

**GEORGE M. HOMSY**  
**CURRICULUM VITAE**

BIOGRAPHICAL DATA

Born in Fresno, California -- August 29, 1943  
Married with two children

EDUCATION

1. B. S. in Chemical Engineering, University of California, Berkeley - 1965 with honors
2. M. S. in Chemical Engineering, University of Illinois - 1967
3. Ph.D. in Chemical Engineering, University of Illinois - 1969

ACADEMIC EXPERIENCE

1. NATO Postdoctoral Fellow, Imperial College, London, England, 1969 - 1970.
2. Assistant Professor, Department of Chemical Engineering  
Stanford University, 1970 - 1976.
3. Associate Professor, Department of Chemical Engineering  
Stanford University, 1976 - 1979.
4. Professor, Department of Chemical Engineering  
Stanford University, 1979 - 2000; Chairman, 1987 - 1990; 1993 - 1996.
5. Professor (by courtesy), Department of Petroleum Engineering  
Stanford University, 1983 - 2000.
6. Professor of Mechanical Engineering and Chemical Engineering (by courtesy),  
UC Santa Barbara, 2001-2009: Chair, Mechanical Engineering, 2007-2008.
7. Professor of Mathematics and of Mechanical Engineering, University of British Columbia,  
2010-2014.
8. Affiliate Professor, Department of Mechanical Engineering, University of Washington,  
2014-present.

INDUSTRIAL EXPERIENCE

1. Chemical Engineer, USDA Western Regional Research Laboratory, Albany, CA,  
Summer 1964 and 1965.
2. Research Engineer, Esso Research and Engineering, Linden, NJ,  
Summer 1973.
3. Research Engineer, Lawrence Livermore Laboratory, Livermore, CA,  
Summer 1974.
4. Consultant at various times to ARCO Oil and Gas, Exxon Corporation, NASA,  
TRW, Shell Development Co., and others

PROFESSIONAL AND HONOR SOCIETIES

1. Tau Beta Pi
2. American Physical Society
3. Fellow, American Physical Society
4. Member, US National Academy of Engineering

CURRENT PROFESSIONAL ACTIVITIES

Associate Editor, Physics of Fluids, 1984 - present.  
Deputy Director, Pacific Institute for the Mathematical Sciences, 2010-2014

EDUCATIONAL PROJECT

Principal Investigator and Author, Multimedia Fluid Mechanics, Cambridge Univ. Press (2000):  
Second edition (2008).

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SELECTED HONORS

Bing Fellow, (For service to Undergraduate Education), Stanford University, 1996-2000  
Batchelor Lecturer, DAMTP, University of Cambridge, 1999  
Talbot Lecturer, TAM Department, Univ. Illinois, 1999  
Visiting Professor, Univ. Paris VI, 2001  
Midwest Mechanics Speaker, 2001-2002  
Visiting Professor, ESPCI, Paris, 2002  
Enzo Levi Speaker, UNAM, Mexico, 2003  
Prof. N. R. Kuloor Memorial Lecture, Indian Institute of Science, 2004  
Distinguished Lecturer, Institute of Applied Math, UBC, Vancouver 2004  
Fluid Dynamics Prize, American Physical Society, 2004  
National Academy of Engineering, 2006  
M. M. Sharma Distinguished Visitor, Univ. Mumbai, 2006  
Visiting Professor, Univ. British Columbia, 2006  
Visiting Professor, Univ. Provence, Marseille, 2007, 2009  
Visiting Professor, IMFT, University Paul Sabatier, Toulouse 2008  
Docteur Honoris Causa, University Paul Sabatier, 2010  
Abdel Zebib Memorial Lecturer, Rutgers Univ. 2011  
Michael Abbott Visitor, RPI, 2011  
David M. Mason Lecturer, Stanford University, 2011  
Disquisitiones Mechanicae Distinguished Speaker, Univ. Illinois, 2012  
Morrison/Kobayashi Lecturer, Univ. Washington, 2014

