

## Publications

1. P. Constantin, Scattering for Schrodinger operators in a class of domains with infinite boundaries, *J. Funct. Anal.* **44** (1981), 87-119.
2. P. Constantin, C. Foias, Sur le transport des varietes de dimension finie par les solutions des equations de Navier-Stokes, *C. R. Acad. Sc. Paris* **296** (10 Janvier 1983), Serie I, 23-26.
3. P. Constantin, C. Foias, O. Manley and R. Temam, Connection between the mathematical theory of the Navier-Stokes equations and the conventional theory of turbulence, *C. R. Acad. Sc. Paris* **297** (1983), Serie I, 599 - 603.
4. P. Constantin, C. Foias and R. Temam, On the large time Galerkin approximations of the Navier-Stokes equations, *SIAM J. Num. Anal.* **21**, 4 (1984), 614 - 634.
5. P. Constantin, Blow up for a nonlocal evolution equation, MSRI report 038-84-6, July 1984.
6. P. Constantin, C. Foias, Global Lyapunov exponents, Kaplan-Yorke formulas and the dimension of the attractors for 2-D Navier Stokes equations, *Comm. Pure Appl. Math.* **38** (1985), 1 - 27.
7. P. Constantin, C. Foias and R. Temam, Attractors representing turbulent flows, , *Memoirs AMS* 314 (1985), 73 p.
8. P. Constantin, C. Foias, O. Manley and R. Temam, Determining modes and fractal dimension of turbulent flows, *J. Fluid Mech.* **150** (1985), 427 - 440.
9. P. Constantin, P. Lax and A. Majda, A simple one-dimensional model for the three-dimensional vorticity equation, *Comm. Pure Appl. Math.* **38** (1985), 715 - 724.
10. P. Constantin, Note on loss of regularity for solutions of the 3D incompressible Euler and related equations, *Commun. Math. Phys.* **106** (1986), 311 - 326.

11. P. Constantin, C. Foias, B. Nicolaenko and R. Temam, Nouveaux resultats sur les varietes inertielles pour des equations differentielles dissipatives, , C. R. Acad. Sc. Paris, **302** (Mars 1986), Serie I, 375 - 378.
12. P. Constantin, Collective estimates for families of functions with orthonormal derivatives, Indiana Univ. Math. J. **36** (1987), 603 - 616.
13. P. Constantin, J-C. Saut, Effets regularisants locaux pour des equations dispersives generales, C. R. Acad. Sc. Paris **304** (1987), Serie I, 407 - 410.
14. P. Constantin, C. Foias and R. Temam, On the dimension of the attractors in two dimensional turbulence, Physica D **30** (1988), 294 - 296.
15. V. Barcion P. Constantin and E. Titi, Existence of solutions to the Stommel-Charney model of the Gulf Stream, SIAM J. Math. Anal. **19** (1988), 1355 - 1364.
16. P. Constantin, C. Foias, **Navier-Stokes Equations**, The University of Chicago Press, Chicago, 1988.
17. P. Constantin, J-C. Saut, Local smoothing properties of dispersive equations, J. of AMS **1** (1988), 413 - 439.
18. P. Constantin, A. Majda, The Beltrami spectrum for incompressible fluid flows, Commun. Math. Phys. **115** (1988), 435 - 456.
19. P. Constantin, E. Titi, On the evolution of nearly circular vortex patches, Commun. Math. Phys. **119** (1988) 177 - 198.
20. P. Constantin, J. D. Gibbon and C. Foias, Finite dimensional attractor for the laser equation, Nonlinearity **2** (1989) 241 -269.
21. P. Constantin, C. Foias, B. Nicolaenko and R. Temam, Spectral barriers and inertial manifolds for dissipative partial differential equations, J. Dynamics and Diff. Eqns. **1** (1989), 45 - 73.

