Steve Shkoller

List of Publications by Year
in descending order

53 papers	2,755 citations	186265 28 h-index	175258 52 g-index
53 all docs	53 docs citations	53 times ranked	850 citing authors

#	ARTICLE	IF	CITATIONS
1	Shock Formation and Vorticity Creation for 3d Euler. Communications on Pure and Applied Mathematics, 2023, 76, 1965-2072.	3.1	4
2	Formation of Point Shocks for 3D Compressible Euler. Communications on Pure and Applied Mathematics, 2023, 76, 2073-2191.	3.1	5
3	Formation of Shocks for <scp>2D</scp> Isentropic Compressible Euler. Communications on Pure and Applied Mathematics, 2022, 75, 2069-2120.	3.1	17
4	A multiscale model for Rayleigh-Taylor and Richtmyer-Meshkov instabilities. Journal of Computational Physics, 2020, 405, 109177.	3.8	8
5	Affine Motion of 2d Incompressible Fluids Surrounded by Vacuum and Flows in $$mathrm{SL}(2,mathbb {R})$$. Communications in Mathematical Physics, 2020, 375, 1003-1040.	2.2	2
6	On the splash singularity for the free-surface of a Navierâ€"Stokes fluid. Annales De L'Institut Henri Poincare (C) Analyse Non Lineaire, 2019, 36, 475-503.	1.4	7
7	A priori estimates for solutions to the relativistic Euler equations with a moving vacuum boundary. Communications in Partial Differential Equations, 2019, 44, 859-906.	2.2	10
8	Nonuniqueness of Weak Solutions to the SQG Equation. Communications on Pure and Applied Mathematics, 2019, 72, 1809-1874.	3.1	50
9	Global Existence of Near-Affine Solutions to the Compressible Euler Equations. Archive for Rational Mechanics and Analysis, 2019, 234, 115-180.	2.4	13
10	A space-time smooth artificial viscosity method with wavelet noise indicator and shock collision scheme, Part 1: The 1-D case. Journal of Computational Physics, 2019, 387, 81-116.	3.8	13
11	A space-time smooth artificial viscosity method with wavelet noise indicator and shock collision scheme, Part 2: The 2-D case. Journal of Computational Physics, 2019, 387, 45-80.	3.8	14
12	Rigorous Asymptotic Models of Water Waves. Water Waves, 2019, 1, 71-130.	1.0	20
13	Well-posedness and decay to equilibrium for the Muskat problem with discontinuous permeability. Transactions of the American Mathematical Society, 2019, 372, 2255-2286.	0.9	11
14	A Model for Rayleigh--Taylor Mixing and Interface Turnover. Multiscale Modeling and Simulation, 2017, 15, 274-308.	1.6	15
15	Solvability and Regularity for an Elliptic System Prescribing the Curl, Divergence, and Partial Trace of a Vector Field on Sobolev-Class Domains. Journal of Mathematical Fluid Mechanics, 2017, 19, 375-422.	1.0	21
16	Local Well-Posedness and Global Stability of the Two-Phase Stefan Problem. SIAM Journal on Mathematical Analysis, 2017, 49, 4942-5006.	1.9	4
17	Well-posedness for the Classical Stefan Problem and the Zero Surface Tension Limit. Archive for Rational Mechanics and Analysis, 2017, 223, 213-264.	2.4	6
18	On the Impossibility of Finite-Time Splash Singularities for Vortex Sheets. Archive for Rational Mechanics and Analysis, 2016, 221, 987-1033.	2.4	19