SELECTED PAST PROFESSIONAL ACTIVITIES

Associate Editor, Int. J. Multiphase Flow, 1987-2001  
Editorial Board, SIAM Monographs in Science and Engineering, 1994 - 2005.  
Advisory Council, Dept. of Chemical Engineering, Princeton University, 1992 - 2000  
Bing Fellow, Stanford University, 1996 - 2000  
U.S. National Committee on Theoretical and Applied Mechanics, 1992-1995  
American Physical Society, Division of Fluid Dynamics:  
    Fellowship Committee, 1985-1987; 1988-1989, 2004  
    Frenkeil Award Committee, 1986, 1998, 2003  
    Executive Committee, 1984-1985; 1987-1991  
    Vice-Chair, 1987-1989; Chair, 1989-1990  
    Fluid Dynamics Prize Committee, 2005  
    Publications and Media Committee, 2008-2009  
Associate Editor, SIAM Journal of Applied Mathematics, 1980-1987  
Board of Trustees, Universities Space Research Association, 1980-1987  
    Vice-Chairman, 1985-1986; Chairman, 1986-1987  
Science Board, Physics and Chemistry in Space, NASA, 1983-1986  
Organizer, IUTAM Symposia, 1991, 1998, and 2006  
Deputy Director, Pacific Institute for the Mathematical Sciences, 2010-2014  
Dean's Advisory Council, Engineering and Applied Sciences, U. British Columbia, 2015-present

**GEORGE M. HOMSY  
CURRICULUM VITAE**

PUBLICATIONS

1. "Transient Flow Near a Rotating Disk", with J. L. Hudson, App. Sci. Res., 18, 384 (1968).
2. "Centrifugally Driven Thermal Convection in a Rotating Cylinder of Fluid", with J. L. Hudson, J. Fluid Mech., 35, 33 (1969).
3. "Unsteady Heat Transfer from a Rotating Disk", with J. L. Hudson, J. Heat Trans., 91, 162 (1969).
4. "The Asymptotic Stability of a Bounded Rotating Fluid Heated from Below: Conductive Basic State", with J. L. Hudson, J. Fluid Mech., 45, 353 (1971).
5. "Centrifugal Convection and its Effect on Asymptotic Stability of a Rotating Fluid Heated from Below", with J. L. Hudson, J. Fluid Mech., 48, 605 (1971).
6. "Heat Transfer in a Rotating Cylinder of Fluid Heated from Above", with J. L. Hudson, Int. J. Heat Mass Trans., 14, 1149 (1971).
7. "An Asymptotic Solution for Tubular Flow Reactor with Catalytic Wall at High Peclet Numbers", with S. Pancharatnam, Chem. E. Sci., 27, 1337 (1972).
8. "Stability of a Radially Bounded Rotating Fluid Heated from Below", with J. L. Hudson, Appl. Sci. Res. 26, 53 (1972).
9. "Plug Flow Reactor with Dispersion: A Computer Program for Kinetics, Reactor Design and Transport Phenomena Courses", CACHE Kinetics Vol. II, pp. 112-138. National Academy of Engineering, M. Reilly, Ed., 1972.
10. "A Theoretical Study of Pressure Drop and Transport in Packed Beds at Intermediate Reynolds Numbers", with M. El-Kaissy, I&EC Fund, 12, 82 (1973).
11. "Global Stability of Time-Dependent Flows: Impulsively Heated or Cooled Fluid Layers", J. Fluid Mech., 60, 129 (1973).
12. "Use of Symbolic Computation to Generate Evolution Equations and Asymptotic Solutions to Elliptic Equations", with R. Atherton, J. Compt. Physics, 13, 45 (1973).
13. "Global Stability of Time-Dependent Flows: Part 2, Modulated Fluid Layers", J. Fluid Mech., 62, 387 (1974).
14. "A Note on Wave Inception in Film Flow", with R. Atherton, Chem. Eng. J., 6, 237 (1974).
15. "Model Equations for Wavy Viscous Film Flow, in *Nonlinear Wave Motion*", (A. Newell, Ed.), Lectures in Applied Mathematics, 15, American Mathematical Society, Providence, RI (1974).
16. "Convective Instabilities in Concurrent Two Phase Flow: Part I Linear Stability", with R. Gumerman, AIChE J., 20, 981 (1974).
17. "Convective Instabilities in Concurrent Two Phase Flow: Part II Global Stability", with R. Gumerman, AIChE J., 20, 1161 (1974).
18. "Convective Instabilities in Concurrent Two Phase Flow: Part III Experiments", with R. Gumerman, AIChE J., 20, 1167 (1974).
19. "On the Existence and Formulation of Variational Principles for Nonlinear Partial Differential Equations", with R. Atherton, Studies App. Math., 54, 31 (1975).