22. P. Constantin, C. Foias, B. Nicolaenko and R. Temam, **Integral Manifolds and Inertial Manifolds for Dissipative Partial Differential Equations**, Appl. Math Sci. **70**, Springer-Verlag, New York (1989).
23. P. Constantin, A construction of inertial manifolds, Contemporary Mathematics, AMS Providence R.I. **99** (1989), 27 - 62.
24. P. Constantin, J-C. Saut, Local Smoothing properties for Schrodinger equations, Indiana Univ. Math. J. **38** (1989), 791 - 810.
25. M. Bartuccelli, P. Constantin, C. Doering, J. D. Gibbon and M. Gisselalt, Hard turbulence in a finite dimensional dynamical system ? Phys. Lett. A. **142** (1989), 349-356 and **145** (1990), 476-477.
26. M. Bartuccelli, P. Constantin, C. Doering, J. D. Gibbon and M. Gisselalt, On the possibility of soft and hard turbulence in the complex Ginzburg-Landau equation, , Physica D **44** (1990), 421 - 444.
27. P. Constantin, Decay estimates for Schrodinger equations, Commun. Math. Phys. **127** (1990), 101 - 108.
28. P. Constantin, Navier-Stokes equations and area of interfaces, Commun. Math. Phys. **129** (1990), 241 - 266.
29. P. Constantin and L.P. Kadanoff, Singularities in complex interfaces, Phil. Trans. R. Soc. London A **333** (1990), 379 - 389.
30. P. Constantin, Remarks on the Navier-Stokes equations, in **New Perspectives in Turbulence**, L. Sirovich Ed., Springer-Verlag, New York, 1991.
31. P. Constantin, L.P. Kadanoff, Dynamics of a complex interface, , Physica D **47** (1991), 450 - 460.
32. P. Constantin, E. Ching, L.P. Kadanoff, A. Libchaber, I. Procaccia and X-Z Wu, Transitions in convective turbulence: the role of thermal plumes, Phys.Rev **A44**, 1991, 8091.
33. P. Constantin, I. Procaccia and K.R. Sreenivasan, Fractal geometry of isoscalar surfaces in turbulence: theory and experiment, Phys. Rev. Lett. **67** 13(1991), 1739-1742.

34. Ch. Doering and P. Constantin, Energy dissipation in shear driven turbulence, *Phys.Rev.Lett.* **69** (1992), 1648-1651.
35. P. Constantin and I. Procaccia, The dimension of the carrier of dissipation in turbulence: intermittency in fluid mechanics, *Phys. Rev.* **A46**, (1992), 4736-.
36. P. Constantin and M. Pugh, Global solutions for small data to the Hele-Shaw problem, *Nonlinearity*, **6** (1993), 393 - 415.
37. A. Bertozzi and P. Constantin, Global regularity for vortex patches, *Commun. Math. Phys.*, **152**, (1993), 19 - 28.
38. P. Constantin and I. Procaccia, The fractal geometry of the level sets of a contaminant dispersed by chaotic surface waves, *Euro. Phys. Lett*, **22**, (1993), 689.
39. P. Constantin and I. Procaccia, Scaling in fluid turbulence: a geometric theory *Phys. Rev E*, **47**, (1993), 3307
40. P. Constantin and I. Procaccia, Non-Kolmogorov scaling exponents and the geometry of high Reynolds number turbulence, *Phys. Rev Lett* **70** (1993) 3416.
41. P. Constantin, T. Dupont, R. Goldstein, L. Kadanoff, M.Shelley, and S. Zhou, Droplet break-up in the Hele-Shaw cell? *Phys. Rev. E*, **47**, (1993), 4169.
42. P. Constantin and C. Fefferman, Direction of vorticity and the problem of global regularity for the Navier-Stokes equations, *Indiana Univ. Math. Journal*, **42** (1993), 775.
43. P. Constantin, Geometric statistics in turbulence, *Siam Review*, **36**, (1994), 73.
44. P. Constantin, C. Foias and O. Manley, Effects of the forcing function spectrum on the energy spectrum in 2-D turbulence, *Phys. Fluids*, **6**, (1994), 427.
45. P. Constantin, C. Feffermann, Scaling exponents in fluid turbulence: some analytic results, *Nonlinearity*, **7**, (1994), 41.

46. P. Constantin, A. Majda and E. Tabak, Singular front formation in a model for quasi-geostrophic flow, *Phys. of Fluids* **6**, (1994), 9.
47. P. Constantin, Geometric and analytic studies in turbulences, in *Trends and Perspectives in Appl. Math.*, L. Sirovich ed., *Appl. Math. Sciences* **100**, Springer-Verlag, (1994).
48. P. Constantin, I. Procaccia, The Geometry of turbulent advection: sharp estimates for the dimension of level sets, *Nonlinearity*, **7**, (1994), 1045.
49. P. Constantin, Active Scalars and the Euler Equation, *Tatra Mountain Math. Publ.*, **4** (1994), 25-38.
50. Ch. Doering and P. Constantin, Variational bounds on energy dissipation in incompressible flows I. Shear flow, *Phys. Rev. E*, **49**, (1994), 4087.
51. P. Constantin, W. E and E. Titi, Onsager's conjecture on the energy conservation for solutions of Euler's equation, *Commun. Math. Phys.*, **165** (1994), 207-209.
52. P. Constantin, A. Majda and E. Tabak, Formation of strong fronts in the 2D quasi-geostrophic thermal active scalar, *Nonlinearity*, **7** (1994), 1495-1533.
53. P. Constantin, I. Procaccia and D. Segel, Creation and dynamics of vortex tubes in three dimensional turbulence *Phys. Rev E* **51**, (1995), 3207.
54. P. Constantin and Ch. Doering, Variational bounds in dissipative systems, *Physica D*, **82** (1995), 221-228.
55. P. Constantin, Ch. Doering, Variational bounds on energy dissipation in incompressible flows: II. Channel flow, *Phys. Rev E* **51** (1995), 3192-3198.
56. P. Constantin, E. Grossman and M. Mungan, Inelastic collisions of three particles on a line as a two dimensional billiard, *Physica D*, **83** (1995), 409 - 420.

