Curriculum Vitae (March 2015)

Juan M. Lopez

School of Mathematical and Statistical Sciences
Arizona State University
Tempe, AZ 85287-1804, USA

TEL: (480) 965-8843
E-MAIL: jmlopez@asu.edu
URL: http://math.asu.edu/∼lopez/

Professional preparation:

1980 B.Sc. (First Class Honours) (Mathematics), Monash University, Australia.

1985 Ph.D. (Mathematics), Monash University, Australia.
Thesis title: *Thermal and Magneto-Convection*
Thesis advisor: Prof. J. O. Murphy

Professional appointments:

- 2003–present: Professor, School of Mathematical and Statistical Sciences, Arizona State University.
- 2009–2011: Associate Director, Graduate Programs, School of Mathematical and Statistical Sciences, Arizona State University.
- 1998–2003: Associate Professor, Department of Mathematics, Arizona State University.
- 1993–1998: Associate Professor, Department of Mathematics, The Pennsylvania State University.
- 1990–1993: Senior Research Scientist, Fluid Dynamics Group, Defense Science and Technology Organisation (DSTO), Aeronautical Research Laboratory, Melbourne, Australia.
- 1985–1990: Research Scientist, Fluid Dynamics Group, Defense Science and Technology Organisation (DSTO), Aeronautical Research Laboratory, Melbourne, Australia.

Research grants:

1. NASA Research Opportunities in Complex Fluids and Macromolecular Biophysics NNX-13AQ22G: "Amyloid fibril formation in microgravity: Distinguishing interfacial and flow effects," $766,878 September 2013–August 2018 (PI: Hirsa RPI; ASU subcontract $232,517 PI: Lopez)
2. NSF Fluid Dynamics CBET-1336410: "Catastrophic transition to turbulence in rotation-dominated flows," $263,565 + $5,000 REU supplement; September 2013–August 2016 (PI).
3. Australian Research Council DP130101744: "Catastrophic transition to turbulence in rotation-dominated flows," AUD$435,000 January 2013–December 2015 (Co-I).
4. NSF Interfacial Processes and Thermodynamics CBET-1064498: "Collaborative Research: Effects of interfacial viscosities on flow of lung surfactants," $164,913 June 2011–May 2014 (PI).
5. ASU Fulton High Performance Computing 2010: 100,000 CPU hours allocation (PI).
6. Ministry of Science and Innovation, Spain FIS2009-08821 "Coherent structures and turbulence in simple domains," 90,000 Euro, September 2009–August 2012 (Co-I).
7. NSF DMS-0922864: "SCREMS: Visualization of complex spatio-temporal multiscale fluid dynamic phenomena," $113,890, August 2009–July 2010 (Co-PI).

8. Korean Ministry of Education, Science & Technology (MEST) and Korea Science and Engineering Foundation (KOSEF) World Class University (WCU) grant R32-2009-000-20021-0, "Computation and methodology in applied fluid dynamics," 2,550,000,000 Won, April 2009–August 2013 (Co-I).
9. NSF TeraGrid TG-DMS090031: "Atomization of liquids in non-isothermal environments," 200,000 CPU hours, February 2009–February 2010 (PIs: Lopez and Herrmann).
10. NSF TeraGrid TG-DMS090029: "Turbulent rotating convection," 200,000 CPU hours, February 2009–February 2010 (PI).
11. ASU Fulton High Performance Computing 2009: 150,000 CPU hours allocation ($30,000 in-kind support) (PI).
12. NSF Applied Mathematics DMS-0808045: "Atomization of liquids in non-isothermal environments: multiscale modeling and simulations," $307,868 July 2008–June 2011 (PI; Co-PI: Herrmann).
13. NSF Applied Mathematics DMS-0703587: "CSUMS: Undergraduate Research Experiences for Computational Math Sciences Majors at ASU," $1,033,904 Sept. 2007–Aug. 2014 (Co-PI).
14. ASU Fulton High Performance Computing 2006: 100,000 CPU hours allocation (PI).
15. NSF Applied Mathematics DMS-05052705: "Stochastic parametric forcing in hydrodynamics," $294,390 Sept. 2005–Sept. 2009 (PI; Co-PI: Welfert)
16. NSF Applied Mathematics DMS-0509594: "Collaborative research: Multiphase interfacial hydrodynamics," $57,893 July 2005–Nov. 2008 (PI).
17. Spanish Ministry of Education and Science, SAB2003-0172: 30,000 Euro September 2004–July 2005 (PI).
18. NSF Fluid, Particulate and Hydraulic Systems CTS-0340736: "Research Experience for Undergraduates Supplement: The role of monolayer structure on interfacial hydrodynamics," $12,000 July 2004–July 2007 (PI).
19. NSF Fluid, Particulate and Hydraulic Systems CTS-0340736: "Collaborative research: The role of monolayer structure on interfacial hydrodynamics," $122,000 July 2004–July 2007 (PI).
20. ASU-CLAS Grant to Advance the Quality of Undergraduate Education: "Preparing Students in Scientific Research, " (PI; Co-PIs Welfert and Renaut) $14,923 July 2004–June 2005.
21. Swiss NSF, Fellowships and Exchange Program P1012-100371: "Bifurcation Patterns of a Swirling Flow/Vortex Breakdown System," 15,300SF, 2003–2005 (Co-PI).
22. NSF Fluid, Particulate and Hydraulic Systems CTS-0116995: "Effects of bulk flow on monolayer formation at gas/liquid interfaces," $15,000, Nov. 2001–Nov. 2002 (PI).
23. NSF Fluid, Particulate and Hydraulic Systems CTS-9908599: "Spatial and temporal resonances in hydrodynamics: A theoretical, experimental, and numerical exploration," $180,000, May 2000–May 2003 (PI; Co-PI: Saric).
24. NSF Fluid, Particulate and Hydraulic Systems CTS-9803683: "Research Experience for Undergraduates Supplement: Dynamics of surfactant-influenced gas/liquid interfaces," $6,875, Jan. 1999–Mar. 2002 (PI).
25. NSF Fluid, Particulate and Hydraulic Systems CTS-9803683: "Dynamics of surfactant-influenced gas/liquid interfaces," $48,000, July 1998–Mar. 2002 (PI).

26. NSF International INT-9732637: "U.S.–Spain Cooperative Research: Dynamic control and parametric resonance in hydrodynamic systems," $16,267, Sept. 1998–Sept. 2001(PI; Co-PI: J. Shen).
27. NSF Computational Mathematics DMS-9706951: "Dynamic control and parametric resonance in hydrodynamic systems: A theoretical, computational, and experimental investigation," $94,000, Aug. 1997–Aug. 2000 (PI; Co-PI: J. Shen).
28. NSF ARI DMS-9512483: "Acquisition of a multi-processor computing facility for nonlinear mathematical field problems," $303,899, Sept. 1995–Sept. 1998 (Co-PI).
29. IBM Support of University Research Award: "Instructional and research facilities for high performance computing," $275,000, Aug. 1995–Aug. 1996 (Co-PI).

Editorial boards:

- 2012–present: Editorial Board: *Proceedings of the Royal Society, Series A: Mathematical, Physical and Engineering Sciences*.
- 2009–2014: Associate Editor: *Advances in Applied Mathematics and Mechanics* (Global Science Press).
- 2009–2011: Associate Editor: *Aerospace Science and Technology* (Elsevier).
- Guest Editor: special issues of *Theoretical and Computational Fluid Dynamics* (Springer), vol. 16(1), 2002 and vol. 18(2–4), 2004.

Publications:

2015:

1. Gutierrez-Castillo, P. and Lopez, J. M. 2015 Instabilities of the sidewall boundary layer in a rapidly rotating split cylinder. *European Journal of Mechanics B: Fluids* , http://dx.doi.org/10.1016/j.euromechflu.2015.02.006.

2014:

2. Marques, F. and Lopez, J. M. 2014 Spontaneous generation of a swirling plume in a stratified ambient. *Journal of Fluid Mechanics* **761**, 443–463.
3. Lopez, J. M. and Marques, F. 2014 Three-dimensional instabilities in a discretely heated annular flow: Onset of spatiotemporal complexity via defect dynamics. *Physics of Fluids* **26**, 064102.
4. Curbelo, J., Lopez, J. M., Mancho, A. M. and Marques, F. 2014 Large Prandtl number confined rotating convection: Centrifugal effects on wall modes. *Physical Review E* **89**, 013019.
5. Lopez, J. M. and Marques, F. 2014 Rapidly rotating cylinder flow with an oscillating sidewall. *Physical Review E* **89**, 013013.

2013:

6. Lopez, J. M. and Marques, F. 2013 Instability of plumes driven by localized heating. *Journal of Fluid Mechanics* **736**, 616–640.

7. Altmeyer, S., Do, Y. and Lopez, J. M. 2013 Effect of elongational flow on ferrofuids under a magnetic field. *Physical Review E* **88**, 013003.
8. Sadoughi, A. H., Lopez, J. M. and Hirsa, A. H. 2013 Transition from Newtonian to non-Newtonian surface shear viscosity of phospholipid monolayers. *Physics of Fluids* **25**, 032107.
9. Marques, F., Meseguer, A., Lopez, J. M., Pacheco, J. R. and Lopez, J. M. 2013 Bifurcations with imperfect SO(2) symmetry and pinning of rotating waves. *Proceedings of the Royal Society A* **469**, 20120348.
10. Do, Y. and Lopez, J. M. 2013 Slow passage through multiple bifurcation points. *Discrete and Continous Dynamical Systems B* **18**, 95–107.

2012:

11. Lopez, J. M., Sankar, M. and Do, Y. 2012 Constant-flux discrete heating in a unit aspect-ratio annulus. *Fluid Dynamics Research* **44**, 065507.
12. Altmeyer, S., Do, Y., Marques, F. and Lopez, J. M. 2012 Symmetry-breaking Hopf bifurcations to 1-, 2-, and 3-tori in small-aspect-ratio counter-rotating Taylor-Couette flow. *Physical Review E* **86**, 046316.
13. Brady, P. T., Herrmann, M. and Lopez, J. M. 2012 Addendum to "Two-fluid confined flow in a cylinder driven by a rotating endwall". *Physical Review E* **85**, 067301.
14. Altmeyer, S., Do, Y. and Lopez, J. M. 2012 Influence of an inhomogeneous internal magnetic field on the flow dynamics of ferrofluid between differentially rotating cylinders. *Physical Review E* **85**, 066314.
15. Nunez, J., Ramos, E. and Lopez, J. M. 2012 Mixed Fourier-Galerkin–finite-volume method to solve the fluid dynamics equations in cylindrical geometries. *Fluid Dynamics Research* **44**, 031414.
16. Sankar, M., Kim, B., Lopez, J. M. and Do, Y. 2012 Thermosolutal convection from a discrete heat and solute source in a vertical porous annulus. *Int. J. Heat Mass Transfer* **55**, 4116–4128.
17. Brady, P. T., Herrmann, M. and Lopez, J. M. 2012 Code verification for finite volume multiphase scalar equations using the method of manufactured solutions. *Journal of Comptutational Physics* **231**, 2924–2944.
18. Brady, P. T., Herrmann, M. and Lopez, J. M. 2012 Two-fluid confined flow in a cylinder driven by a rotating endwall. *Physical Review E* **85**, 016308.
19. Lopez, J. M. 2012 Three-dimensional swirling flows in a tall cylinder driven by a rotating endwall. *Physics of Fluids* **24**, 014101.
20. Sankar, M., Park, Y., Lopez, J. M. and Do, Y. 2012 Double-diffusive convection from a discrete heat and solute source in a vertical porous annulus. *Transport in Porous Media* **91**, 753–775.