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PUBLICATIONS

20. "The Stability of Uniformly Accelerated Flows with Applications to Surface Tension Driven Convection", with R. Gumerman, J. Fluid Mech., 68, 191 (1975).
21. "The Stability of Radially Bounded Thin Films", with R. Gumerman, Chem. Eng. Comm., 2, 27 (1975).
22. "Hydrodynamic Stability of Thin Spherically Concentric Fluid Shells", with J. F. Patzer II, J. Colloid Int. Sci., 51, 499 (1975).
23. "On the Derivation of Evolution Equations for Interfacial Waves", with R. Atherton, Chem. Eng. Comm., 2, 57 (1976).
24. "Instability Waves and the Origin of Bubbles in Fluidized Beds, Part I: Experiments", with M. M. El-Kaissy, Int. J. Multiphase Flow, 2, 379 (1976).
25. "Convective Instabilities in Porous Media with Through Flow", with A. E. Sherwood, AIChE J., 22, 168 (1976).
26. "A Note on Convective Instabilities in Boussinesq Fluids and Porous Media", with K. Walker, J. Heat Transfer, 99, 338 (1977).
27. "A Note on Instabilities in Rapid Coating of Cylinders", with F. T. Geyling, AIChE J., 23, 587 (1977).
28. "Lower Bounds for the Onset Time of Instability in Heated Layers", with P. C. Wankat, Phys. Fluids, 20, 1200 (1977).
29. "Instability of Free Convection Flow Over a Horizontal Impermeable Surface in a Porous Media", with C. T. Hsu and P. Cheng, Int. J. Heat Mass Transfer, 21, 1221 (1978).
30. "Convection in a Porous Cavity", with K. Walker, J. Fluid Mech., 87, 449 (1978).
31. "On the Transition Between a Wetting Film and a Capillary Meniscus", with F. Renk and P. C. Wayner, Jr., J. Colloid Int. Sci., 67, 408 (1978).
32. "Heat Transfer in Laser Drawing of Optical Fibers", with K. Walker, Glass Tech., 20, 20 (1979).
33. "Thermophoretic Deposition of Small Particles in Laminar Tube Flow", with K. Walker and F. T. Geyling, J. Colloid Int. Sci., 69, 138 (1979).
34. "Randomly Forced Rayleigh-Benard Convection", with B. Jhaveri, J. Fluid Mech., 98, 329 (1980).
35. "Evaporating Menisci of Wetting Fluids", with S. Moosman, J. Colloid Int. Sci., 73, 212 (1980).
36. "Energy Stability for Free-Surface Problems: Buoyancy-Thermocapillary Layers", with S. H. Davis, J. Fluid Mech., 98, 527 (1980).
37. "Instability Waves and the Origin of Bubbles in Fluidized Beds, Part II: Comparison with Theory", with M. M. El-Kaissy and A. Didwania, Int. J. of Multiphase Flow, 6, 305 (1980).
38. "Extensional Stabilities of the Glass Fiber Drawing Processes", with F. T. Geyling, Glass Tech., 21, 95 (1980).