57. P. Constantin and J. Wu, Inviscid limit for vortex patches, Institut Mittag-Leffler preprint, ISSN 1103-467X, ISRN IML-R-7-94/95 No 7 1994/95 (1994) and *Nonlinearity*, **8** (1995), 735-742.
58. H. Bercovici, P. Constantin, C. Foias and O. Manley, Exponential decay of the power spectrum of turbulence, *J. Stat. Phys.*, **80** (1995), 579-602.
59. P. Constantin, Nonlinear Inviscid Incompressible Dynamics, *Physica D*, **86** (1995), 212-219.
60. P. Constantin, A few results and open problems regarding incompressible fluids, *Notices of the AMS*, **42** (1995), 658-663.
61. P. Constantin and J. Wu, Vanishing viscosity limit for vortex patches, (Mittag-Leffler preprint ISSN 1103-467X, No 26 1994/95)
62. P. Constantin, C. Fefferman and A. Majda, Sufficient conditions for regularity for the 3D incompressible Euler equations, *Mittag Leffler* ISSN 1103-467X, No 29 1994/95.
63. P. Constantin, C. Fefferman and A. Majda, Geometric constraints on potentially singular solutions for the 3-D Euler equations, *Commun. in PDE* **21** (1996), 559-571.
64. P. Constantin and Ch. Doering, Heat transfer in convective turbulence, *Nonlinearity* **9** (1996) 1049-1060.
65. P. Constantin and J. Wu, The inviscid limit for non-smooth vorticity, *Indiana U. Math J.* **45** (1996), 67-81.
66. Ch. Doering and P. Constantin, Variational bounds on energy dissipation in incompressible flows: III. Convection, *Phys. Rev E*, **53**, (1996) 5957-5981.
67. P. Constantin, Ch. Doering and E. Titi, Rigorous estimates of small scales in turbulent flows, *Journal of Mathematical Physics* **37** (1996) 6152-6156.
68. P. Constantin and J. Wu, Statistical solutions of the Navier-Stokes equations on the phase space of vorticity and the inviscid limits, *IMA Preprint Series 1442*, November 1996; *J. Math. Phys.*, **38** (1997), 3031-3045.

69. P. Constantin, I. Kukavica, C. Foias and A. Majda, Dirichlet quotients and periodic 2D Navier-Stokes equations, *J. Math Pures Appl.*, **76** (1997), 125-153.
70. P. Constantin, The Littlewood-Paley spectrum in 2D turbulence, *Theor. Comp. Fluid Dyn.***9** (1997), 183-189.
71. P. Constantin, Exponents of bulk heat transfer in convective turbulence, in *Turbulence Modeling and Vortex Dynamics*, Boratav, Eden, Erzan Eds. , Springer Lect. Notes in Phys. **491** (1997), 17-27.
72. P. Constantin, Singular limits in fluid mechanics, in *Current and future directions in applied mathematics*, M. Alber, B. Hu, J. Rosenthal, Edtrs, (1997) Birkhauser, Boston.
73. P. Constantin, The elusive singularity, *PNAS* **94**, (1997), 12761.
74. P. Constantin, Scaling exponents for Active Scalars, *J. Stat. Phys.* **90**(1998), 571-595.
75. P. Constantin, Q. Nie and N. Schoerger, Nonsingular surface quasi-geostrophic flow, *Phys. Letters A* **241** (27 April 1998), 168-172.
76. P. Constantin, Absence of proper non-degenerate generalized self-similar singularities, *J. Stat. Phys.* **93** (1998), 777-786.
77. Ch. Doering and P. Constantin, Bounds for heat transport in a porous layer, *J. Fluid Mechanics*, **376** (1998), 263-296.
78. P. Constantin and Ch. Doering, Infinite Prandtl number convection, *J. Stat. Phys.*, **94** (1999), 159-172.
79. P. Constantin, C. Hallstrom and V. Putkaradze, Heat transport in rotating convection, *Physica D* **125**, (1999), 275-284.
80. P. Constantin and J. Wu, Behavior of solutions to 2D quasi-geostrophic equations, *SIAM J. Math. Anal.*, **30** (1999) 937-948.
81. M. Brenner, P. Constantin, L. P. Kadanoff, A. Schenkel and S. Venkataramani, Diffusion, attraction and collapse, *Nonlinearity*, **12** (1999) 1071-1098.