2011:

21. Park, Y., Do, Y. and Lopez, J. M. 2011 Slow passage through resonance. *Physical Review E* **84**, 056604.
22. Lopez, J. M. and Marques, F. 2011 Instabilities and inertial waves generated in a librating cylinder. *Journal of Fluid Mechanics* **687**, 171–193.

23. Panades, C., Marques, F. and Lopez, J. M. 2011 Transitions to three-dimensional flows in a cylinder driven by oscillations of the sidewall. *Journal of Fluid Mechanics* **681**, 515–536.

24. Brady, P. T., Herrmann, M. and Lopez, J. M. 2011 Confined thermocapillary motion of a three-dimensional deformable drop. *Physics of Fluids* **23**, 022101.

25. Sankar, M., Park, Y., Lopez, J. M. and Do, Y. 2011 Numerical study of natural convection in a vertical porous annulus with discrete heating. *Int. J. Heat Mass Transfer* **54**, 1493–1505.

26. Blackburn, H. M. and Lopez, J. M. 2011 Modulated waves in a periodically driven annular cavity. *Journal of Fluid Mechanics* **667**, 336–357.

27. Pacheco, J. R., Lopez, J. M. and Marques, F. 2011 Pinning of rotating waves to defects in finite Taylor-Couette flow. *Journal of Fluid Mechanics* **666**, 254–272.

2010:

28. Lopez, J. M. and Marques, F. 2010 Sidewall boundary layer instabilities in a rapidly rotating cylinder driven by a differentially co-rotating lid. *Physics of Fluids* **22**, 114109.

29. Do, Y., Lopez, J. M. and Marques, F. 2010 Optimal harmonic response in a confined crossflow boundary layer flow. *Physical Review E* **82**, 036301.

30. Rubio, A., Lopez, J. M. and Marques, F. 2010 Onset of Küppers–Lortz-like dynamics in finite rotating thermal convection. *Journal of Fluid Mechanics* **644**, 337–357.

2009:

31. Lopez, J. M., Marques, F., Rubio, A. M. and Avila, M. 2009 Crossflow instability of finite Bödewadt flows: transients and spiral waves. *Physics of Fluids* **21**, 114107.

32. Lopez, J. M. and Marques, F. 2009 Centrifugal effects in rotating convection: nonlinear dynamics. *Journal of Fluid Mechanics* **628**, 269–297.

33. Cui, Y. D., Lopez, J. M., Lim, T. T. and Marques, F. 2009 Harmonically forced enclosed swirling flow. *Physics of Fluids* **21**, 034106.

34. Rubio, A., Lopez, J. M. and Marques, F. 2009 Interacting oscillatory boundary layers and wall modes in modulated rotating convection. *Journal of Fluid Mechanics* **625**, 75–96.

2008:

35. Avila, M. Grimes, M., Lopez, J. M. and Marques, F. 2008 Global endwall effects on centrifugally stable flows. *Physics of Fluids* **20**, 104104.

36. Abshagen, J., Lopez, J. M., Marques, F. and Pfister, G. 2008 Bursting dynamics due to a homoclinic cascade in Taylor-Couette flow. *Journal of Fluid Mechanics* **613**, 357–384.

37. Rubio, A., Lopez, J. M. and Marques, F. 2008 Modulated rotating convection: Radially traveling concentric rolls. *Journal of Fluid Mechanics* **608**, 357–378.

38. Herrmann, H., Lopez, J. M., Brady, P. and Raessi, M. 2008 Thermocapillary motion of deformable drops and bubbles. *Center for Turbulence Research, Proceedings of the Summer Program 2008;* pp. 155–170 (Stanford/NASA Ames).

39. Azadani, A. N., Lopez, J. M. and Hirsa, A. H. 2008 Coupling between protein-laden films and a shearing bulk flow. *Journal of Colloids and Interface Science* **322**, 79–86.

40. Avila, M., Belisle, M. J., Lopez, J. M., Marques, F. and Saric, W. S. 2008 Mode competition in modulated Taylor-Couette flow. *Journal of Fluid Mechanics* **601**, 381–406.

41. Marques, F. and Lopez, J. M. 2008 Influence of wall modes on the onset of bulk convection in a rotating cylinder. *Physics of Fluids* **20**, 024109.

42. Lopez, J. M., Cui, Y. D., Marques, F. and Lim, T. T. 2008 Quenching of vortex breakdown oscillations via harmonic modulation. *Journal of Fluid Mechanics* **599**, 441–464.

2007:

43. Avila, M., Marques, F., Lopez, J. M. and Meseguer, A. 2007 Stability control and catastrophic transition in a forced Taylor-Couette system. *Journal of Fluid Mechanics* **590**, 471–496.

44. Lopez, J. M., Marques, F., Mercader, I. and Batiste, O. 2007 Onset of convection in a moderate aspect-ratio rotating cylinder: Eckhaus-Benjamin-Feir instability. *Journal of Fluid Mechanics* **590**, 187–208.

45. Allen, J. J. and Lopez, J. M. 2007 Transition processes for junction vortex flow. *Journal of Fluid Mechanics* **585**, 457–467.

46. Azadani, A. N., Lopez, J. M. and Hirsa, A. H. 2007 Protein crystallization at the air/water interface induced by shearing bulk flow. *Langmuir* **23**, 5227–5230.

47. Marques, F., Mercader, I., Batiste, O. and Lopez, J. M. 2007 Centrifugal effects in rotating convection: Axisymmetric states and three-dimensional instabilities. *Journal of Fluid Mechanics* **580**, 303–318.

2006:

48. Hirsa, A. H., Lopez, J. M., Vogel, M. J. and Leung, J. J. F 2006 Effects of shearing flow with inertia on monolayer mesoscale structure. *Langmuir* **22**, 9483–9486.

49. Lopez, J. M., Cui, Y. D. and Lim, T. T. 2006 An experimental and numerical investigation of the competition between axisymmetric time-periodic modes in an enclosed swirling flow. *Physics of Fluids* **18**, 104106.

50. Lopez, J. M., Rubio, A. and Marques, F. 2006 Traveling circular waves in axisymmetric rotating convection. *Journal of Fluid Mechanics* **569**, 331–348.

51. Marques, F. and Lopez, J. M. 2006 Onset of three-dimensional unsteady states in small aspect-ratio Taylor-Couette flow. *Journal of Fluid Mechanics* **561**, 255–277.

52. Lopez, J. M. 2006 Rotating and modulated rotating waves in transitions of an enclosed swirling flow. *Journal of Fluid Mechanics* **553**, 323–346.

2005:

53. Lopez, J. M. and Marques, F. 2005 Finite aspect ratio Taylor-Couette flow: Shil'nikov dynamics of 2-tori. *Physica D* **211**, 168–191.

54. Abshagen, J., Lopez, J. M., Marques, F. and Pfister, G. 2005 Mode competition of rotating waves in reflection-symmetric Taylor-Couette flow. *Journal of Fluid Mechanics* **540**, 269–299.

55. Abshagen, J., Lopez, J. M., Marques, F. and Pfister, G. 2005 Symmetry breaking via global bifurcations of two tori in hydrodynamics. *Physical Review Letters* **94**, 074501.

56. Leung, J. J. F., Hirsa, A. H., Blackburn, H. M., Marques, F. and Lopez, J. M. 2005 Three-dimensional modes in a periodically driven elongated cavity. *Physical Review E* **71**, 026305.

57. Blackburn, H. M., Marques, F. and Lopez, J. M. 2005 Symmetry breaking of two-dimensional time-periodic flows. *Journal of Fluid Mechanics* **522**, 395–411.

2004:

58. Lopez, J. M., Vogel, M. J. and Hirsa, A. H. 2004 Influence of coexisting phases on the surface dilatational viscosity of Langmuir monolayers. *Physical Review E* **70**, 056308.

59. Iranzo, V., Marques, F. and Lopez, J. M. 2004 From global to local bifurcations in a forced Taylor-Couette flow. *Theoretical and Computational Fluid Dynamics* **18**, 115–128.

60. Vogel, M. J., Miraghaie, R., Lopez, J. M. and Hirsa, A. H. 2004 Flow-induced patterning of Langmuir monolayers. *Langmuir* **20**, 5651–5654.

61. Lopez, J. M. and Marques, F. 2004 Mode competition between rotating waves in a swirling flow with reflection symmetry. *Journal of Fluid Mechanics* **507**, 265–288.

62. Lopez, J. M., Marques, F., Hirsa, A. H. and Miraghaie, R. 2004 Symmetry breaking in free-surface cylinder flows. *Journal of Fluid Mechanics* **502**, 327–354.

63. Lopez, J. M., Marques, F. and Shen, J. 2004 Complex dynamics in a short Taylor-Couette annulus with the top endwall stationary and the bottom rotating. *Journal of Fluid Mechanics* **501**, 327–354.

64. Marques, F., Lopez, J. M. and Blackburn, H. M. 2004 Bifurcations in systems with Z_2 spatio-temporal and $O(2)$ spatial symmetry. *Physica D* **189**, 247–276.

2003:

65. Blackburn, H. M. and Lopez, J. M. 2003 The onset of three-dimensional standing and modulated travelling waves in a periodically-driven cavity flow. *Journal of Fluid Mechanics* **497**, 289–317.

66. Lopez, J. M. and Marques, F. 2003 Short anulus Taylor-Couette flow: Onset of a very-low-frequency three-torus state. *Physical Review E* **68**, 036302.

67. Marques, F., Gelfgat, A. Yu. and Lopez, J. M. 2003 A tangent double Hopf bifurcation in a differentially rotating cylinder flow. *Physical Review E* **68**, 016310.

68. Blackburn, H. M. and Lopez, J. M. 2003 On three-dimensional quasi-periodic Floquet instabilities of two-dimensional bluff body wakes. *Physics of Fluids* **15**, L57–L60.

69. Miraghaie, R., Lopez, J. M. & Hirsa, A. H. 2003 Flow induced patterning at the air/water interface. *Physics of Fluids* **15**, L45–L48.

70. Vogel, M., Hirsa, A. H. & Lopez, J. M. 2003 Spatio-temporal dynamics of a periodically driven cavity flow. *Journal of Fluid Mechanics* **478**, 197–226.

2002:

71. Lopez, J. M. & Marques, F. 2002 Modulated Taylor-Couette flow: Onset of spiral modes. *Theoretical and Computational Fluid Dynamics* **16**, 59–69.

72. Hirsa, A. H., Lopez, J. M. & Miraghaie, R. 2002 Determination of surface shear viscosity via deep-channel flow with inertia. *Journal of Fluid Mechanics* **470**, 135–149.

73. Blackburn, H. M. & Lopez, J. M. 2002 Modulated rotating waves in an enclosed swirling flow. *Journal of Fluid Mechanics* **465**, 33–58.

74. Sanchez, J., Marques, F. & Lopez, J. M. 2002 A continuation and bifurcation technique for Navier-Stokes flows. *Journal of Computational Physics* **180**, 78–98.

75. Lopez, J. M., Hart, J. E., Marques, F., Kittelman, S. & Shen, J. 2002 Instability and mode interactions in a differentially-driven rotating cylinder. *Journal of Fluid Mechanics* **462**, 383–409.

76. Liu, Z., Lai, Y.-C. & Lopez, J. M. 2002 Noise-induced enhancement of chemical reactions in chaotic flows. *Chaos* **12**, 417–425.