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39. "The Stability of the Propagation of Sharp Voidage Fronts in Liquid Fluidized Beds", with A. K. Didwania, Proc. 3rd Engineering Conference in Fluidization (Grace and Matsen, Eds.), p. 109, Plenum Publishing Corporation (1980).
40. "Global Stability of Transient Drop Extraction to Marangoni Instabilities", with J. Patzer, Phys. Fluids, 24, 567 (1981).
41. "Blasius Series for Thermophoretic Deposition of Small Particles", with F. T. Geyling and K. Walker, J. Colloid Int. Sci., 83, 495 (1981).
42. "Flow Regimes and Flow Transitions in Liquid Fluidized Beds", with A. K. Didwania, Int. J. Multiphase Flow, 7, 563 (1981).
43. "Rayleigh-Taylor Instabilities in Fluidized Beds", with A. K. Didwania, I&EC Fund, 20, 318 (1981).
44. "Eigenvalues of the Rayleigh-Benard Problem", with S. Rosenblat and S. H. Davis, Phys. Fluids, 24, 2115 (1981).
45. "The Onset of Convection in Fluid Layers Heated Rapidly in Time-Dependent Manner", with B. Jhaveri, J. Fluid Mech., 114, 251 (1982).
46. "Stokes Flow through Periodic Arrays of Spheres", with A. Zick, J. Fluid Mech., 115, 13 (1982).
47. "The Development of Oral and Written Communications Skills through a Laboratory Course in Chemical Engineering Sciences", with C. W. Frank and C. R. Robertson, Chemical Engineering Education, p. 122, Summer (1982).
48. "Non-Linear Marangoni Convection in Bounded Layers, Part I. Circular Cylindrical Containers", with S. Rosenblat and S. H. Davis, J. Fluid Mech., 120, 91 (1982).
49. "Non-Linear Marangoni Convection in Bounded Layers, Part II. Rectangular Circular Cylindrical Containers", with S. Rosenblat and S. H. Davis, J. Fluid Mech., 120, 123 (1982).
50. "Resonant Side-Band Instabilities in Wave Propagation in Fluidized Beds", with A. K. Didwania, J. Fluid Mech., 122, 433 (1982).
51. "A Theory for the Optimal Policy for Oil Recovery by Secondary Displacement Processes", with S. Gorell, SIAM, J. Applied Math., 43, 79 (1983).
52. "The Effects of Surface Contamination on Thermocapillary Flow in a Two-Dimensional Slot", with E. Meiburg, J. Fluid Mech., 139, 443 (1984).
53. "Two-Phase Displacement in Hele-Shaw Cells: Theory", with C. W. Park, J. Fluid Mech., 139, 291 (1984).
54. "Two-Phase Displacement in Hele-Shaw Cells: Experiments on Viscously Driven Instabilities", with C. W. Park and S. Gorell, J. Fluid Mech., 141, 275 (1984), Corrigendum: J. Fluid Mech., 144, 468 (1984).
55. "The Effects of Surface Contamination on Thermocapillary Flow in a Two-Dimensional Flow. Part 2. Partially Contaminated Interfaces", with B. Carpenter, J. Fluid Mech., 155, 429 (1985).
56. "A Theory for the Most Stable Viscosity Profile in Graded Mobility Displacement Processes", with S. Gorell, AIChE J., 31, 1498 (1985).