82. P. Constantin, Q. Nie, N. Schorghofer, Front formation in an active scalarequation, *Physical Review E***60** (1999), 2858-2863.
83. P. Constantin, Variational Bounds in Turbulent Convection, in *Contemporary in Mathematics* **238** (1999), G-Q. Chen and E. Di Benedetto and Chen Edtrs., AMS, Providence R.I, 77-88.
84. P. Constantin, Q. Nie and S. Tanveer, Bounds for second order structure functions and energy spectrum in turbulence *Phys. Fluids* **11** (1999), 2251-2256.
85. P. Constantin, A. Kiselev, A. Oberman and L. Ryzhik, Bulk Burning Rate in Passive - Reactive Diffusion, *Arch. Rational Mechanics*, **154** (2000), 53-91.
86. P. Constantin, The Euler Equations and Nonlocal Conservative Riccati Equations, *Intern. Math. Res. Notes*, **9** (2000), 455-465.
87. Ch. Doering and P. Constantin, On upper bounds for infinite Prandtl number convection with or without rotation, *Journal Math. Phys.*, **42** (2001), 784-795.
88. P. Constantin, C. Hallstrom and V. Putkaradze, Logarithmic Bounds for Infinite Prandtl Number Rotating Convection *Journal Math. Phys.*, **42** (2001), 773-783.
89. P. Constantin, An Eulerian-Lagrangian Approach for Incompressible Fluids: Local Theory, *Journal of the American Mathematical Society* **14** (2001), 263-278.
90. P. Constantin, An Eulerian-Lagrangian approach to the Navier-Stokes equations, *Commun. Math. Phys.*, **216** (2001), 663-686.
91. P. Constantin, A. Kiselev and L. Ryzhik, Quenching of flames by fluid advection, *Commun. Pure Appl. Math*, **54** (2001), no. 11, 1320–1342
92. P. Constantin, D. Cordoba and J. Wu, On the critical dissipative quasi-geostrophic equation, *Indiana University Mathematics Journal*, **50** (2001), 97-107.



93. P. Constantin, Bounds for turbulent transport, *Geometry and Statistics of Turbulence* T. Kambe, T. Nakano, T. Miyauchi Edtrs, Kluwer, Amsterdam (2001)
94. P. Constantin, Energy spectrum of quasi-geostrophic turbulence, *Phys. Rev. Lett.* **89** (October 2002) 18, 184501.
95. P. Constantin, Filtered Viscous Fluid Equations, *Computer and Mathematics with Applications*, **46** (2003), 537-546.
96. P. Constantin, Near identity transformations for the Navier-Stokes equations, in *Handbook of Mathematical Fluid Dynamics*, Volume 2, S. Friedlander and D. Serre Edtrs, Elsevier (2003).
97. K. Ohkitani, P. Constantin, Numerical study of the Eulerian-Lagrangian formulation of the Navier-Stokes equations, *Phys. of Fluids*, **15**, no. 10, (2003), 3251-3254.
98. P. Constantin, A. Kiselev, L. Ryzhik, Fronts in reactive convection: bounds, stability and instability, *Commun. Pure Applied Math*, **56** (2003), no. 12, 1781 - 1803.
99. N. Vladimirova, P.C., A. Kiselev, O. Ruchayskiy, L Ryzhik, Flame enhancement and quenching in fluid flows, *Combustion Theory and Modeling*, **7** (2003), 487-508.
100. P. Constantin, Transport in rotating fluids, *Discrete and Continuous Dynamical Systems*, **10** (2004), no. 1-2, 165-176.
101. P. Constantin, I. Kevrekidis, E.S. Titi, Remarks on a Smoluchowski equation, *Discrete and Continuous Dynamical Systems*, **11** (1) (2004), 101-112.
102. P. Constantin, I. Kevrekidis, E. S. Titi, Asymptotic states of a Smoluchowski equations, *Archive Rational Mech. Analysis*, **174** (2004), 365-384.
103. P. Constantin, J. Vukadinovic, Note on the number of steady states for a 2D Smoluchowski equation, *Nonlinearity* **18** (2005), 441-443.