77. Marques, F., Lopez, J. M. & Iranzo, V. 2002 Imperfect gluing bifurcation in a temporal glide-reflection symmetric Taylor-Couette flow. *Physics of Fluids* **14**, L33–L36.

78. Hirsa, A. H., Lopez, J. M. & Miraghaie, R. 2002 Symmetry breaking to a rotating wave in a lid-driven cylinder with a free surface: Experimental observation. *Physics of Fluids* **14**, L29–L32.

79. Marques, F., Lopez, J. M. & Shen, J. 2002 Mode interactions in an enclosed swirling flow: a double Hopf bifurcation between azimuthal wavenumbers 0 and 2. *Journal of Fluid Mechanics* **455**, 263–281.

80. Lopez, J. M., Marques, F. & Shen, J. 2002 An efficient spectral-projection method for the Navier-Stokes equations in cylindrical geometries. II. Three dimensional cases. *Journal of Computational Physics* **176**, 384–401.

81. Lopez, J. M. & Hirsa, A. H. 2002 Non-Newtonian behavior of an insoluble monolayer: Effects of inertia. *Journal of Colloid and Interface Science* **248**, 103–110.

2001:

82. Lopez, J. M. & Hirsa, A. H. 2001 Oscillatory driven cavity with an air/water interface and an insoluble monolayer: Surface viscosity effects. *Journal of Colloid and Interface Science* **242**, 1–5.

83. Hirsa, A. H., Lopez, J. M. & Miraghaie, R. 2001 Measurement and computation of hydrodynamic coupling at an air/water interface in the presence of an insoluble monolayer. *Journal of Fluid Mechanics* **443**, 271–292.

84. Lopez, J. M., Marques, F. & Sanchez, J. 2001 Oscillatory modes in an enclosed swirling flow. *Journal of Fluid Mechanics* **439**, 109–129.

85. Marques, F., Lopez, J. M. & Shen, J. 2001 A periodically forced flow displaying symmetry breaking via a three-tori gluing bifurcation and two-tori resonances. *Physica D* **156**, 81–97.

86. Marques, F. & Lopez, J. M. 2001 Precessing vortex breakdown mode in an enclosed cylinder flow. *Physics of Fluids* **13**, 1679–1682.

2000:

87. Blackburn, H. M. & Lopez, J. M. 2000 Symmetry breaking of the flow in a cylinder driven by a rotating endwall. *Physics of Fluids* **12**, 2698–2701.

88. Hirsa, A., Lopez, J. M., & Kim, S. 2000 Evolution of an initially columnar vortex terminating normal to a no-slip wall. *Experiments in Fluids* **29**, 309–321.

89. Lopez, J. M. & Hirsa, A. H. 2000 Surfactant influenced gas/liquid interfaces: Nonlinear equation of state and finite surface viscosities. *Journal of Colloid and Interface Science* **229**, 575–583.

90. Lopez, J. M. & Marques, F. 2000 Dynamics of 3-tori in a periodically forced Navier-Stokes flow. *Physical Review Letters* **85**, 972–975.

91. Brummell, N., Hart, J. E. & Lopez, J. M. 2000 On the flow induced by centrifugal buoyancy in a differentially-heated rotating cylinder. *Theoretical and Computational Fluid Dynamics* **14**, 39–54.

92. Lopez, J. M., Marques, F. & Shen, J. 2000 Endwall effects in a periodically forced centrifugally unstable flow. *Fluid Dynamics Research* **27**, 91–108.

93. Talmage, G., Shyu, S.-H., Lopez, J. M. & Walker, J. S. 2000 Inertial effects in the rotationally driven melt motion during the Czochralski growth of silicon crystals with a strong axial magnetic field. *Journal of Applied Mathematics and Physics (ZAMP)* **51**, 267–289.

94. Lopez, J. M. & Marques, F. 2000 Quasiperodic responses to parametric excitations. In *Numerical Methods for Bifurcation Problems and Large-Scale Dynamical Systems* (eds. E. Doedel & L. Tuckerman) IMA Volumes in Mathematics and its Applications **119**, 209–228 (Springer).

95. Marques, F. & Lopez, J. M. 2000 Spatial and temporal resonances in a periodically forced extended system. *Physica D* **136**, 340–352.

96. Lopez, J. M. & Marques, F. 2000 Determining the self-rotation number following a Naimark–Sacker bifurcation in the periodically forced Taylor–Couette flow. *Journal of Applied Mathematics and Physics (ZAMP)* **51**, 61–74.

1990's:

97. Stevens, J. L., Lopez, J. M. & Cantwell, B. J. 1999 Oscillatory flow states in an enclosed cylinder with a rotating endwall. *Journal of Fluid Mechanics* **389**, 101–118.

98. Lopez, J. M. & Shen, J. 1999 A numerical study of periodically forced flows using a spectral-projection method. *Lecture Notes in Physics* **515**, 189–194.

99. Lopez, J. M. & Chen, J. 1998 Coupling between a viscoelastic gas/liquid interface and a swirling vortex flow. *Journal of Fluids Engineering* **120**, 655–661.

100. Lopez, J. M. & Hirsa, A. 1998 Direct determination of the dependence of the surface shear and dilatational viscosities on the thermodynamic state of the interface: Theoretical foundations. *Journal of Colloid and Interface Science* **206**, 231–239.

101. Lopez, J. M. & Shen, J. 1998 Numerical simulation of incompressible flows in cylindrical geometries using a spectral projection method. *International Journal of Applied Science and Computations* **5**, 25–40.

102. Lopez, J. M. 1998 Characteristics of endwall and sidewall boundary layers in a rotating cylinder with a differentially rotating endwall. *Journal of Fluid Mechanics* **359**, 49–79.

103. Lopez, J. M. & Shen, J. 1998 An efficient spectral-projection method for the Navier-Stokes equations in cylindrical geometries. I. Axisymmetric cases. *Journal of Computational Physics* **139**, 308–326.

104. Marques, F. & Lopez, J. M. 1997 Taylor–Couette flow with axial oscillations of the inner cylinder: Floquet analysis of the base flow. *Journal of Fluid Mechanics* **348**, 153–175.

105. Lopez, J. M. & Weidman, P. D. 1996 Stability of stationary endwall boundary layers during spin-down. *Journal of Fluid Mechanics* **326**, 373–398.

106. Henderson, D. M., Lopez, J. M., & Stewart, D. L. 1996 Vortex evolution during non-axisymmetric spin-up. *Journal of Fluid Mechanics* **324**, 109–134.

107. Lopez, J. M. 1996 Flow between a stationary and a rotating disk shrouded by a co-rotating cylinder. *Physics of Fluids* **8**, 2605–2613.

108. Stevens, J. L., Celik, Z. Z., Cantwell, B. J. & Lopez, J. M. 1996 Experimental study of vortex breakdown in a cylindrical swirling flow. *Joint Inst. for Aeronautics & Acoustics, NASA Ames Research Center & Stanford University;* JIAA TR 117.

109. Lopez, J. M. 1995 Unsteady swirling flow in an enclosed cylinder with reflectional symmetry. *Physics of Fluids* **7**, 2700–2714.

110. Lopez, J. M. 1994 On the bifurcation structure of axisymmetric vortex breakdown in a constricted pipe. *Physics of Fluids* **6**, 3683–3693.

111. Lopez, J. M. & Bulbeck, C. J. 1993 Behaviour of streamwise rib vortices in a three-dimensional mixing layer. *Physics of Fluids A* **5**, 1694–1702.

112. Murphy, J. O., Lopez, J. M. & Dyt, C. P. 1993 The effect of magnetic-field strength on the oscillatory characteristics of multimode magnetoconvection. *Proceedings Astronomical Society of Australia* **10**, 275–277.

113. Lopez, J. M. & Bulbeck, C. J. 1992 Behavior of streamwise rib vortices in a three-dimensional mixing layer. *Center for Turbulence Research, Proceedings of the Summer Program 1992;* pp. 147–164 (Stanford/NASA Ames).

114. Lopez, J. M. & Perry, A. D. 1992 Periodic axisymmetric vortex breakdown in a cylinder with a rotating end wall. *Physics of Fluids A* **4**, 1871.

115. Lopez, J. M. & Perry, A. D. 1992 Axisymmetric vortex breakdown: Part 3. Onset of periodic flow and chaotic advection. *Journal of Fluid Mechanics* **234**, 449–471.

116. Brown, G. L. & Lopez, J. M. 1990 Axisymmetric vortex breakdown: Part 2. Physical mechanisms. *Journal of Fluid Mechanics* **221**, 553–576.

117. Lopez, J. M. 1990 Axisymmetric vortex breakdown: Part 1. Confined swirling flow. *Journal of Fluid Mechanics* **221**, 533–552.

1980's:

118. Murphy, J. O. & Lopez, J. M. 1989 The evolution of a horizontal scale for oscillatory magnetoconvection. *Proceedings Astronomical Society of Australia* **8**, 25–28.

119. Lopez, J. M. 1989 Axisymmetric vortex breakdown in an enclosed cylinder flow. *Lecture Notes in Physics* **323**, 384–388.

120. Lopez, J. M. 1988 Vortex breakdown of a confined swirling flow. In *Computational Fluid Dynamics;* (eds. G. de Vahl Davis & C. Fletcher). pp. 493–501. North-Holland.

121. Lopez, J. M. & Murphy, J. O. 1988 Nonlinear bifurcations to time-dependent Rayleigh-Benard convection. *Australian Journal of Physics* **41**, 63–82.

122. Murphy, J. O. & Lopez, J. M. 1987 Evolution of a horizontal scale for magnetoconvection. *Proceedings Astronomical Society of Australia* **7**, 112-116.

123. Lopez, J. M. & Murphy, J. O. 1987 Cell sizes at the onset of oscillatory convective instability in a layer of low-Prandtl-number fluid subject to rotation and a vertical magnetic field. *Quarterly Journal of Mechanics and Applied Mathematics* **40**, 303–314.

124. Yannios, N; Lopez, J. M. & Murphy, J. O. 1986 A nonlinear bifurcation in cellular convection theory. *Proceedings Astronomical Society of Australia* **6**, 322–325.

125. Murphy, J. O. & Lopez, J. M. 1986 The onset of oscillatory instability in a rotating layer of mercury heated from below and subject to a magnetic field. *Proceedings Royal Society of London A* **407**, 313–324.

126. Lopez, J. M. & Murphy, J. O. 1985 Dynamic time dependent hexagonal magnetoconvection. *Australian Journal of Physics* **38**, 885–910.

127. Lopez, J. M. & Murphy, J. O. 1985 Time dependent multimode hexagonal magnetoconvection. *Proceedings Astronomical Society Australia* **6**, 227–231.

128. Murphy, J. O. & Lopez, J. M. 1985 The dynamics of steady hexagonal magnetoconvection. *Australian Journal of Physics* **38**, 41–62.

129. Lopez, J. M. & Murphy, J. O. 1984 Multi-mode study of time-dependent thermal convection with hexagonal planform. *Proceedings Astronomical Society of Australia* **5**, 483–487.

130. Lopez, J. M. & Murphy, J. O. 1984 Horizontal wave number dependence of type II solutions in Rayleigh-Benard convection with hexagonal planform. *Australian Journal of Physics* **37**, 531–547.

131. Murphy, J. O. & Lopez, J. M. 1984 The influence of vertical vorticity on thermal convection. *Australian Journal of Physics* **37**, 179–195.