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57. "The Instability of Long Fingers in Hele-Shaw Flows", with C. W. Park, Phys. Fluids, 28, 1583 (1985).
58. "High Marangoni Number Convection in a Square Cavity", with A. Zebib and E. Meiburg, Phys. Fluids, 28, 3467 (1985).
59. "Stability of Miscible Displacements in Porous Media: Rectilinear Flow", with C. T. Tan, Phys. Fluids, 29, 3549 (1986).
60. "Viscous Fingering in Porous Media", Ann. Rev. Fluid Mech., 19, 271 (1987).
61. "Instabilities in Self-Fluidized Beds: I. Theory", with D. Green, Int. J. Multiphase Flow, 13, 443 (1987).
62. "Instabilities in Self-Fluidized Beds: II. Experiments", with D. Green, Int. J. Multiphase Flow, 13, 459 (1987).
63. "Bubble Formation in a Single-Jet Gas-Solid Fluidized Bed", with X. R. Zhang and W. T. Ropchan, Int. J. Multiphase Flow, 13, 649 (1987).
64. "Stability of Miscible Displacement in Porous Media: Radial Source Flow", with C. T. Tan, Phys. Fluids, 30, 1239 (1987).
65. "Narrow Fingers in a Hele-Shaw Cell", with A. R. Kopf-Sill, Phys. Fluids, 30, 2607 (1987).
66. "Bubble Motion in a Hele-Shaw Cell", with A. R. Kopf-Sill, Phys. Fluids, 31, 18 (1988).
67. "Nonlinear Unstable Viscous Fingers in Hele-Shaw Flows. Part I: Experiments", with A. Kopf-Sill, Phys. Fluids, 31, 242 (1988).
68. "Nonlinear Unstable Viscous Fingers in Hele-Shaw Flows. Part II: Numerical Simulation", with E. Meiburg, Phys. Fluids, 31, 429 (1988).
69. "Simulation of Nonlinear Viscous Fingering in Miscible Displacement", with C. T. Tan, Phys. Fluids, 31, 1330 (1988).
70. "Hindered Settling and Hydrodynamic Dispersion in Quiescent Sedimenting Suspensions", with J. Ham. Int. J. Multiphase Flow, 14, 533 (1988).
71. "Combined Buoyant-Thermocapillary Flow in a Cavity", with B. Carpenter, J. Fluid Mech., 207, 121 (1989).
72. "High Marangoni Number Convection in a Square Cavity. Part II", with B. Carpenter, Phys. Fluids A, 2, 137 (1990).
73. "An Experimental Study of the Stability of Liquid Fluidized Beds", with J. Ham, S. Thomas, E. Guazzelli, and M. C. Anselmet, Int. J. Multiphase Flow, 16, 171 (1990).
74. "Viscous Flow Down a Slope in the Vicinity of a Contact Line", with Ralph Goodwin, Phys. Fluids A, 3, 515 (1991).
75. "Nonlinear Viscous Fingering in Miscible Displacement with Anisotropic Dispersion", with W. B. Zimmerman, Phys. Fluids A, 3, 1859 (1991).

