# Nicholas McDonald

## List of Publications by Year
## in descending order

| | | | |
|---|---|---|---|
| **29**<br>papers | **205**<br>citations | 1162889<br>**8**<br>h-index | 1125617<br>**13**<br>g-index |
| **29**<br>all docs | **29**<br>docs citations | **29**<br>times ranked | **104**<br>citing authors |

| # | Article | IF | Citations |
|---|---------|----|-----------|
| 1 | Vortices near barriers with multiple gaps. Journal of Fluid Mechanics, 2005, 531, 335-358. | 1.4 | 32 |
| 2 | The motion of a singular vortex near an escarpment. Journal of Fluid Mechanics, 2001, 448, 335-365. | 1.4 | 20 |
| 3 | The point island approximation in vortex dynamics. Geophysical and Astrophysical Fluid Dynamics, 2005, 99, 49-60. | 0.4 | 14 |
| 4 | A Simple Model for Sheddies: Ocean Eddies Formed from Shed Vorticity. Journal of Physical Oceanography, 2016, 46, 2961-2979. | 0.7 | 14 |
| 5 | A point vortex model for the formation of ocean eddies by flow separation. Physics of Fluids, 2015, 27, . | 1.6 | 13 |
| 6 | Vortical source-sink flow against a wall: The initial value problem and exact steady states. Physics of Fluids, 2006, 18, 076601. | 1.6 | 12 |
| 7 | Generalised Hele-Shaw flow: A Schwarz function approach. European Journal of Applied Mathematics, 2011, 22, 517-532. | 1.4 | 11 |
| 8 | New families of vortex patch equilibria for the two-dimensional Euler equations. Physics of Fluids, 2017, 29, . | 1.6 | 11 |
| 9 | Vortex scattering by step topography. Journal of Fluid Mechanics, 2007, 571, 495-505. | 1.4 | 10 |
| 10 | Steadily translating vortices near step topography. Physics of Fluids, 2005, 17, 056601. | 1.6 | 7 |
| 11 | On the motion of unsteady translating bubbles in an unbounded Hele-Shaw cell. Physics of Fluids, 2015, 27, . | 1.6 | 7 |
| 12 | Surf-zone vortices over stepped topography. Journal of Fluid Mechanics, 2004, 511, 265-283. | 1.4 | 6 |
| 13 | Finite Rossby radius effects on vortex motion near a gap. Physics of Fluids, 2012, 24, . | 1.6 | 6 |
| 14 | Potential Vorticity Dynamics of Coastal Outflows. Journal of Physical Oceanography, 2017, 47, 1021-1041. | 0.7 | 6 |
| 15 | Poisson growth. Analysis and Mathematical Physics, 2015, 5, 193-205. | 0.6 | 5 |
| 16 | The long-wave vorticity dynamics of rotating buoyant outflows. Journal of Fluid Mechanics, 2017, 822, 418-443. | 1.4 | 5 |
| 17 | Necking in coating flow over periodic substrates. Journal of Engineering Mathematics, 2009, 65, 171-178. | 0.6 | 4 |
| 18 | Beach vortices near circular topography. Physics of Fluids, 2016, 28, . | 1.6 | 4 |

| # | ARTICLE | IF | CITATIONS |
|---|---------|----|-----------|
| 19 | Gap-Leaping Vortical Currents. Journal of Physical Oceanography, 2009, 39, 2665-2674. | 0.7 | 3 |
| 20 | Laboratory study of vortex dipoles interacting with step topography. Journal of Geophysical Research, 2009, 114, . | 3.3 | 3 |
| 21 | Finger Growth and Selection in a Poisson Field. Journal of Statistical Physics, 2020, 178, 763-774. | 0.5 | 3 |
| 22 | Hele-Shaw flow driven by an electric field. European Journal of Applied Mathematics, 2014, 25, 425-447. | 1.4 | 2 |
| 23 | A free-boundary model of diffusive valley growth: theory and observation. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2017, 473, 20170159. | 1.0 | 2 |
| 24 | Fingering instability in wildfire fronts. Journal of Fluid Mechanics, 2022, 943, . | 1.4 | 2 |
| 25 | Interactions of two vortices near step topography. Physics of Fluids, 2007, 19, . | 1.6 | 1 |
| 26 | Application of the Schwarz-Christoffel map to the Laplacian growth of needles and fingers. Physical Review E, 2020, 101, 013101. | 0.8 | 1 |
| 27 | Geodesic Loewner paths with varying boundary conditions. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20200466. | 1.0 | 1 |
| 28 | Vortex-Wave Interaction on a Sphere. , 2007, , 387-390. | | 0 |
| 29 | The fundamental solutions of the curve shortening problem via the Schwarz function. Complex Analysis and Its Synergies, 2022, 8, 1. | 0.1 | 0 |