132. Lopez, J. M. & Murphy, J. O. 1983 Time dependent thermal convection. *Proceedings Astronomical Society Australia* **5**, 173–175.

133. Lopez, J. M. & Murphy, J. O. 1983 The influence of the magnetic boundary conditions on the nature of astrophysical convection. *Proceedings Astronomical Society of Australia* **5**, 172–173.

134. Lopez, J. M. & Murphy, J. O. 1982 Time dependent magnetoconvection with hexagonal planform. *Proceedings Astronomical Society of Australia* **4**, 373–376.

135. Murphy, J. O. & Lopez, J. M. 1981 Magnetic Prandtl number and astrophysical convection. *Proceedings Astronomical Society of Australia* **4**, 208–209.

Conference Papers and Abstracts (speaker underlined):

1. Lopez, J. M. 1986 Numerical simulation of axisymmetric vortex breakdown. In *9^{th} Australasian Fluid Mechanics Conf.;* Univ. of Auckland, New Zealand, December 1986, pp. 614–617.

2. Lopez, J. M. 1988 On the transition to oscillatory vortex breakdown of the flow enclosed in a cylinder. *Bull. American Phys. Soc.* **33**, 2279.

3. Lopez, J. M. 1989 Unsteady vortex breakdown in an enclosed cylinder flow. In *10^{th} Australasian Fluid Mechanics Conf.;* Univ. of Melbourne, Australia, December 1989, pp. 9.1–9.5.

4. Lopez, J. M. & Brown, G. L. 1989 Physical mechanisms of axisymmetric vortex breakdown. In *10^{th} Australasian Fluid Mechanics Conf.;* Univ. of Melbourne, Australia, December 1989, pp. 12.21–12.25.

5. Lopez, J. M. 1990 Transition to chaos in an enclosed cylinder flow. In *Chaos in Australia Conf.;* Univ. of New South Wales, Australia, February 1990.

6. Lopez, J. M. & Perry, A. D. 1991 Chaotic advection in axisymmetric vortex breakdown. In *Vortical Flow Breakdown and Structural Interactions (TTCP HTP-5 workshop);* NASA Langley Research Center, VA, August 1991.

7. Lopez, J. M. & Perry, A. D. 1991 Chaotic advection in a vortex breakdown flow. In *Computational Techniques and Applications: CTAC-91;* (eds. J. Noye, B. Benjamin & L. Colgan) pp. 299–306.

8. Lopez, J. M. & Perry, A. D. 1991 Chaotic advection of an axisymmetric vortex breakdown flow. *Bull. American Phys. Soc.* **36**, 2620.

9. Lopez, J. M. 1992 Filling and emptying of unsteady vortex breakdown bubbles. In *28^{th} Australian Applied Mathematics Conf.;* Bateman's Bay, NSW, February 1992.

10. Bulbeck, C. J., Lopez, J. M. & Soria, J. 1992 A study of the kinematics and topology of unsteady confined swirling flows. In *11^{th} Australasian Fluid Mechanics Conf.;* Hobart, Australia, December 1992, pp. 1229–1232.

11. Lopez, J. M. 1993 On the bifurcation structure of axisymmetric vortex breakdown in a constricted pipe. *Bull. American Phys. Soc.* **38**, 2237.

12. Lopez, J. M. 1994 On the bifurcation structure of swirling flows. In *Eleventh Canadian Symposium of Fluid Dynamics;* Edmonton, Canada, June 10-12, 1994.

13. Stewart, D. L., Henderson, D. M. & Lopez, J. M. 1994 Experiments on the spin-up of water in a rectangular cylinder. In *International Conference on Nonlinear Dynamics and Pattern Formation in the Natural Environment;* Noordwijkerhout, the Netherlands, July 4-7, 1994.

14. Lopez, J. M. & Weidman, P. D. 1994 Stability of stationary endwall boundary layers during spin-down. *Bull. American Phys. Soc.* **39**, 1899.

15. Henderson, D. M., Lopez, J. M. & Stewart, D. L. 1994 Vortex evolution in non-axisymmetric spin-up. *Bull. American Phys. Soc.* **39**, 1899.

16. Lopez, J. M. & Weidman, P. D. 1995 Circular waves in Bödewadt boundary layers. In *9^{th} International Couette–Taylor Workshop;* University of Colorado, Boulder CO., August 7-10, 1995.

17. Lopez, J. M. 1995 Couplings between endwall boundary layers and rotating flows. *Bull. American Phys. Soc.* **40**, 2011.

18. Stevens, J. L., Celik, Z. Z., Lopez, J. M. & Cantwell, B. J. 1995 Multiple flow states in an enclosed cylinder with a rotating endwall. *Bull. American Phys. Soc.* **40**, 2042.

19. Hirsa, A., Lopez, J. M. & Kim, S. 1996 Interaction of a columnar vortex with a solid wall. *Bull. American Phys. Soc.* **41**, 1797.

20. Arrese, J. C. & Lopez, J. M. 1996 Laminar vortex boundary layers. *Bull. American Phys. Soc.* **41**, 1796.

21. Lopez, J. M. & Chen, J. 1996 Hydrodynamic coupling of viscoelastic gas/liquid interfaces. *Bull. American Phys. Soc.* **41**, 1769.

22. Hirsa, A., Gayton, J. D., Korenowski, G. M., Lopez, J. M. & Chen, J. 1997 Hydrodynamic coupling of surfactant-influenced gas/liquid interfaces. In *28th AIAA Fluid Dynamics Conference, Paper 97-2057;* June 29 – July 2, 1997, Snowmass Colorado.

23. Marques, F. & Lopez, J. M. 1997 Control of centrifugal instabilities; linear analysis. In 10^{th} *International Couette–Taylor Workshop;* "Centrifugal flows in Science and Industry," July 15–18, 1997, Paris, France.

24. Lopez, J. M. & Chen, J. 1997 Hydrodynamic coupling between a viscoelastic gas/liquid interface and a swirling vortex flow. *Proceedings ASME/OED 97th Intnl. Cong. Sym.* **1**, 11–20.

25. Hirsa, A., Lopez, J. M. & Mortzheim, J. 1997 Direct determination of surface dilatational viscosity. *Bull. American Phys. Soc.* **42**, 2176.

26. Lopez, J. M., Marques, F. & Shen, J. 1997 Control of centrifugal instabilities. *Bull. American Phys. Soc.* **42**, 2268.

27. Marques, F. & Lopez, J. M. 1998 Nonlinear Petrov–Galerkin method with time-periodic boundary conditions. In *IMACS'98: Int. Conf. on Scientific Computing and Mathematical Modeling;* University of Alicante, Spain, June 25–27, 1998, pp. 67–68.

28. Lopez, J. M. & Shen, J. 1998 Numerical simulation of incompressible flows in enclosed cylinders using a spectral projection method. In *IMACS'98: Int. Conf. on Scientific Computing and Mathematical Modeling;* University of Alicante, Spain, June 25–27, 1998, pp. 65–66.

29. Lopez, J. M., Marques, F. & Shen, J. 1998 Parametric resonances in centrifugally unstable flows. In *Int. workshop on Nonlinear Dynamics and Acoustics;* E.T.S. Eng. Ind. de Barcelona, Spain, September 14–16, 1998, pp. 99–102.

30. Sinha, M., Weisberg, A., Lopez, J. M., Smits, A. J., Marques, F. & Esteve, J. 1998 Quasi-periodic transitions in forced Taylor–Couette flow. *Bull. American Phys. Soc.* **43**, 2031.

31. Hirsa, A., Korenowski, G. M., Ringuette, M. J., Joshi, A. A. & Lopez, J. M. 1998 Measurements in a high Reynolds number deep-channel viscometer. *Bull. American Phys. Soc.* **43**, 2077.

32. Lopez, J. M. & Hirsa, A. 1998 Direct Determination of Surface Shear and Dilatational Viscosities. *Bull. American Phys. Soc.* **43**, 2076–2077.

33. Lopez, J. M. 1999 Spatial and temporal resonances in temporally forced Taylor–Couette flow. In 15*th Arizona Fluid Mechanics Conference;* University of Arizona, Tucson, April 23–24 1999.

34. Lopez, J. M. 1999 Spatial and temporal resonances in a periodically forced extended system. In *Fifth SIAM Conference on Applications of Dynamical Systems;* Snowbird, Utah May 23–27, 1999.

35. Lopez, J. M., Marques, F., & Shen, J. 1999 Endwall effects in a periodically forced Couette-Taylor flow. In 11*th International Couette-Taylor Workshop;* ZARM, Bremen, Germany, 20–23 July 1999, pp. 39–40.

36. Lopez, J. M. & Hirsa, A. 1999 (Poster presentation) Influence of nonlinear equation of state on contamination fronts at air/water interfaces. In *Interfaces for the Twenty-First Century: New research directions in fluid mechanics and materials science;* Monterey, CA, August 16–18 1999.

37. Lopez, J. M. & Hirsa, A. 1999 Computational modeling of interfacial hydrodynamics incorporating nonlinear equation of state and finite surface viscosities. *Bull. American Phys. Soc.* **44**, 45.

38. Hirsa, A., Lopez, J. M., Joshi, A. A. & Miraghaie, R. 1999 Measurements of the velocity field at an air/water interface with an insoluble surfactant. *Bull. American Phys. Soc.* **44**, 45.

39. Marques, F., Ortega, J. & Lopez, J. M. 1999 Mass flux in peristaltic motion: stream-function vorticity formulation. *Bull. American Phys. Soc.* **44**, 189.

40. Lopez, J. M. & Hirsa, A. 1999 Dynamics of surfactant-influenced gas/liquid interfaces. In *Proceedings* 2*nd International Conference on Computational Fluid Dynamics in the Minerals and Process Industries;* pp. 261–266, Melbourne, Australia, 6–8 December 1999.

41. Thalhauser, C., Lopez, J. M. & Marques, F. 2000 Competition between centrifugal and shear modes in periodically forced Taylor-Couette flow. In 16*th Arizona Fluid Mechanics Conference;* Arizona State University, Tempe, AZ February 25–26 2000.

42. Marques, F. & Lopez, J. M. 2000 Dynamics of 3-tori in a periodically forced Navier-Stokes flow. In 16*th Arizona Fluid Mechanics Conference;* Arizona State University, Tempe, AZ February 25–26 2000.

43. Lopez, J. M. 2000 Towards the modeling of perastaltic pumping with wall biolayers and feedback control. In *Mathematical Aspects of Peristalsis and Biofilms Workshop;* Arizona State University, Tempe, AZ April 8, 2000.

44. Lopez, J. M. 2000 Monolayers Coupled to Bulk Flows: Nonlinear Equation of State and Finite Surface Viscosities. In *Workshop on Surfactant Flows at Interfaces;* Laguna Beach, CA, April 29–30, 2000.

45. Lopez, J. M. 2000 Secondary and tertiary bifurcations in confined rotating flows with only SO(2) symmetry. In *International Conference on Dynamical Systems and Differential Equations;* Kennesaw State University, Kennesaw, GA, May 18–21, 2000.

46. Lopez, J. M. & Marques, F. 2000 (Poster presentation) Dynamics and bifurcations in a periodically forced Taylor-Couette flow. In *Nonlinear Dynamics and Pattern Formation Conference;* University of Texas, Austin, TX, June 4–6, 2000.

47. Lopez, J. M., Marques, F. & Sanchez, J, 2000 (Poster presentation) Multiple Unsteady Solutions and Symmetry Breaking in a Confined Swirling Flow. In *Nonlinear Dynamics and Pattern Formation Conference;* University of Texas, Austin, TX, June 4–6, 2000.

