

# Colin Cotter

## List of Publications by Year in descending order

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57  
papers

1,397  
citations

394421

19  
h-index

395702

33  
g-index

60  
all docs

60  
docs citations

60  
times ranked

893  
citing authors

#	ARTICLE	IF	CITATIONS
1	Diffeomorphic 3D Image Registration via Geodesic Shooting Using an Efficient Adjoint Calculation. International Journal of Computer Vision, 2012, 97, 229-241.	15.6	146
2	Mixed finite elements for numerical weather prediction. Journal of Computational Physics, 2012, 231, 7076-7091.	3.8	85
3	A mixed discontinuous/continuous finite element pair for shallow-water ocean modelling. Ocean Modelling, 2009, 26, 86-90.	2.4	70
4	Numerically Modeling Stochastic Lie Transport in Fluid Dynamics. Multiscale Modeling and Simulation, 2019, 17, 192-232.	1.6	65
5	A finite element exterior calculus framework for the rotating shallow-water equations. Journal of Computational Physics, 2014, 257, 1506-1526.	3.8	64
6	LBB stability of a mixed Galerkin finite element pair for fluid flow simulations. Journal of Computational Physics, 2009, 228, 336-348.	3.8	52
7	Computational Modes and Grid Imprinting on Five Quasi-Uniform Spherical C Grids. Monthly Weather Review, 2012, 140, 2734-2755.	1.4	49
8	Encapsulated formulation of the selective frequency damping method. Physics of Fluids, 2014, 26, .	4.0	41
9	Energy- and enstrophy-conserving schemes for the shallow-water equations, based on mimetic finite elements. Quarterly Journal of the Royal Meteorological Society, 2014, 140, 2223-2234.	2.7	41
10	Multisymplectic formulation of fluid dynamics using the inverse map. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2007, 463, 2671-2687.	2.1	39
11	Numerical wave propagation for the triangular P1 - P2 finite element pair. Journal of Computational Physics, 2011, 230, 2806-2820.	3.8	39
12	A primal-dual mimetic finite element scheme for the rotating shallow water equations on polygonal spherical meshes. Journal of Computational Physics, 2015, 290, 274-297.	3.8	34
13	Simulating tidal turbines with multi-scale mesh optimisation techniques. Journal of Fluids and Structures, 2016, 66, 69-90.	3.4	30
14	Energy- enstrophy conserving compatible finite element schemes for the rotating shallow water equations with slip boundary conditions. Journal of Computational Physics, 2018, 373, 171-187.	3.8	26
15	A mixed finite element, finite volume, semi-implicit discretization for atmospheric dynamics: Cartesian geometry. Quarterly Journal of the Royal Meteorological Society, 2019, 145, 2835-2853.	2.7	26
16	An adaptive selective frequency damping method. Physics of Fluids, 2015, 27, 094104.	4.0	24
17	Continuous and Discrete Clebsch Variational Principles. Foundations of Computational Mathematics, 2009, 9, 221-242.	2.5	23
18	A variational $H(\text{div})$ finite-element discretization approach for perfect incompressible fluids. IMA Journal of Numerical Analysis, 2018, 38, 1388-1419.	2.9	23

#	ARTICLE	IF	CITATIONS
19	Higher-order compatible finite element schemes for the nonlinear rotating shallow water equations on the sphere. <i>Journal of Computational Physics</i> , 2018, 375, 1121-1137.	3.8	22
20	Data Assimilation for a Quasi-Geostrophic Model with Circulation-Preserving Stochastic Transport Noise. <i>Journal of Statistical Physics</i> , 2020, 179, 1186-1221.	1.2	22
21	A Particle Filter for Stochastic Advection by Lie Transport: A Case Study for the Damped and Forced Incompressible Two-Dimensional Euler Equation. <i>SIAM-ASA Journal on Uncertainty Quantification</i> , 2020, 8, 1446-1492.	2.0	20
22	Analysis of a mixed finite-element pair proposed for an atmospheric dynamical core. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2013, 139, 1239-1254.	2.7	18
23	Embedded discontinuous Galerkin transport schemes with localised limiters. <i>Journal of Computational Physics</i> , 2016, 311, 363-373.	3.8	18
24	Semigeostrophic Particle Motion and Exponentially Accurate Normal forms. <i>Multiscale Modeling and Simulation</i> , 2006, 5, 476-496.	1.6	16
25	Optimal-Transport-Based Mesh Adaptivity on the Plane and Sphere Using Finite Elements. <i>SIAM Journal of Scientific Computing</i> , 2018, 40, A1121-A1148.	2.8	16
26	Solving the Poisson equation on small aspect ratio domains using unstructured meshes. <i>Ocean Modelling</i> , 2010, 35, 253-263.	2.4	14
27	Energy conserving upwinded compatible finite element schemes for the rotating shallow water equations. <i>Journal of Computational Physics</i> , 2020, 401, 109016.	3.8	14
28	Hamiltonian Particle-Mesh Method for Two-Layer Shallow-Water Equations Subject to the Rigid-Lid Approximation. <i>SIAM Journal on Applied Dynamical Systems</i> , 2004, 3, 69-83.	1.6	13
29	Variational water-wave model with accurate dispersion and vertical vorticity. <i>Journal of Engineering Mathematics</i> , 2010, 67, 33-54.	1.2	12
30	Data assimilation on the exponentially accurate slow manifold. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2013, 371, 20120300.	3.4	12
31	Compatible finite element spaces for geophysical fluid dynamics. <i>Dynamics and Statistics of the Climate System</i> , 2016, 1, .	0.8	12
32	Scale-selective dissipation in energy-conserving finite-element schemes for two-dimensional turbulence. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2017, 143, 1734-1745.	2.7	12
33	Estimating eddy diffusivities from noisy Lagrangian observations. <i>Communications in Mathematical Sciences</i> , 2009, 7, 805-838.	1.0	12
34	Slate: extending Firedrake's domain-specific abstraction to hybridized solvers for geoscience and beyond. <i>Geoscientific Model Development</i> , 2020, 13, 735-761.	3.6	11
35	A two-dimensional mixed finite-element pair on rectangles. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2014, 140, 930-942.	2.7	10
36	The scaling and skewness of optimally transported meshes on the sphere. <i>Journal of Computational Physics</i> , 2018, 375, 540-564.	3.8	10