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PUBLICATIONS

76. "Viscous Fingering with Permeability Heterogeneity", with C.-T. Tan, Phys. Fluids A, 4, 1099 (1992).
77. "Three Dimensional Viscous Fingering: A Numerical Study", with W. B. Zimmerman, Phys. Fluids A, 4, 1901 (1992).
78. "Viscous Fingering in Miscible Displacements: Unification of Effects of Viscosity Contrast, Anisotropic Dispersion, and Velocity Dependence of Dispersion on Non-Linear Finger Propagation", with W. B. Zimmerman, Phys. Fluids A, 4, 2348 (1992).
79. "Nonlinear Analysis of Buoyant Convection in Binary Solidification with Application to Channel Formation", with G. Amberg, J. Fluid Mech., 252, 79 (1993).
80. "Stability of Miscible Displacements in Porous Media with Non-Monotonic Viscosity Profiles", with O. Manickam, Phys. Fluids, 5, 1356 (1993).
81. "Simulation of Viscous Fingering in Miscible Displacements with non-Monotonic Viscosity Profiles", with O. Manickam, Phys. Fluids, 6, 95 (1994).
82. "An Experimental Study of Rivulet Instabilities in Centrifugal Spin Coating of Viscous Newtonian and Non-Newtonian Fluids", with N. Fraysse, Phys. Fluids, 6, 1491 (1994).
83. "Linear Stability of Free Shear Flow of Viscoelastic Liquids", with J. Azaeiz, J. Fluid Mech., 268, 37 (1994).
84. "Numerical Simulation of Non-Newtonian Free Shear Layers at High Reynolds Numbers", with J. Azaeiz, J. Non-Newtonian Fluid Mech., 52, 333 (1994).
85. "Streaming Flows due to g-jitter Induced Natural Convection", with A. Farooq, J. Fluid Mech., 271, 351 (1994).
86. "Linear Stability of Lid-driven Cavity Flow", with N. Ramanan, Phys. Fluids A, 6, 2690 (1994).
87. "Viscoelastic Free Surface Flows: Spin Coating and Dynamic Contact Lines", with M. Spaid, J. Non-Newtonian Fluid Mech., 58, 249 (1994).
88. "Fingering instabilities in vertical miscible displacement flows in porous media", with O. Manickam, J. Fluid Mech., 288, 75-102 (1995).
89. "Viscoelastic Free Surface Flows: Thin Film Hydrodynamics of Hele-Shaw and Dip Coating Flows", with J. S. Ro, J. Non-Newtonian Fluid Mech., 57, 203-225 (1995).
90. "Linear and non-linear dynamics of a differentially heated slot under gravity modulation", with A. Farooq, J. Fluid Mech. 313, 1 (1996).
91. "Stability of Newtonian and Viscoelastic Dynamic Contact Lines", with Michael Spaid, Phys. Fluids, 8, 460 (1996).
92. "Chaotic advection in creeping flow of viscoelastic fluids between slowly modulated eccentric cylinders", with Satish Kumar, Phys. Fluids 8, 1774 (1996).
93. "Combined Thermocapillary-Buoyancy Convection in a Cavity: An Experimental Study", with Pascale Gillon, Phys. Fluids 8, 2953 (1996).

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PUBLICATIONS

94. "Combined Thermocapillary-Buoyancy Convection in a Cavity: Part II. An Experimental Study", with M. Braunsfurth, *Phys. Fluids* 9, 1277 (1997).
95. "Stability of Viscoelastic Dynamic Contact Lines: An Experimental Study", with M. Spaid, *Phys. Fluids* 9, 823 (1997).
96. "Three-Dimensional Stability of Viscoelastic Elliptical Vortices", with H. Haj-Hariri, *J. Fluid Mech* 353, 357 (1997).
97. "Viscous Fingering in Periodically Heterogeneous Porous Media. Part I: Formulation and Linear Instability", with Anne DeWit, *J. Chemical Phys.* 107, 9609 (1997).
98. "Viscous Fingering in Periodically Heterogeneous Porous Media. Part II: Numerical Simulations", with Anne DeWit, *J. Chemical Phys.* 107, 9619 (1997).
99. "Thermocapillary & Buoyant Flows with Low Frequency Jitter. Part I: Jitter Confined to the Plane", with Paul Grassia, *Phys. Fluids* 10, 1273 (1998).
100. "Thermocapillary & Buoyant Flows with Low Frequency Jitter. Part II: Spanwise Jitter", with Paul Grassia, *Phys. Fluids* 10, 1291 (1998).
101. "Nonlinear Waves and the Origin of Bubbles in Fluidized Beds", *App. Sci. Res.* 58, 251 (1998).
102. "Buoyant Flows with Low Frequency Jitter", with Paul Grassia, *Phys. Fluids* 10, 1903 (1998).
103. "Direct Numerical Simulation of Hydrodynamic Instabilities in Two- and Three-Dimensional Viscoelastic Free Shear Layers", with Satish Kumar, *J. Non-Newtonian Fluid Mech.* 83, 249 (1999).
104. "Nonlinear Interactions of Chemical Reactions and Viscous Fingering in Porous Media", with Anne De Wit, *Phys. Fluids* 11, 949 (1999).
105. "Resonant Thermocapillary and Buoyant Flows with Finite Frequency Jitter", with Vinod Suresh and Christo Christov, *Physics of Fluids* 11, 2565 (1999).
106. "Viscous Fingering in Reaction-Diffusion Systems", with Anne De Wit, *J. Chemical Physics*, 110, 8663 (1999).
107. "Nonlinear Rivulet Dynamics During Unstable Dynamic Wetting Flows", with David T. Moyle and M.-S. Chen, *Int. J. Multiphase Flow*, 25, 1243 (1999).
108. "Thermocapillary Migration of Long Bubbles in Cylindrical Capillary Tubes", with Ali Mazouchi, *Physics of Fluids*, 12, 542 (2000).
109. "Nonlinear Dynamics of Two Dimensional Convection in a Vertically Stratified Slot with and without Gravity Modulation", with C. I. Christov, *J. Fluid Mech.* 430, 335 (2001)
110. "Steady Free-Surface Thin Film Flows over Topography", with S. Kalliadasis and C. Bierlarz, *Physics of Fluids*, 12, 1889 (2000).
111. "Interface Instabilities During Displacements of Two Miscible Fluids in a Vertical Pipe", with J. Scoffoni and E. Lajeunesse, *Phys. Fluids.* 13, 553 (2001).
112. "Thermocapillary Migration of Long Bubbles in Polygonal Tubes. Part I: Theory", with A. Mazouchi, *Phys. Fluids* 13, 1594 (2001).