48. Marques, F., Lopez, J. M. & Shen, J. 2000 A Naimark-Sacker route to turbulence in a periodically forced flow. In *Advances in Turbulence VIII,* Proceedings of the 8th European Turbulence Conference (eds. C. Dopazo *et al.*), Barcelona, Spain, June 27–30, 2000*, pp. 193–196;* CIMNE Barcelona.

49. Seah, R. K. M., Lim, T. T., Khoo, B. C. & Lopez, J. M. 2000 Confined vortex breakdown in a conical cavity. In *Advances in Turbulence VIII,* Proceedings of the 8th European Turbulence Conference (eds. C. Dopazo *et al.*), Barcelona, Spain, June 27–30, 2000*, pp. 813–816;* CIMNE Barcelona.

50. Lopez, J. M., Marques, F., Sanchez, J. & Blackburn, H. M. 2000 Multiple unsteady solutions and symmetry breaking in a confined swirling flow. *Bull. American Phys. Soc.* **45**, 151.

51. Marques, F., Lopez, J. M. & Shen, J. 2000 A new symmetry breaking bifurcation in a periodically forced rotating flow. *Bull. American Phys. Soc.* **45**, 151.

52. Hirsa, A. H., Lopez, J. M. & Miraghaie, R. 2000 Navier-Stokes computations of a swirling free-surface flow in the presence of insoluble surfactants. *Bull. American Phys. Soc.* **45**, 52.

53. Miraghaie, R., Hirsa, A. H. & Lopez, J. M. 2000 Measurements of free-surface velocity in a swirling flow in the presence of insoluble surfactants. *Bull. American Phys. Soc.* **45**, 52.

54. Lopez, J. M. & Marques, F. 2001 Space-time symmetry breaking in a periodically forced Taylor-Couette flow. In *Sixth SIAM Conference on Applications of Dynamical Systems;* Snowbird, Utah, May 20–24, 2001.

55. Lopez, J. M. & Marques, F. 2001 Symmetry-Breaking and Mode-Mode Interactions in an $SO(2)$ Swirling Flow. In *Sixth SIAM Conference on Applications of Dynamical Systems;* Snowbird, Utah, May 20–24, 2001.

56. Iranzo, V., Marques, F. & Lopez, J. M. 2001 Symmetry Breaking in a Periodically Forced Rotating Flow With Z_2 Symmetry. In *Sixth SIAM Conference on Applications of Dynamical Systems;* Snowbird, Utah, May 20–24, 2001.

57. Marques, F., Lopez, J. M. & Sanchez, J. 2001 Competing Instabilities in a Rotating Cylinder with Differentially rotating Endwalls. In *Sixth SIAM Conference on Applications of Dynamical Systems;* Snowbird, Utah, May 20–24, 2001.

58. Hirsa, A. H. & Lopez, J. M. 2001 Surface tension gradients due to bulk flow coupling at an air/water interface. In *75th Colloid and Surface Science Symposium;* Carnegie Mellon University, PA, June 10–13, 2001.

59. Lopez, J. M. & Hirsa, A. H. 2001 Hydrodynamic coupling at an air/water interface in the presence of an insoluble monolayer. In *G. I. Taylor Medalist Symposium in Honor of Steve Davis, 38th Annual Technical Meeting of SES Joint with ASME, ASCE;* University of California - San Diego, June 27–29, 2001.

60. Lopez, J. M. & Marques, F. 2001 The onset of spiral modes as a result of resonant dynamics in temporally modulated Taylor-Couette flow is explored via Floquet analysis. In *12th International Couette-Taylor Workshop;* Northwestern University, Evanston, IL, September 6-8, 2001.

61. Marques, F., Iranzo, V. & Lopez, J. M. 2001 The role of imperfections in axially forced Taylor-Couette flow. In *12th International Couette-Taylor Workshop;* Northwestern University, Evanston, IL, September 6-8, 2001.

62. Lopez, J. M., Marques, F., Shen, J., Hart, J. E. & Kittelman, S. 2001 Instability and mode interactions in a differentially-driven rotating cylinder. *Bull. American Phys. Soc.* **46**, 120.

63. Marques, F., Iranzo, V. & Lopez, J. M. 2001 The role of imperfections in axially forced Taylor-Couette flow. *Bull. American Phys. Soc.* **46**, 34.

64. Miraghaie, R., Hirsa, A. & Lopez, J. M. 2001 Application of deep-channel viscometer with inertia for measurement of surface shear viscosity. *Bull. American Phys. Soc.* **46**, 183.

65. Hirsa, A., Vogel, M. & Lopez, J. M. 2001 Oscillatory-driven cavity flow for determination of surface dilatational viscosity. *Bull. American Phys. Soc.* **46**, 180.

66. Vogel, M., Hirsa, A. & Lopez, J. M. 2001 Measurements in a free-surface oscillatory-driven cavity. *Bull. American Phys. Soc.* **46**, 181.

67. Blackburn, H. M. & Lopez, J. M. 2001 Symmetry breaking transitions in an enclosed swirling flow. In *14th Australasian Fluid Mechanics Conference;* Adelaide University, South Australia, Australia, 9–14 December 2001.

68. Lopez, J. M. (invited plenery speaker) 2002 Trails and tribulations in establishing a new B.S. degree in Computational Mathematical Sciences at A.S.U.. In *Excellence in Undergraduate Mathematics: Mathematics for the Nontraditional Major, American Mathematical Society-Mathematical Education Reform Workshop;* Washington University, St. Louis, MO, May 2–5, 2002.

69. Lopez, J. M. 2002 Complex dynamics in a short Taylor-Couette annulus. In *The Fourth International Conference on Dynamical Systems and Differential Equations;* University of North Carolina at Wilmington, May 24–27, 2002.

70. Hirsa, A., Lopez, J. M. & Miraghaie, R. (poster) 2002 Monolayer manipulation via bulk flow with inertia. In *Gordon Research Conference on Chemistry at Interfaces;* Connecticut College in New London, Connecticut, July 7–12, 2002.

71. Vogel, M., Hirsa, A., Lopez, J. M. & Blackburn, H. M. 2002 Spatio-temporal dynamics of a periodically driven cavity flow. *Bull. American Phys. Soc.* **47**, 68.

72. Marques, F., Lopez, J. M. & Shen, J. 2002 Mode competition and complex dynamics in a short Taylor-Couette annulus. *Bull. American Phys. Soc.* **47**, 69.

73. Hirsa, A., Miraghaie, R., Vogel, M. & Lopez, J. M. 2002 Flow induced structuring on the surface of liquids: Shaping monolayers via bulk flow instabilities. *Bull. American Phys. Soc.* **47**, 101.

74. Miraghaie, R., Hirsa, A. & Lopez, J. M. 2002 Symmetry breaking to a rotating wave in a lid-driven cylinder with a free surface: Experimental observation. *Bull. American Phys. Soc.* **47**, 101.

75. Lopez, J. M., Hirsa, A., Miraghaie, R. & Marques, F. 2002 Rotating Waves at the Air/Water Interface in a Swirling Cylinder Flow. *Bull. American Phys. Soc.* **47**, 179.

76. Lopez, J. M., Marques, F., Blackburn, H. M., Vogel, M. and Hirsa, A. H. (poster) 2003 Spatio-temporal dynamics of a periodically driven cavity flow. In *Dynamics Days, Twenty-Second Annual International Conference;* January 8–11, 2003, Scottsdale, Arizona.

77. Lopez, J. M. and Marques, F. (poster) 2003 A tangent double Hopf bifurcation in a differentially rotating cylinder flow. In *Dynamics Days, Twenty-Second Annual International Conference;* January 8–11, 2003, Scottsdale, Arizona.

78. Lopez, J. M. and Marques, F. 2003 Very-low-freqency state in a short annulus Taylor-Couette flow. In *13th International Couette-Taylor Workshop: Nonlinear Dynamics in Fluids;* July 3–5, 2003, Barcelona, Spain.

79. Marques, F., Lopez, J. M. and Shen, J. 2003 Complex dynamics in a short Taylor-Couette annulus. In *13th International Couette-Taylor Workshop: Nonlinear Dynamics in Fluids;* July 3–5, 2003, Barcelona, Spain.

80. Iranzo, V., Marques, F. and Lopez, J. M. (poster) 2003 From global to local bifurcations in a forced Taylor-Couette flow. In *13th International Couette-Taylor Workshop: Nonlinear Dynamics in Fluids;* July 3–5, 2003, Barcelona, Spain.

81. Leung, J., Hirsa, A., Lopez, J. M. and Blackburn, H. M. 2003 Endwall effects in periodically driven cavity flow. *Bull. American Phys. Soc.* **48**, 31.

82. Lopez, J. M., Vogel, M. and Hirsa, A. 2003 Surface dilatational viscosity of Langmuir monolayers. *Bull. American Phys. Soc.* **48**, 45–46.

83. Hirsa, A., Vogel, M. and Lopez, J. M. 2003 Mesoscale and macroscale patterning of Langmuir monolayers by bulk flow. *Bull. American Phys. Soc.* **48**, 245.

84. Lopez, J. M. 2004 Hydrodynamic spatio-temporal complexity. In *The Third International Conference on the Numerical Solution of Volterra and Delay Equations;* May 18–21, 2004, Tempe, Arizona.

85. Lopez, J. M. 2004 Análisis de un tres-toro con una frecuencia muy pequeña, en el flujo de Taylor-Couette de altura pequeña. In *Nolineal 2004;* June 1–4, 2004, Toledo, Spain.

86. Marques, F., Lopez, J. M. and Blackburn, H. M. 2004 Sobre las inestabilidades tridimensionales de flujos bidimensionales con simetría espacio-temporal Z_2. In *Nolineal 2004;* June 1–4, 2004, Toledo, Spain.

87. Lopez, J. M., Marques, F., Abshagen, J. and Pfister, G. 2004 Symmetry breaking via global bifurcations of two-tori in Taylor-Couette flow. *Bull. American Phys. Soc.* **49**, 170.

88. Hirsa, A., Leung, J., Vogel, M. and Lopez, J. M. 2004 Effect of flow with inertia on monolayer mesoscale structure. *Bull. American Phys. Soc.* **49**, 90.

89. Leung, J., Hirsa, A., Blackburn, H., Marques, F. and Lopez, J. M. 2004 Three-dimensional modes in a periodically driven elongated cavity. *Bull. American Phys. Soc.* **49**, 232.

90. Marques, F., Lopez, J. M. and Blackburn, H. M. 2004 Symmetry breaking of two-dimensional time-periodic wakes. *Bull. American Phys. Soc.* **49**, 151.

91. Blackburn, H, M., Lopez, J. M. and Marques, F. 2004 Three-dimensional quasi-periodic instabilities of two-dimensional time-periodic flows. In *15th Australasian Fluid Mechanics Conference;* December 13–17, 2004, The University of Sydney, Australia.

92. Lopez, J. M. 2005 Lipid monolayers at the air/water interface: hydrodynamics and mesoscale structure. In *First Biannual BioPhysics Workshop;* April 21, 2005, National University of Singapore.

93. Hirsa, A. H., Leung, J. J. F., Vogel, M. J., and Lopez, J. M. 2005 Monolayer phase morphology induced by bulk flow. In *79th ACS Colloid and Surface Science Symposium;* June 12–15, 2005, Clarkson University, Potsdam NY.