104. P. Constantin, E.S. Titi, J. Vukadinovic, Dissipativity and Gevrey regularity of a Smoluchowski equation, *Indiana Unive. Math. J.*, **54** (2005), 949-969.
105. P. Constantin, Euler equations, Navier-Stokes equations and turbulence, in *Mathematical foundation of turbulent viscous flows: Lectures given at the C.I.M.E. Summer School, Martina Franca, Italy*. Editors: M. Cannone and T. Miyakawa, *Springer Lecture Notes in Mathematics* **1871** (2005), 1-43.
106. P. Constantin, Nonlinear Fokker-Planck Navier-Stokes systems, *Commun. Math. Sci.*, **3** (4)(2005), 531-544.
107. H. Berestycki, P. Constantin, L. Ryzhik, Non-planar fronts in Boussinesq reactive flows, *Ann. Inst. H. Poincaré, An Non Linéaire* **23** (2006) 407-437.
108. P. Constantin, B. Levant, E.S. Titi, Analytic study of shell models of turbulence, *Physica D*, **219** (2006) 120-141.
109. P. Constantin, K. Domelevo, J-M. Roquejoffre, L. Ryzhik, Existence of pulsating waves in a model of flames in sprays, *Journal of the European Math. society*, **8** (2006), 555-584.
110. P. Constantin, M. Lewicka, L. Ryzhik, Traveling waves in 2D reactive Boussinesq systems with no-slip boundary conditions, *Nonlinearity*, **19** (2006), 2605-2615.
111. P. Constantin, Generalized relative entropies and stochastic representation, *IMRN*, **2006** Article ID 39487 (2006).
112. P. Constantin, G. Iyer, Stochastic Lagrangian transport and generalized relative entropies, *Commun. Math. Sci.*, **4** (2006) 767-777.
113. P. Constantin, Diffusive Lagrangian transformations, Navier-Stokes equations and applications, *Contemp Math.*, **446** (2007), 203-213.
114. S. Chernyshenko, P.C., J. Robinson, E. Titi, A posteriori regularity of the 3D Navier-Stokes equations from numerical computations, *J. Math. Phys.* **48** (2007), no 6, 065204, 15pp.

- 115. P. Constantin, C. Fefferman, E. Titi, A. Zarnescu, Regularity for coupled two-dimensional nonlinear Fokker-Planck and Navier-Stokes systems, *Commun. Math. Phys.*, **270** (2007) 789-811.
- 116. P. Constantin, Smoluchowski Navier-Stokes systems, *Contemporary Mathematics* **429** G-Q Chen, E. Hsu, M. Pinsky editors, AMS, Providence (2007), 85-109.
- 117. P. Constantin, B. Levant, E. Titi, Regularity of inviscid shell models of turbulence, *Physical Review E* **75** 1 (2007) 016305.
- 118. P. Constantin, F. Ramos, Inviscid limit for damped and driven incompressible Navier-Stokes equations in  $\mathbf{R}^2$ , *Commun. Math. Phys.*, **275** (2007), 529-551.
- 119. P. Constantin, B. Levant, E. Titi, Sharp lower bounds for the dimension of the global attractor of the sabra shell model of turbulence, *J. Stat. Phys.*, **127** (2007), 1173-1192.
- 120. P. Constantin, B. Levant, E. Titi, Regularity of inviscid shell models of turbulence, *Phys. Rev E* **75** (2007), no 1, 016304, 10pp.
- 121. P. Constantin, Eulerian-Lagrangian formalism and vortex reconnection, *Ann of Math. Stud* **163** (2007), 157-170.
- 122. P. Constantin, On the Euler equations of incompressible fluids, *BAMS* (2007), **44** (2007), 603-621.
- 123. P. Constantin, Euler and Navier-Stokes equations, *Publ. Mat.* **52** (2008), no 2., 235-265.
- 124. P. Constantin, G. Iyer, A stochastic Lagrangian representation of 3-dimensional incompressible Navier-Stokes equations, *Commun. Pure Appl. Math*, **61** (2008) 330-345.
- 125. P. Constantin, N. Masmoudi, Global well-posedness for a Smoluchowski equation coupled with Navier-Stokes equations in 2D, *Commun. Math. Phys.* **278** (2008), 179-191.
- 126. A. Cheskidov, P. Constantin, S. Friedlander, R. Shvydkoy, Energy conservation and Onsager's conjecture for the Euler equations, *Nonlinearity* **21** (2008), 1233-1252.