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PUBLICATIONS

113. "Steady Vapor Bubbles in Rectangular Microchannels", with V. Ajaev, J. Colloid Interface Sci. 240, 259 (2001).
114. "Free Surface Stokes Flow over Topography", with Ali Mazouchi, Phys. Fluids 13, 2751 (2001).
115. "Stability of Free-Surface Thin Film Flows over Topography", with S. Kalliadasis, J. Fluid Mech. 448, 387 (2001).
116. "Birefringent Strands in Polymer Flow in a Co-Rotating Two-Roll Mill", with I. Lee, N. Kapur, P.H. Gaskell, and M. D. Savage, J. Non-Newtonian Fluid Mechanics, 104, 33 (2002).
117. "Optimal Leveling of Flow over Topography by Marangoni Stresses", with C. Gramlich, S. Kalliadasis, and C. Messer, Phys. Fluids 14, 1841 (2002).
118. "Stability of Return Thermocapillary Flows under Gravity Modulation", with V. Suresh, Phys. Fluids, 13, 3155 (2001).
119. "Three-dimensional Steady Vapor Bubbles in Rectangular Microchannels", with V. Ajaev, J. Colloid Interface Sci. 144, 180 (2001).
120. "Electrohydrodynamically Driven Chaotic Mixing in a Translating Drop", with Thomas Ward, Phys. Fluids. 13, 3521 (2001).
121. "Dynamic Response of Geometrically Constrained Vapor Bubbles", with V. Ajaev and S.J.S. Morris, J. Colloid Interface Sci. 254, 346 (2002).
122. "Thermocapillary Migration of Long Bubbles in Polygonal Tubes. Part II: Experiments", with E. Lajeunesse, Phys.Fluids 15, 308 (2003).
123. "Viscous Fingering with Chemical Reaction: Effect of in-situ Production of Surfactants", with J. Fernandez, J. Fluid Mech. 480, 267 (2003).
124. "Electrohydrodynamically driven chaotic mixing in a translating drop. Part II. Experiments", with T. Ward, Phys. Fluids 15, 2987 (2003).
125. "Stability of Time-Modulated Electroosmotic Flow, with V. Suresh, Phys. Fluids, 16, 2349 (2004).
126. "Time-Dependent Free Surface Stokes Flows with a Moving Contact Line, I. Flow over Plane Surfaces", with C. M. Gramlich & Ali Mazouchi , Phys. Fluids 16, 1647 (2004) .
127. "Time-Dependent Free Surface Stokes Flows with a Moving Contact Line, II. Flow over Wedges and Trenches", with C. M. Gramlich & Ali Mazouchi , Phys. Fluids 16, 1660 (2004) .
128. "On a new surfactant-driven fingering phenomenon in a Hele-Shaw cell", with R. Krechetnikov, J. Fluid Mech. 509, 103 (2004).
129. "Chemical reaction-driven tip--streaming phenomena in a pendant drop", with Juan Fernandez, Phys. Fluids 16, 2548 (2004).
130. "On physical mechanisms in chemical reaction-driven tip-streaming", with Rouslan Krechetnikov, Phys. Fluids 16, 2556 (2004).
131. "Experimental study of a surfactant-driven fingering phenomenon in a Hele-Shaw cell", with J. M. Fernandez & R. Krechetnikov, J. Fluid Mech. 527, 197 (2005).