94. Lopez, J. M. and Welfert, B. D. (poster) 2005 Stochastic parametric forcing in hydrodynamics. In *NISS/SAMSI Workshop on Collaborations in the Mathematical Geosciences;* October 6 - 7, 2005, Research Triangle Park, NC.

95. Welfert, B. D., Lopez, J. M., and Marques, F. 2005 Impact of noise on the onset of vortex breakdown. *Bull. American Phys. Soc.* **50**, 123.

96. Rubio, A., Lopez, J. M., and Marques, F. 2005 Traveling circular waves in rotating convection. *Bull. American Phys. Soc.* **50**, 142.

97. Marques, F., Lopez, J. M., Abshagen, J., and Pfister, G. 2005 Symmetry breaking via global bifurcations in Taylor-Couette flow. *Bull. American Phys. Soc.* **50**, 154.

98. Leung, J., Hirsa, A. H., Lopez, J. M., and Vogel, M. J. 2005 Monolayer phase coarsening using oscillatory flow. *Bull. American Phys. Soc.* **50**, 215.

99. Lopez, J. M. 2005 Transitions in an enclosed swirling flow. *Bull. American Phys. Soc.* **50**, 254.

100. Rubio, A., Lopez, J. M. and Marques, F. 2006 Axisymmetric modes in rotating stratified flows. In *Emerging Paradigms in Nonlinear Science/LANL-Arizona Days;* January 25–28, 2006, Los Alamos National Laboratory, NM.

101. Murillo, D., Castro, R., Lopez, J. M. and Welfert, B. (poster) 2006 Impact of noise on the onset of vortex breakdown. In *Emerging Paradigms in Nonlinear Science/LANL-Arizona Days;* January 25–28, 2006, Los Alamos National Laboratory, NM.

102. Welfert, B., Lopez, J. M. and Marques, F. (poster) 2006 Impact of noise on the onset of vortex breakdown. In *Frontiers in Applied and Computational Mathematics: Mathematical Fluid Dynamics;* May 15–16, 2006, New Jersey Institute of Technology, Newark NJ.

103. Lopez, J. M., Hirsa, A. H. and Leung, J. (poster) 2006 Couplings between bulk flows with inertia and monolayer mesoscale structure. In *Frontiers in Applied and Computational Mathematics: Mathematical Fluid Dynamics;* May 15–16, 2006, New Jersey Institute of Technology, Newark NJ.

104. Lopez, J. M. 2006 Couplings between bulk flows with inertia and monolayer mesoscale structure. In *Interfacial Dynamics in Complex Fluids;* May 27–June 1, 2006, Banff International Research Station for Mathematical Innovation and Discovery, Canada.

105. Leung, J., Hirsa, A. H. and Lopez, J. M. 2006 Mighty morphing monolayers: How oscillatory flow can induce phase morphology. In *80th ACS Colloid and Surface Science Symposium;* June 18-21, 2006, Boulder, Colorado.

106. Marques, F., Lopez, J. M., Batiste, O. and Mercader, I. 2006 The influence of centrifugal buoyancy in rotating convection. In *6th Euromech Fluid Mechanics Conference;* June 26–30, 2006, Stockholm, Sweden.

107. Marques, F., Lopez, J. M., Batiste, O. and Mercader, I. 2006 Rotating convection: the influence of centrifugal buoyancy. *Bull. American Phys. Soc.* **51**, 68.

108. Avila, M., Marques, F., Lopez, J. M. and Meseguer, A. 2006 Quasiperiodic flow in an axially forced Taylor-Couette system. *Bull. American Phys. Soc.* **51**, 270.

109. Rubio, A., Lopez, J. M. and Marques, F. 2006 Modulated rotating convection: Quenching wall modes. *Bull. American Phys. Soc.* **51**, 204.

110. Lopez, J. M., Marques, F., Mercader, I. and Batiste, O. 2006 Rotating convection: Eckhaus-Benjamin-Feir instability. *Bull. American Phys. Soc.* **51**, 204.

111. Marques, F., Welfert, B. D. & Lopez, J. M. 2006 Impact of noise on the onset of vortex breakdown. *Bull. American Phys. Soc.* **51**, 204.

112. Lopez, J. M. 2007 Supresión del comportamiento oscilatorio en la ruptura de vórtices. In *XIV Seminario Enzo Levi;* May 17–18, 2007, Cuernavaca, Mexico.

113. Lopez, J. M. 2007 Convección con rotación en cilindros: efectos centrfugos y de modulación. In *XIV Seminario Enzo Levi;* May 17–18, 2007, Cuernavaca, Mexico.

114. Welfert, B., Castro, R. and Lopez, J. M. 2007 Coherence resonance via harmonic and stochastic parametric forcing. In *SIAM Conference on Applications of Dynamical Systems;* May 27–June 1, 2007, Snowbird, Utah.

115. Lopez, J. M., Cui, Y. D., Marques, F. and Lim, T. T. 2007 Quenching of unsteady vortex breakdown. In *SIAM Conference on Applications of Dynamical Systems;* May 27–June 1, 2007, Snowbird, Utah.

116. Rubio, A., Lopez, J. M. and Marques, F. 2007 Traveling waves in modulated rotating convection. In *SIAM Conference on Applications of Dynamical Systems;* May 27–June 1, 2007, Snowbird, Utah.

117. Marques, F., Mercader, I., Batiste, O., Lopez, J. M., and Rubio, A. 2007 Convección con rotación en cilindros: efectos centrifugos. In *Nolineal 2007;* June 6–9, 2007, Universidad De Castilla-La Mancha, Spain.

118. Lopez, J. M., Marques, F., Cui, Y. D., and Lim, T. T. 2007 Supresíon del comportamiento oscilatorio en la rotura de vórtices. In *Nolineal 2007;* June 6–9, 2007, Universidad De Castilla-La Mancha, Spain.

119. Avila, M., Marques, F., Lopez, J. M., and Meseguer, A. 2007 Control de estabilidad y transición catastrófica en un sistema de Taylor-Couette. In *Nolineal 2007;* June 6–9, 2007, Universidad De Castilla-La Mancha, Spain.

120. Belisle, M. J., Saric, W. S, and Lopez, J. M. 2007 Mode competition between reversing and nonreversing modulated Taylor-Vortex flow. In *15th International Couette-Taylor Workshop;* July 9–12, 2007, Le Havre University, France.

121. Avila, M., Marques, F., Lopez, J. M., and Meseguer, A. 2007 Sudden transition in forced Taylor-Couette flow. In *15th International Couette-Taylor Workshop;* July 9–12, 2007, Le Havre University, France.

122. Marques, F., Lopez, J. M., Cui, Y. D., and Lim, T. T. 2007 Quenching of unsteady vortex breakdown. In *15th International Couette-Taylor Workshop;* July 9–12, 2007, Le Havre University, France.

123. Lopez, J. M. 2007 Quenching of Unsteady Vortex Breakdown Oscillations via Harmonic Forcing. In *Workshop on Dynamical Systems and Continuum Physics;* November 14–16, 2007, Centre Research de Matimatics, Montreal, Canada.

124. Azadani, A. N., Hirsa, A. H. and Lopez, J. M. 2007 Coupling of a protein-laden air/water interface to a shearing bulk flow. In *Bull. American Phys. Soc.;* 52. 210

125. Hirsa, A. H., Leung, J. and Lopez, J. M. 2007 Effects of length scale on determining surface dilatational viscosity. *Bull. American Phys. Soc.* **52**, 210.

126. Rubio, A., Lopez, J. M. and Marques, F. 2007 Modulated rotating convection. *Bull. American Phys. Soc.* **52**, 210.

127. Avila, M., Belisle, M., Lopez, J. M., Marques, F. and Saric, W. 2007 Mode competition in modulated Taylor-Couette flow. *Bull. American Phys. Soc.* **52**, 210.

128. Lopez, J. M. and Marques, F. 2007 The role of spatio-temporal symmetries in the transition towards turbulence. In *SIAM Conference on Analysis of Partial Differential Equations;* December 10–12, 2007, Mesa, Arizona.

129. Avila, M., Marques, F. and Lopez, J. M. 2007 Mode competition in extended domains. In *SIAM Conference on Analysis of Partial Differential Equations;* December 10–12, 2007, Mesa, Arizona.

130. Marques, F. and Lopez, J. M. 2007 Organizing centers and their connections. In *SIAM Conference on Analysis of Partial Differential Equations;* December 10–12, 2007, Mesa, Arizona.

131. Rubio, A., Lopez, J. M. and Marques, F. 2007 Travelling Waves in Modulated Rotating Convection. In *SIAM Conference on Analysis of Partial Differential Equations;* December 10–12, 2007, Mesa, Arizona.

132. Welfert, B. D., Castro, R. and Lopez, J. M. 2007 Reduction of dynamical systems under stochastic parametric forcing. In *SIAM Conference on Analysis of Partial Differential Equations;* December 10–12, 2007, Mesa, Arizona.

133. Lopez, J. M., Marques, F., Cui, Y. D. and Lim, T. T. 2008 Control de oscilaciones en la rotura de vórtices. In *Nolineal 2008 (Eds. F. Marques & A. Delshams), pp. 90;* June 16–19, 2008, Univ. Politec. Catalunya, Barcelona, Spain.

134. Marques, F., Lopez, J. M. and Rubio, A. 2008 Convección con rotación en cilindros: transición de los modos de pared a caos espacio-temporal. In *Nolineal 2008 (Eds. F. Marques & A. Delshams), pp. 50;* June 16–19, 2008, Univ. Politec. Catalunya, Barcelona, Spain.

135. Rubio, A., Lopez, J. M. and Marques, F. 2008 Modulated rotating convection: radially travelling concentric rolls. In *Nolineal 2008 (Eds. F. Marques & A. Delshams), pp. 100;* June 16–19, 2008, Univ. Politec. Catalunya, Barcelona, Spain.

136. Avila, M., Belisle, M., Lopez, J. M., Marques, F. and Saric, W. S. 2008 Competencia de modes en fluidos: experimentos y simulaciones. In *Nolineal 2008 (Eds. F. Marques & A. Delshams), pp. 134;* June 16–19, 2008, Univ. Politec. Catalunya, Barcelona, Spain.

137. Rubio, A., Lopez, J. M. & Marques, F. 2008 Interacting Stokes layers and wall modes in modulated rotating convection. *Bull. American Phys. Soc.* **53**, 48.

138. Lopez, J. M., Marques, F., Lim, T. T. & Cui, Y. D. 2008 Harmonically forced enclosed swirling flow. *Bull. American Phys. Soc.* **53**, 228.

139. Marques, F. & Lopez, J. M. 2008 Centrifugal effects in rotating convection: nonlinear dynamics. *Bull. American Phys. Soc.* **53**, 315.

140. Lopez, J. M. 2009 Harmonically forced enclosed swirling flow. In *SIAM Conference on Applications of Dynamical Systems;* May 17–21, 2009, Snowbird, Utah.

141. Rubio, A., Lopez, J. M. and Marques, F. 2009 Transitions in irregular geostrophic turbulence. In *SIAM Conference on Applications of Dynamical Systems;* May 17–21, 2009, Snowbird, Utah.

142. Brady, P., Herrmann, M. and Lopez, J. M. 2009 A numerical method for detailed simulations of atomization in non-isothermal environments. In *11th Triennial Conference on Liquid Atomization and Spray Systems, Paper no. ICLASS2009-184;* Vail, CO, July 26–30 2009.

143. Marques, F., Rubio, A. and Lopez, J. M. 2009 Rotating convection: transitions from wall modes to quasi-geostrophic turbulence. In *Third International Symposium on Instabilities and Bifurcations in Fluid Dynamics;* August 10–13, 2009, Nottingham, UK.