#	Article	IF	Citations
19	Well-posedness of the Muskat problem with<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll"><mml:msup><mml:mrow><mml:mi>H</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow>< data. Advances in Mathematics, 2016, 286, 32-104.	1.1	57
20	Global stability of steady states in the classical Stefan problem for general boundary shapes. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140284.	3.4	3
21	Global Stability and Decay for the Classical Stefan Problem. Communications on Pure and Applied Mathematics, 2015, 68, 689-757.	3.1	9
22	Global existence and decay for solutions of the Heleâ€“Shaw flow with injection. Interfaces and Free Boundaries, 2014, 16, 297-338.	0.8	7
23	On the Finite-Time Splash and Splat Singularities for the 3-D Free-Surface Euler Equations. Communications in Mathematical Physics, 2014, 325, 143-183.	2.2	68
24	Well-Posedness of the Free-Boundary Compressible 3-D Euler Equations with Surface Tension and the Zero Surface Tension Limit. SIAM Journal on Mathematical Analysis, 2013, 45, 3690-3767.	1.9	44
25	Well-Posedness in Smooth Function Spaces for the Moving-Boundary Three-Dimensional Compressible Euler Equations in Physical Vacuum. Archive for Rational Mechanics and Analysis, 2012, 206, 515-616.	2.4	119
26	Wellâ€posedness in smooth function spaces for movingâ€boundary 1â€D compressible euler equations in physical vacuum. Communications on Pure and Applied Mathematics, 2011, 64, 328-366.	3.1	88
27	A SIMPLE PROOF OF A PRIORI ESTIMATES FOR WATER-WAVES. , 2010, , .		0
28	A Priori Estimates for the Free-Boundary 3D Compressible Euler Equations in Physical Vacuum. Communications in Mathematical Physics, 2010, 296, 559-587.	2.2	69
29	On the Limit as the Density Ratio Tends to Zero for Two Perfect Incompressible Fluids Separated by a Surface of Discontinuity. Communications in Partial Differential Equations, 2010, 35, 817-845.	2.2	7
30	The Interaction of the 3D Navierâ€“Stokes Equations with a Moving Nonlinear Koiter Elastic Shell. SIAM Journal on Mathematical Analysis, 2010, 42, 1094-1155.	1.9	49
31	A simple proof of well-posedness for the free-surface incompressible Euler equations. Discrete and Continuous Dynamical Systems - Series S, 2010, 3, 429-449.	1.1	39
32	On the motion of vortex sheets with surface tension in threeâ€dimensional Euler equations with vorticity. Communications on Pure and Applied Mathematics, 2008, 61, 1715-1752.	3.1	37
33	Well-posedness of the free-surface incompressible Euler equations with or without surface tension. Journal of the American Mathematical Society, 2007, 20, 829-931.	3.9	244
34	Navierâ€“Stokes Equations Interacting with a Nonlinear Elastic Biofluid Shell. SIAM Journal on Mathematical Analysis, 2007, 39, 742-800.	1.9	54
35	The Interaction between Quasilinear Elastodynamics and the Navier-Stokes Equations. Archive for Rational Mechanics and Analysis, 2006, 179, 303-352.	2.4	131
36	Motion of an Elastic Solid inside an Incompressible Viscous Fluid. Archive for Rational Mechanics and Analysis, 2005, 176, 25-102.	2.4	146

#	Article	IF	Citations
37	Turbulent channel flow in weighted Sobolev spaces using the anisotropic Lagrangian averaged Navier-Stokes (LANS-$alpha$) equations. Communications on Pure and Applied Analysis, 2004, 3, 1-23.	0.8	5
38	The Anisotropic Lagrangian Averaged Euler and Navier-Stokes Equations. Archive for Rational Mechanics and Analysis, 2003, 166, 27-46.	2.4	77
39	Numerical simulations of the Lagrangian averaged Navierâ€“Stokes equations for homogeneous isotropic turbulence. Physics of Fluids, 2003, 15, 524-544.	4.0	101
40	WELL-POSEDNESS AND GLOBAL ATTRACTORS FOR LIQUID CRYSTALS ON RIEMANNIAN MANIFOLDS. Communications in Partial Differential Equations, 2002, 27, 1103-1137.	2.2	33
41	Variational methods, multisymplectic geometry and continuum mechanics. Journal of Geometry and Physics, 2001, 38, 253-284.	1.4	107
42	THE VORTEX BLOB METHOD AS A SECOND-GRADE NON-NEWTONIAN FLUID. Communications in Partial Differential Equations, 2001, 26, 295-314.	2.2	39
43	Enhancement of the inverse-cascade of energy in the two-dimensional Lagrangian-averaged Navierâ€“Stokes equations. Physics of Fluids, 2001, 13, 1528-1531.	4.0	19
44	Well-posedness of the full Ericksenâ€“Leslie model of nematic liquid crystals. Comptes Rendus Mathematique, 2001, 333, 919-924.	0.5	39
45	Analysis on Groups of Diffeomorphisms of Manifolds with Boundary and the Averaged Motion of a Fluid. Journal of Differential Geometry, 2000, 55, 145.	1.1	38
46	A variational approach to second-order multisymplectic field theory. Journal of Geometry and Physics, 2000, 35, 333-366.	1.4	35
47	Symmetry reduction of discrete Lagrangian mechanics on Lie groups. Journal of Geometry and Physics, 2000, 36, 140-151.	1.4	39
48	Discrete Euler-PoincarÃ© and Lie-Poisson equations. Nonlinearity, 1999, 12, 1647-1662.	1.4	122
49	Persistence of Invariant Manifolds for Nonlinear PDEs. Studies in Applied Mathematics, 1999, 102, 27-67.	2.4	7
50	Multisymplectic geometry, covariant Hamiltonians, and water waves. Mathematical Proceedings of the Cambridge Philosophical Society, 1999, 125, 553-575.	0.4	86
51	Reduction in principal fiber bundles: Covariant Euler-PoincarÃ© equations. Proceedings of the American Mathematical Society, 1999, 128, 2155-2164.	0.8	41
52	Geometry and Curvature of Diffeomorphism Groups withH1Metric and Mean Hydrodynamics. Journal of Functional Analysis, 1998, 160, 337-365.	1.4	118
53	Multisymplectic Geometry, Variational Integrators, and Nonlinear PDEs. Communications in Mathematical Physics, 1998, 199, 351-395.	2.2	439