127. P. Constantin, J-M. Roquejoffre, L. Ryzhik, N. Vladimirova, Propagation and quenching in a reactive Burgers-Boussinesq system, *Nonlinearity* **21**(2008), 221-271.
128. R. T. Fisher, L.P Kadanoff, D.Q. Lamb, A. Dubey, T. Plewa, A. Calder, F. Cattaneo, P. Constantin, I. Foster, M. E. Papka, S.I. Abarzhi, S. M. Asida, P. M. Rich, C. C. Glendening, K. Antypas, D. J. Sheeker, L. B. Reid, B. Gallagher and s.G. Needham, Terascale turbulence computation using the FLASH3 application framework on the IBM Blue Gene L system, *Journal of IBM* (2008).
129. P. Constantin, A. Novikov, L. Ryzhik, Relaxation in reactive flows, *GAFSA*, **18** (2008), 1145-1167.
130. P. Constantin, A. Kiselev, L. Ryzhik, A. Zlatos, Diffusion and mixing in fluid flow, *Annals of Math.* **168** (2008), 643-674.
131. P. Constantin, J. Wu, Regularity of Hölder continuous solutions of the supercritical quasigeostrophic equation, *Ann. Inst. Henri Poincaré Anal. Non Linéaire*, **25** (2008), 1103-1110.
132. P. Constantin, J. Wu, Hölder continuity of solutions of supercritical dissipative hydrodynamic transport equations, *Ann. Inst. Henri Poincaré, Analyse Non Linéaire* **26** (2009), 159-180.
133. K. Ohkitani, P.C., Numerical study on the Eulerian-Lagrangian analysis of Navier-Stokes turbulence, *Phys. of Fluids*, to appear (2008).
134. P. Constantin, Singular, weak and absent: solutions of the Euler equations, *Physica D* **237**, (2008) 1926-1931.
135. P. Constantin, PDE problems from simple to complex fluids, *Nonlinearity*, **21** (2008), no 11, T239-244.
136. P. Constantin, G. Iyer, J. Wu, Global regularity for a modified quasigeostrophic equation, *Indiana University Mathematics Journal*, **57**, (2008), 2681-2692.
137. P. Constantin, The Onsager equation for corpora, *Journal of Computational and Theoretical Nanoscience*, **7** (4), 2010, 675-682.

138. P. Constantin, A. Zlatos, On the high intensity limit of interacting corpora, *Commun. Math. Sciences*, **8** no 1 (March 2010), 173-186.
139. P. Constantin, G. Seregin, Hölder continuity of solutions of 2D Navier-Stokes equations with singular forcing, *Nonlinear PDE and Related Topics*, A. Arkhipova and A. Nazarov, eds, AMS (2010), 87-97.
140. P. Constantin, G. Seregin, Global regularity of solutions of coupled Navier-Stokes equations and nonlinear Fokker-Planck equations, *DCDS-A* **26** No. 4 (April 2010) 1185-1186.
141. D. Chae, P. Constantin, J. Wu, Inviscid models generalizing the 2D Euler and the surface quasi-geostrophic equations, *ARMA*, **202** no.1, (2011), 35-62.
142. P. Constantin, G. Iyer, A stochastic-Lagrangian approach to the Navier-Stokes equations in domains with boundary, *Annals of Applied Probability* **21**, No. 4, (2011) 1466-1492.
143. P. Constantin, W. Sun, Remarks on Oldroyd-B and related complex fluid models, *CMS*, **10** No. 1, (2012), 33-73.
144. P. Constantin, M-C. Lai, R. Sharma, Y-H Tseng, J. Wu, New numerical results for the surface quasi-geostrophic equation, *J.Sci. Comput.* **50** No. 1, (2012), 1-28.
145. D. Chae, P. Constantin, D. Córdoba, F. Gancedo, J. Wu, Generalized surface quasi-geostrophic equations with singular velocities, *CPAM*, **65** (2012) No. 8, 1037-1066.
146. P. Constantin, V. Vicol, Nonlinear maximum principles for dissipative linear nonlocal operators and applications, *GAFSA* **22** No. 5, (2012), 1289-1321.
147. P. Constantin, M. Kliegl, Note on global regularity for 2D Oldroyd-B fluids with diffusive stress, *ARMA*, **206** No.3, (2012), 725-740.
148. D. Chae, P. Constantin, J. Wu, Deformation and symmetry in the inviscid SQG and the 3D Euler equations, *J. Nonlinear Sci* **22**, (2012), 665-688.