144. Lopez, J. M. 2009 Invited Keynote Talk: Complex spatio-temporal dynamics in short-aspect-ratio Taylor-Couette flow. In *16th International Couette-Taylor Workshop;* September 9–11, 2009, Princeton University.

145. Belisle, M., Saric, W. S., Avila, M. and Lopez, J. M. 2009 Mode competition in experimental modulated Taylor-Couette flow. In *16th International Couette-Taylor Workshop;* September 9–11, 2009, Princeton University.

146. Pacheco, R. J., Lopez, J. M. and Marques, F. 2009 Pinning of rotating waves to defects in finite Taylor-Couette flow. In *16th International Couette-Taylor Workshop;* September 9–11, 2009, Princeton University.

147. Avila, M., Grimes, M., Lopez, J. M. and Hof, B. 2009 Transient growth effects in quasi-Keplerian Taylor-Couette flows. In *16th International Couette-Taylor Workshop;* September 9–11, 2009, Princeton University.

148. Rubio, A., Lopez, J. M. and Marques, F. 2009 Onset of Küppers-Lortz like dynamics in finite rotating convection. In *16th International Couette-Taylor Workshop;* September 9–11, 2009, Princeton University.

149. Lopez, J. M., Rubio, A. and Marques, F. 2009 Rotating convection: transitions from wall modes to quasi-geostrophic turbulence. In *16th International Couette-Taylor Workshop;* September 9–11, 2009, Princeton University.

150. Brady, P., Lopez, J. M. and Herrmann, M. 2009 A numerical method for variable surface tension effects in non-isothermal atomization. *Bull. American Phys. Soc.* **54**, LJ.00007.

151. Lopez, J. M. 2009 Crossflow instability of finite Bödewadt flows: transients and spiral waves. In *Joint Meeting of the Korean Mathematical Society and the American Mathematical Society;* December 16–20, 2009, Ewha Womans University, Seoul, Korea.

152. Lopez, J. M. 2010 Onset of Küppers–Lortz-like dynamics in finite rotating thermal convection. In *Joint Meeting of the Korean Association of Mathematical Societies;* April 24–25, 2010, Chungnam National University, Dajeon, Korea.

153. Brady, P., Herrmann, M. and Lopez, J. M. 2010 A Numerical Method for Variable Surface Tension Effects in Non-Isothermal Atomization with Overset Grids. In *ILASS-Americas 2010: 22nd Annual Conference in Liquid Atomization and Spray Systems; Paper no. ILASS2010-152;* May 16–19, 2010, Cincinnati, Ohio.

154. Rubio, A., Lopez, J. M. and Marques, F. 2010 Rotating Convection: Transitions from Wall Modes to Quasi-geostrophic Turbulence. In *SIAM Emerging Topics in Dynamical Systems and Partial Differential Equations;* May 31 – June 4, 2010, Barcelona, Spain.

155. Avila, M., Grimes, M., Lopez, J. M. and Hof, B. 2010 Hydrodynamic Stability of Keplerian Flows. In *SIAM Emerging Topics in Dynamical Systems and Partial Differential Equations;* May 31 – June 4, 2010, Barcelona, Spain.

156. Marques, F., Lopez, J. M., Avila, M. and Rubio, A. 2010 Crossflow Instability of Finite Bödewadt Flows: Transients and Spiral Waves. In *SIAM Emerging Topics in Dynamical Systems and Partial Differential Equations;* May 31 – June 4, 2010, Barcelona, Spain.

157. Lopez, J. M. 2010 Rapidly Rotating Flows: Interactions between Inertial Waves and Viscous Shear Layers. In *SIAM Emerging Topics in Dynamical Systems and Partial Differential Equations;* May 31 – June 4, 2010, Barcelona, Spain.

158. Brady, P. T., Lopez, J. M. and Herrmann, M. 2010 Multi-Scale Methods for Simulating Turbulent Atomization. In *SIAM Annual Meeting;* July 12–16, 2010, Pittsburgh PA.

159. Lopez, J. M. and Marques, F. 2010 Sidewall boundary layer instabilities in a rapidly rotating cylinder driven by a differentially co-rotating lid. In *Bull. American Phys. Soc.;* 55. CE.00009

160. Sadoughi, A., Hirsa, A. and Lopez, J. M. 2010 Newtonian to non-Newtonian flow transition in lung surfactants. In *Bull. American Phys. Soc.;* 55. EL.00002

161. Marques, F., Meseguer, A., Lopez, J. M. and Pacheco, R. 2010 Pinning of rotating waves in systems with imperfect $SO(2)$ symmetry. In *Bull. American Phys. Soc.;* 55. HZ.00006

162. Brady, P., Lopez, J. M. and Herrmann, M. 2010 A numerical method for variable surface tension effects in non-isothermal atomization with overset grids. In *Bull. American Phys. Soc.;* 55. LW.00004

163. Young, J., Posada, D., Hirsa, A. and Lopez, J. M. 2010 Effect of Reynolds number on 2-D protein crystallization at the air/water interface. In *Bull. American Phys. Soc.;* 55. MK.00000

164. Brady, P., Herrmann, M. and Lopez, J. M. 2011 Detailed Numerical Simulations of Single Drop Atomization. In *ILASS-Americas 2011: 23rd Annual Conference in Liquid Atomization and Spray Systems; Paper no. ILASS2011-156;* May 15–18, 2011, Ventura, California.

165. Brady, P., Herrmann, M. and Lopez, J. M. 2011 Multiphase Code Verification using the Method of Manufactured Solutions. In *ILASS-Americas 2011: 23rd Annual Conference in Liquid Atomization and Spray Systems; Paper no. ILASS2011-157;* May 15–18, 2011, Ventura, California.

166. Lopez, J. M., Do, Y. and Marques, F. 2011 Optimal Harmonic Response in a Confined Bödewadt Boundary Layer Flow. In *SIAM Conference on Applications of Dynamical Systems;* May 17–21, 2011, Snowbird, Utah.

167. Lopez, J. M. and Marques 2011 Instabilities and inertial waves generated in a librating cylinder. In *Fourth International Symposium, Bifurcations and Instabilities in Fluid Dynamics;* July 18–21, 2011, Barcelona, Spain.

168. Lopez, J. M. (Invited Keynote Lecture) 2011 Rotating Thermal Convection. In *17th International Couette-Taylor Workshop;* July 25–27, 2011, Leeds, UK.

169. Lopez, J. M. 2011 Inertial waves in a rapidly rotating cylinder. In *Abstracts of the 2011 Korean Mathematical Society Fall Meeting,* **48-2***, 96;* October 21–22, 2011, Kyungpook National University, Daegu, Korea.

170. Younghae D., Lopez, J. M. and Marques F. 2011 Optimal Harmonic Response in a Confined Bödewadt Boundary Layer Flow. In *Abstracts of the 2011 Korean Mathematical Society Fall Meeting,* **48-2***, 100;* October 21–22, 2011, Kyungpook National University, Daegu, Korea.

171. Núñez, J., Ramos, E. and Lopez, J. M. 2011 Stability of a natural convection flow inside a cylindrical cavity partially heated on the side. In *XVII Congreso de la Division de Dinamica de Fluidos;* November 8–11, Guadalajara, Mexico.

172. Lopez, J. M. 2011 Inertial waves in a rapidly rotating cylinder. In *SIAM Conference on Analysis of Partial Differential Equations;* November 14–17, 2011, San Diego CA.

173. Young, J., Posada, D., Hirsa, A. and Lopez, J. M. 2011 From thermodynamics to fluid mechanics: Enhancing the 2-D protein crystallization process. In *Bull. American Phys. Soc.;* 56. R27.00007

174. Sadoughi, A., Hirsa, A. and Lopez, J. M. 2011 Surface shear viscosity of a lung surfactant: Newtonian to non-Newtonian transition. In *Bull. American Phys. Soc.;* 56. S30.00003

175. Lopez, J. M. (Invited Keynote Speaker) 2011 Instabilities and inertial waves generated in a librating cylinder. In *Korean Society for Industrial and Applied Mathematics Annual Meeting;* November 25–27, 2011, Jeju Island, Korea.

176. Lopez, J. M. 2012 Inertial waves in a rapidly rotating cylinder. In *Australia–New Zealand Rotating Flows Workshop;* January 9–11, 2012, Auckland, New Zealand.

177. Lopez, J. M., Marques, F. and Do, Y. 2012 Sidewall boundary layer instabilities in a rapidly rotating cylinder driven by a differentially co-rotating lid. In *International Conference on Boundary and Interior Layers, Computational and Asymptotic Methods;* February 6–10, 2012, POSTECH, Korea.

178. Do, Y., Lopez, J. M. and Marques, F. 2012 Optimal harmonic response in a confined Bödewadt boundary layer flow. In *International Conference on Boundary and Interior Layers, Computational and Asymptotic Methods;* February 6–10, 2012, POSTECH, Korea.

179. Park, Y., Lopez, J. M. and Do, Y. 2012 Early effect in a slowly-varying modulated rotating flow. In *KMS Spring Conference;* April 28, 2012, Seoul, Korea.

180. Altmeyer, S., Lopez, J. M. and Do, Y. 2012 Influence of an inhomogeneous internal magnetic field on the flow dynamics of ferrofluid between differentially rotating cylinders. In *KMS Spring Conference;* April 28, 2012, Seoul, Korea.

181. Do, Y., Kim, P., Sankar, M. and Lopez, J. M. 2012 Thermosolutal convection from a discrete heat and solute source in a vertical porous annulus. In *KSIAM Spring Conference;* May 18–19, 2012, Seoul, Korea.

182. Lopez, J. M., Marques, F. and Do, Y. 2012 Inertial waves in a rapidly rotating cylinder driven by sidewall axial oscillation. In *KSIAM Spring Conference;* May 18–19, 2012, Seoul, Korea.

183. Altmeyer, S., Lopez, J. M. and Do, Y. 2012 Influence of an inhomogeneous internal magnetic field on the flow dynamics of ferrofluid between differentially rotating cylinders. In *KSIAM Spring Conference;* May 18–19, 2012, Seoul, Korea.

184. Park, Y., Lopez, J. M. and Do, Y. 2012 Early effect in a slowly-varying modulated rotating flow. In *KSIAM Spring Conference;* May 18–19, 2012, Seoul, Korea.

185. Lopez, J. M. 2012 Inertial waves in a rapidly rotating cylinder driven by sidewall axial oscillation. In *SIAM Conference on Nonlinear Waves and Coherent Structures;* June 13–16, 2012, Seattle, Washington.

186. Nuñez, J., Ramos, E. and Lopez, J. M. 2012 Stability of a natural convection flow inside a cylindrical cavity partially heated on the side. In *International Congress on Theoretical and Applied Mechanics;* August 19–24, 2012, Beijing, China.

187. Lopez, J. M., Sankar, M., Do, Y. and Marques, F. 2012 Constant-flux discrete heating in a unit aspect-ratio annulus. *Bull. American Phys. Soc.* **57**, E2.00004.

188. Marques, F., Lopez, J. M. and Do, Y. 2012 Instability of plumes driven by localized heating. *Bull. American Phys. Soc.* **57**, L2.00004.

189. Altmeyer, S., Do, Y., Marques, F. and Lopez, J. M. 2012 Symmetry-breaking Hopf bifurcations to 1-, 2-, and 3- tori in small-aspect-ratio counter-rotating Taylor-Couette flow. *Bull. American Phys. Soc.* **57**, M14.00005.