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37	A Reparameterisation Based Approach to Geodesic Constrained Solvers for Curve Matching. <i>International Journal of Computer Vision</i> , 2012, 99, 103-121.	15.6	9
38	Choice of function spaces for thermodynamic variables in mixed finite element methods. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2018, 144, 900-916.	2.7	9
39	A compatible finite element discretisation for the moist compressible Euler equations. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2020, 146, 3187-3205.	2.7	9
40	Vertical slice modelling of nonlinear Eady waves using a compatible finite element method. <i>Journal of Computational Physics</i> , 2017, 343, 130-149.	3.8	8
41	Assessing erosion and flood risk in the coastal zone through the application of multilevel Monte Carlo methods. <i>Coastal Engineering</i> , 2022, 174, 104118.	4.0	8
42	Hydro-morphodynamics 2D modelling using a discontinuous Galerkin discretisation. <i>Computers and Geosciences</i> , 2021, 146, 104658.	4.2	6
43	Geodesic boundary value problems with symmetry. <i>Journal of Geometric Mechanics</i> , 2010, 2, 51-68.	0.8	6
44	Calibration, inversion and sensitivity analysis for hydro-morphodynamic models through the application of adjoint methods. <i>Computers and Geosciences</i> , 2022, 163, 105104.	4.2	5
45	Diagnostic tools for 3D unstructured oceanographic data. <i>Ocean Modelling</i> , 2008, 20, 170-182.	2.4	4
46	Mixed finite elements for global tide models. <i>Numerische Mathematik</i> , 2016, 133, 255-277.	1.9	4
47	Corrigendum to: A variational $H(\text{m div})$ finite-element discretization approach for perfect incompressible fluids. <i>IMA Journal of Numerical Analysis</i> , 2018, 38, 1084-1084.	2.9	4
48	The "recovered space"™ advection scheme for lowest-order compatible finite element methods. <i>Journal of Computational Physics</i> , 2019, 390, 342-358.	3.8	4
49	Perspectives on the formation of peakons in the stochastic Camassa-Holm equation. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2021, 477, .	2.1	4
50	The r-Hunter-Saxton equation, smooth and singular solutions and their approximation. <i>Nonlinearity</i> , 2020, 33, 7016-7039.	1.4	4
51	Geostrophic balance preserving interpolation in mesh adaptive linearised shallow-water ocean modelling. <i>Ocean Modelling</i> , 2011, 37, 35-48.	2.4	3
52	Energy conserving SUPG methods for compatible finite element schemes in numerical weather prediction. <i>SMAI Journal of Computational Mathematics</i> , 0, 7, 267-300.	0.0	3
53	Multi-scale hydro-morphodynamic modelling using mesh movement methods. <i>GEM - International Journal on Geomathematics</i> , 2022, 13, 1.	1.6	3
54	Geometric integration of a wave-vortex model. <i>Applied Numerical Mathematics</i> , 2004, 48, 293-305.	2.1	2

#	ARTICLE	IF	CITATIONS
55	Mixed finite elements for global tide models with nonlinear damping. <i>Numerische Mathematik</i> , 2018, 140, 963-991.	1.9	2
56	Statistical properties of an enstrophy conserving finite element discretisation for the stochastic quasi-geostrophic equation. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2019, 113, 491-504.	1.2	2
57	A Structure-Preserving Approximation of the Discrete Split Rotating Shallow Water Equations. <i>Lecture Notes in Computational Science and Engineering</i> , 2021, , 103-113.	0.3	0