149. P. Constantin, Remarks on complex fluid models, (*Mathematical Aspects of Fluid Mechanics*, J.C. Robinson, J.L Rodrigo, W. Sadowski, Eds) London Mathematical Society Lecture Notes Series, No. 402, (2012).
150. D. Chae, P. Constantin, J. Wu, Dissipative Models Generalizing the 2D Navier-Stokes and the Surface Quasi-Geostrophic Equations, *IUMJ* **61** (2012), 1997-2018.
151. P. Constantin, D. Córdoba, F. Gancedo, R. M. Strain, On the global existence for the Muskat problem, *JEMS*, **15** (2013), to 201-227.
152. P. Constantin, Complex fluids and Lagrangian particles, *Topics in mathematical fluid mechanics* Lecture Notes in Math.,**2073** (2013), 1-21.
153. P. Constantin, N. Glatt-Holtz, V. Vicol, Unique ergodicity for fractionally dissipated, stochastically forced 2d Euler equations, *CPM* **330**, (2014) 819-857.
154. P. Constantin, A Tarfulea, V. Vicol, Absence of anomalous dissipation of energy in forced two dimensional fluid equations, *ARMA* **212** (2014), 875-903.
155. P. Constantin, Local formulas for the hydrodynamic pressure and applications, *Russian Mathematical Surveys*, **69** (2014), 395-418.
156. P. Constantin, A. Tarfulea, V. Vicol, Long time dynamics of forced critical SQG, *Commun. Math. Phys.* **335** (2015), 93-141.
157. D. Chae, P. Constantin, J. Wu, An incompressible 2D didactic model with singularity and explicit solutions of the 2D Boussinesq equations, *J. Math. Fluid. Mech*, **16** (2014) 473-480. Erratum: 481.
158. P. Constantin, D. Cordoba, F. Gancedo, L. Rodriguez-Piazza, R. M. Strain On the Muskat problem: global in time results in 2D and 3D, *arXiv:1310.0953* (2014)
159. D. Chae, P. Constantin, Remarks on a Liouville-Type Theorem for Beltrami Flows, *IMRN* (2015), no. 20, 10012-10016.

160. P. Constantin, Lagrangian-Eulerian methods for uniqueness in hydrodynamic systems. *Adv. Math.* **278** (2015), 67-102.
161. P. Constantin, I. Kukavica, V. Vicol, On the inviscid limit of the Navier-Stokes equations, *Proc. Amer. Math. Soc.* **143** (2015), 3075-3090.
162. P. Constantin, V. Vicol, J. Wu, Analyticity of Lagrangian trajectories for well posed inviscid incompressible fluid models, *Adv. Math.* **285** (2015), 352-393.
163. P. Constantin, far-field perturbations of vortex patches, *Phil. Trans. A* **373** (2015) 21040277.
164. P. Constantin, I. Kukavica, V. Vicol, Contrast between Lagrangian and Eulerian analytic regularity properties of Euler equations, *Annales de l'Institut H. Poincaré, Analyse Nonlinéaire*, **33**, 1569-1588 (2016).
165. P. Constantin, M. Coti Zelati, V. Vicol, Uniformly attracting limit sets for the critically dissipative SQG equation, *Nonlinearity* **29** (2016), 298-318.
166. P. Constantin, M. Ignatova, Critical SQG in bounded domains, arXiv:1607.02990 [math.AP], *Annals of PDE* **2** 8 (2016).
167. P. Constantin, **Analysis of Hydrodynamic Models**, CBMS-NSF Regional Conference Series in Applied Mathematics, (2017).
168. P. Constantin, M. Ignatova, Remarks on the fractional Laplacian with Dirichlet boundary conditions and applications, *IMRN* **2017** (2017), 1653-1673.
169. P. Constantin, T. Elgindi, M. Ignatova, V. Vicol, Remarks on the inviscid limit for the Navier-Stokes equations for uniformly bounded velocity fields, *SIMA J. Math. Anal.*, **49** 1932-1946, (2017)
170. P. Constantin, F. Gancedo, R. Shvydkoy, V. Vicol, Global regularity for 2D Muskat equations with finite slope, *Annales, Inst. H. Poincaré* **34**, 1041-1047, (2017).
171. P. Constantin, T. Elgindi, M. Ignatova, V. Vicol, On some electroconvection models, arXiv:1512.00676 [math.AP], *JNLS* **27**, 197-211 (2017).