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132. "Chaotic streamlines in a translating drop with a uniform electric field", with Thomas Ward, *J. Fluid Mech.* 547, 215 (2006).
133. "Granular slumping on a horizontal surface", with E. Lajeunesse and J-B Monnier, *Phys. Fluids*, 17, 103302 (2005).
134. "Dip coating in the presence of a substrate-liquid interaction potential", with R. Krechetnikov, *Phys. Fluids* 17, 102105 (2005).
135. "Effects of Joule heating on the stability of time-modulated electroosmotic flow", with Min-Hsing Chang, *Phys. Fluids* 17, 74107, (2005).
136. "Surfactant effects in the Landau-Levich problem", with Rouslan Krechetnikov, *J. Fluid Mech.* 559, 429 (2006).
137. "The settling velocity and shape deformation of drops in a uniform electric field" with Xiu Mei Xu, *J. Fluid Mech.* 562, 445 (2006).
138. "Modeling shapes and dynamics of confined bubbles", with V. Ajaev, *Ann. Rev. Fluid Mechanics*, 38, 277, (2006).
139. "Experimental study of substrate roughness and surfactant effects on the Landau-Levich law", with R. Krechetnikov, *Phys. Fluids*, 17, 102108 (2006).
140. "The effects of gravity modulation on fluid mixing. Part 1: Harmonic modulation", with V. K. Siddavaram, *J. Fluid Mech.* 562, 445 (2006).
141. "Steady flow and evaporation of a volatile liquid in a wedge", with M. Markos and V. Ajaev, *Phys. Fluids* 18, 92102 (2006).
142. "Steady 3D thermocapillary flows and dryout inside a V-shaped wedge", with Li Yang, *Phys. Fluids* 18, 42107 (2006).
143. "Linear stability of an expanding spherical liquid film", with Carolyn Gramlich, *Colloids and Surfaces A*, 282-283, 11 (2006).
144. "Linear stability of a draining film squeezed between two approaching droplets", with F. Baldessari & L. G. Leal, *J. Colloid Interface Science*, 307, 188 (2007).
145. "Capillary instabilities of liquid films inside a wedge", with Li Yang, *Phys. Fluids* 19, 44101 (2007).
146. "The effects of gravity modulation on fluid mixing. Part 2. Stochastic modulation", with V. K. Siddavaram. *J. Fluid Mech.* 579, 445 (2007).
147. "Three-dimensional chaotic mixing inside drops driven by a transient electric field", with Xiu Mei Xu, *Phys. Fluids* 19, 13102 (2007)
148. "Axisymmetric deformation and stability of a viscous drop in a steady electric field", with E. Lac, *J. Fluid Mech.* 590, 239 (2007).
149. "Experimental study of vapor bubbles in small-sized channels", with Li Yang, *J. Colloid Interface Sci.* 317, 235 (2008).

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