New York Academy of Sciences</i> , 1995, 773, 55-69.	1.8	0
141	Visco-plastic Fluids: From Theory to Application. <i>Applied Rheology</i> , 2008, 18, 48-50.	3.5	0
142	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