172. P. Constantin, Nonlocal nonlinear advection-diffusion equations, Chinese Annals of Mathematics, **38**, 281-292 (2017).
173. P. Constantin, H. Q. Nguyen, Global weak solutions for SQG in bounded domains, Communication on Pure and Applied Mathematics, **71** 11, 2323-2333 (2018).
174. P. Constantin, H. Q. Nguyen, Local and global strong solutions for SQG in bounded domains, Physica D **376-378** 195-203, (2018).
175. P. Constantin, T. Elgindi, H. Nguyen, V. Vicol. On singularity formation in a Hele-Shaw model, Communication in Mathematical Physics, **363**(1), 139-171 (2018).
176. P. Constantin, V. Vicol, Remarks on high Reynolds numbers hydrodynamics and the inviscid limit, Journal of Nonlinear Science **28** (2), 711-724, (2018).
177. P. Constantin, M. Ignatova, H.Q. Nguyen, Inviscid limit for SQG in bounded domains, SIAM Journal of Mathematical Analysis, **50**(6), 6196-6207, (2018).
178. P. Constantin, J. La, V. Vicol, Remarks on a paper by Gavrilov: Grad-Shafranov equations, steady solutions of the three dimensional incompressible Euler equations with compactly supported velocities, and applications, GAFA **29** (6) 1173-1793 (2019).
179. P. Constantin., M. Lopes Filho, H. Nusenzveig-Lopes, V. Vicol, Vorticity measures and the inviscid limit, ARMA **234** (2), 575-593 (2019).
180. P. Constantin, M. Ignatova, On the Nernst-Planck-Navier-Stokes system, Archive Rat. Mech. Analysis **232** (3) 1379-1428 (2019).
181. P. Constantin, J. La, Note on Lagrangian-Eulerian Methods for Uniqueness in Hydrodynamic Systems, Adv. Mathematics, Adv. Math **345**27-52, (2019).
182. P. Constantin, T. Drivas, H.Q. Nguyen, F. Pasqualotto, Compressible fluids and active potentials, Ann. Inst. H. Poincare Anal Non Lineaire **37** (1)145-180 (2020).



183. P. Constantin, T. Drivas, R. Shvydkoy, Entropy Hierarchies for equations of compressible fluids and self-organized dynamics, *SIAM Journal on Mathematical Analysis*, **52**, 3, (2020) 3073-3092.
184. P. Constantin, T. Drivas, T. Elgindi, Inviscid limit of vorticity distributions in Yudovich class, *Commun. Pure Applied Math.* (20 September 2020 <https://doi.org/10.1002/cpa.21940>) **75** (1) 60-82, (2022).
185. P. Constantin, M. Ignatova, Estimates near the boundary for critical SQG, *Annals of PDE* **6** (2020) <https://doi.org/10.1007/s40818-020-00079-7>
186. P. Constantin, J. Wu, J. Zhao, Y. Zhu, High Reynolds number and high Weissenberg number Oldroyd-B model with dissipation, *Journal of Evolution Equations* (2020) <https://doi.org/10.1007/s00028-020-00616-8>. **21**(3),2787-2806 (2021).
187. P. Constantin, M. Ignatova, F-N. Lee, Nernst-Planck-Navier-Stokes systems far from equilibrium, *Archive for Rational Mechanics and Analysis*, **240** 1147-1168 (2021).
188. P. Constantin, M. Ignatova, F-N. Lee, Interior Electroneutrality in Nernst-Planck-Navier-Stokes systems, *Archive for Rational Mechanics and Analysis*, **242** 1091-1118 (2021).
189. P. Constantin, T. Drivas, D. Ginsberg, Flexibility and rigidity in steady fluid motion, *Commun. Math. Phys* **385**, 521-563 (2021).
190. P. Constantin, T. Drivas, D. Ginsberg, On quasisymmetric plasma equilibria sustained by small force, *Journal of Plasma Physics*, **87**(1) 905870111 (2021).
191. P. Constantin, M. Ignatova, F-N. Lee, Nernst-Planck-Navier-Stokes systems near equilibrium, *Pure and Applied Functional Analysis*, **7**, No 1 (2022).
192. P. Constantin, T. Drivas, D. Ginsberg, Flexibility and rigidity of free boundary MHD equilibria, *Nonlinearity* **35** 2363 DOI 10.1088/1361-6544/ac5d6a (2022)

193. D. Chae, P. Constantin, On a Type I singularity condition in terms of the pressure for the Euler equations in  $R^3$ , International Mathematics Research Notices, rnab014 (2021)
194. D. Chae, P. Constantin, Remarks on type I blow up for the 3D Euler equations and the 2D Boussinesq equations, J Nonlinear Sci 31, 77 (2021). <https://doi.org/10.1007/s00332-021-09734-0>
195. P. Constantin, M. Ignatova, F-N Lee, Existence and stability of nonequilibrium steady states of Nernst–Planck–Navier–Stokes systems, Physica D: Nonlinear Phenomena, **442**, (2022), 133536.
196. P. Constantin, F. Pasqualotto, Magnetic Relaxation of a Voigt-MHD System, Commun. Math. Phys. **402**, 1931–1952, (2023)
197. P. Constantin, Pressure, Intermittency, Singularity, Journal of Math. Fluid Mech., **25**, 36 (2023). <https://doi.org/10.1007/s00021-023-00779-7>
198. P. Constantin, M. Ignatova, Q-H. Nguyen, Global regularity for critical SQG in bounded domains, Commun. Pure Appl. Math, **78**(1) 3-59, (2025)