190. Young, J., Posada, D., Hirsa, A. H. and Lopez, J. M. 2012 Flow-induced protein crystallization: Macroscopic effects on 2D crystals. *Bull. American Phys. Soc.* **57**, A7.00004.

191. Sadoughi, A., Hirsa, A. H. and Lopez, J. M. 2012 DPPC: Is it ever Newtonian?. *Bull. American Phys. Soc.* **57**, F1.00050.

192. Park, Y., Do, Y. and Lopez, J. M. 2012 Early effect through multiple resonances in a slowly varying modulated rotating flow. In *KSIAM annual meeting;* Nov. 23–24, Daegu, Soth Korea.

193. Ryu, S., Lopez, J. M. and Do, Y. 2012 Numerical simulations of the motion of the passive particles in a tall cylinder driven by a rotating endwall. In *KSIAM annual meeting;* Nov. 23–24, Daegu, Soth Korea.

194. Welfert, B. D. and Lopez, J. M. 2013 Slow passage through resonance: the big picture. In *Joint Mathematics Meeting;* Jan. 9–12, San Diego, CA.

195. Lopez, J. M. 2013 Instabilities and inertial waves generated in a librating cylinder. In *Workshop/Winterschool on Waves and Instabilities in Geophysical and Astrophysical Flows;* Feb. 3–8, Les Houches, France.

196. Lopez, J. M., Marques, F. and Avila, M. 2013 Three-dimensional instabilities in a discretely heated annular flow. In *18th International Couette-Taylor Workshop;* June 24–26, University of Twente, The Netherlands.

197. Altmeyer, S., Lopez, J. M., Marques, F. and Do, Y. 2013 Symmetry-breaking Hopf bifurcations to 1-, 2-, and 3-tori in small-aspect-ratio counter-rotating Taylor-Couette flow. In *18th International Couette-Taylor Workshop;* June 24–26, University of Twente, The Netherlands.

198. Marques, F. and Lopez, J. M. 2013 Instability of thermal plumes driven by localized heating. In *18th International Couette-Taylor Workshop;* June 24–26, University of Twente, The Netherlands.

199. Gutierrez-Castillo, P. and Lopez, J. M. (poster) 2013 Inertial waves driven by differential rotation of a horizontally split rapidly rotating cylinder. In *18th International Couette-Taylor Workshop;* June 24–26, University of Twente, The Netherlands.

200. Altmeyer, S., Lopez, J. M., Marques, F. and Do, Y. 2013 Symmetry-breaking Hopf bifurcations to 1-, 2-, and 3-tori in small- aspect-ratio counter-rotating Taylor-Couette flow. In *SIAM Annual Meeting;* July 8–12, San Diego, CA..

201. Altmeyer, S., Hof, B., Marques, F. and Lopez, J. M. 2013 Rich 3-tori dynamics in small-aspect-ratio highly counter-rotating Taylor-Couette flow: reversal of spiraling vortices. *Bull. American Phys. Soc.* **58**, H5.00004.

202. Young, J., Posada, D., Hirsa, A. and Lopez, J. M. 2013 Lower limit of shear to induce 2-D protein crystals. *Bull. American Phys. Soc.* **58**, G19.00003.

203. Marques, F. and Lopez, J. M. 2014 Rapidly rotating cylinder flow with an oscillating sidewall. In *85th Annual Meeting of the International Association of Applied Mathematics and Mechanics;* March 10-14, Friedrich-Alexander Universität Erlangen-Nürnberg, Germany.

204. Lopez, J. M. and Marques, F. 2014 Instabilities of Plumes Driven by Localized Heating in Initially Isothermal Or Stably Stratified Ambients. In *10th AIMS Int. Conf. on Dynamical Systems, Differential Equations and Applications;* July 7–11, Madrid, Spain.

205. Marques, F. and Lopez, J. M. 2014 Inertial Waves in a Rapidly Rotating Cylinder Flow. In *10th AIMS Int. Conf. on Dynamical Systems, Differential Equations and Applications;* July 7–11, Madrid, Spain.

206. Gutierrez-Castillo, P. and Lopez, J. M. 2014 Instabilities of the Sidewall Boundary Layer in a Rapidly Rotating Split Cylinder. In *10th AIMS Int. Conf. on Dynamical Systems, Differential Equations and Applications;* July 7–11, Madrid, Spain.

207. Welfert, B. and Lopez, J. M. 2014 Stochastic Slow-passage Around Resonance and Saddle-node Bifurcation in a Forced Duffing Oscillator. In *10th AIMS Int. Conf. on Dynamical Systems, Differential Equations and Applications;* July 7–11, Madrid, Spain.

208. Lopez, J. M. 2014 Instabilities of the Sidewall Boundary Layer in a Rapidly Rotating Split Cylinder. In *Turbulent Mixing and Beyond Workshop;* Abdus Salam International Centre for Theoretical Physics, Trieste, Italy, August 4–9.

209. McBride, S., Tilger, C., Hirsa, A. H. and Lopez, J. M. 2014 Ring Sheared Drop Experiment for the Study of Amyloid Fibrils in Microgravity. In *American Society for Gravitational and Space Research Annual Meeting;* October 22–26, Pasadena, CA.

210. Lopez, J. M. and Marques, F. 2014 Precession of a rapidly rotating cylinder flow: traverse through resonance. *Bull. American Phys. Soc.* **59**, D11.00005.

211. Gutierrez-Castillo, P. and Lopez, J. M. 2014 Instabilities of the sidewall boundary layer in a rapidly rotating split cylinder. *Bull. American Phys. Soc.* **59**, D11.00006.

212. Raghunandan, A., Tilger, C., Hirsa, A. and Lopez, J. M. 2014 Coupling of the interfacial and bulk flow in a knife-edge surface viscometer. *Bull. American Phys. Soc.* **59**, D15.00005.

213. Blackburn, H., Albrecht, T., Manasseh, R., Lopez, J. M. and Meunier, P. 2014 DNS and PIV investigation of nonlinear instability in a precessing cylinder flow. *Bull. American Phys. Soc.* **59**, A11.00001.

214. Albrecht, T., Meunier, P., Blackburn, H., Lopez, J. M. and Manasseh, R. 2014 Precessional forcing of a mean geostrophic flow in a rotating cylinder. *Bull. American Phys. Soc.* **59**, A11.00002.

215. McBride, S., Tilger, C., Hirsa, A. and Lopez, J. M. 2014 Self-assembly of protein fibrils in stable circular Couette flow. *Bull. American Phys. Soc.* **59**, L5.00010.

216. Welfert, B., Lopez, J. M. and Taylor, S. 2014 2D stratified cavity flow under harmonic forcing. *Bull. American Phys. Soc.* **59**, L19.00001.

217. Marques, F. and Lopez, J. M. 2014 Instabilities of plumes driven by localized heating in a stably stratified ambient. *Bull. American Phys. Soc.* **59**, M19.00002.

218. Hirsa, A., Young, J., Posada, D. and Lopez, J. M. 2014 Shear-induced morphology in mixed phospholipid films. *Bull. American Phys. Soc.* **59**, L22.00012.

219. Albrecht, T., Meunier, P., Manasseh, R., Lopez, J. M. and Blackburn, H. M. 2014 PIV of a Precessing Cylinder Flow. In *19th Australasian Fluid Mechanics Conference;* December 8–11, Melbourne, Australia.

220. Blackburn, H. M., Albrecht, T., Manasseh, R., Lopez, J. M. and Meunier, P. 2014 Instability in a Precessing Cylinder Flow. In *19th Australasian Fluid Mechanics Conference;* December 8–11, Melbourne, Australia.

221. Lopez, J. M. and Gutierrez-Castillo, P. 2014 Instabilities of the Sidewall Boundary Layer in a Rapidly Rotating Split Cylinder. In *19th Australasian Fluid Mechanics Conference;* December 8–11, Melbourne, Australia.

Invited Colloquia and Seminars:

1. Sep 1986: Department of Mathematics, Monash University, Australia.
2. Oct 1986: Director's Seminar, Aeronautical Research Laboratory, Australia. "Axisymmetric vortex breakdown: A comparison between experimental visualization and numerical simulation."
3. Apr 1988: Department of Mechanical Engineering, Stanford University, CA.

4. May 1988: Review seminar, High Angle of Attack Project, NASA Ames Research Center, CA.
5. Nov 1988: Department of Mechanical Engineering, University of California, Davis, CA.
6. Feb 1989: Royal Aerospace Establishment, Farnborough, UK.
7. Feb 1989: School of Aeronautics, Polytechnic University of Madrid, Spain.
8. Apr 1989: Flight Mechanics and Propulsion Division Seminar, Aeronautical Research Laboratory, Australia.
9. Sep 1990: NASA Langley Research Center, VA.
10. May 1991: Flight Mechanics and Propulsion Division Seminar, Aeronautical Research Laboratory, Australia.
11. Jun 1991: Department of Mechanical Engineering, University of Melbourne, Australia.
12. Aug 1991: Bureau of Meteorology Research Centre, Victoria, Australia.
13. Nov 1991: Graduate Aeronautics Laboratory, California Institute of Technology, CA.
14. Aug 1992: Department of Mechanical Engineering, The Pennsylvania State University, PA.
15. Aug 1993: Department of Mathematics, The Pennsylvania State University, PA. "Some aspects of axisymmetric vortex breakdown."
16. Dec 1993: Department of Mechanical Engineering, Monash University, Australia. "On the nature of the onset of periodic swirling flow."
17. Mar 1994: Department of Mechanical Engineering, Clarkson University, NY. "Bifurcation structure of swirling flows."
18. Dec 1994: Department of Mechanical Engineering, Lehigh University, PA. "Vortex line bending in axisymmetric swirling flows."
19. Sep 1995: Department of Meteorology, The Pennsylvania State University, PA. "Circular waves in Bödewadt boundary layers."
20. Sep 1995: Transition and Turbulence Seminar Series, Cornell University, NY. "Circular waves in Bödewadt boundary layers".
21. Oct 1995: Department of Mechanical and Aeronautical Engineering, Rensselaer Polytechnic Institute, NY. "Circular waves in Bödewadt boundary layers."
22. Apr 1996: Department of Aeronautical Engineering and Department of Mathematics, Ohio State University, OH. "Boundary layers and free shear layers in flows between counter-rotating disks."
23. Apr 1996: Department of Aerospace and Mechanical Engineering, Princeton University, NJ. "Coupling between endwall boundary layers and rotating flows."
24. Jan 1997: Institute for High Performance Computer Applications, The Pennsylvania State University, PA. "Dynamic control of hydrodynamic instabilities."
25. Feb 1997: Department of Mechanical and Aerospace Engineering, University of California, Davis, CA. "Boundary layers due to rotating and vortex flows: Computations, experiments, and similarity considerations."
26. Feb 1997: Department of Mathematics, University of California, Davis, CA. "Dynamic control of hydrodynamic instabilities."

27. Oct 1997: IMA Workshop: Large Scale Dynamical Systems, University of Minnesota, Minneapolis, MN. "Quasiperiodic response to parametric excitation."

28. Oct 1997: Department of Applied Physics, Universitat Politècnica de Catalunya, Barcelona, Spain. "Dynamics of flows with viscoelastic interfaces."

29. Oct 1997: Department of Mechanical Engineering, University of Málaga, Spain. "Dynamics of flows with viscoelastic interfaces."

30. Dec 1997: Department of Mechanical and Aerospace Engineering, University of California, Davis, CA. "Hydrodynamic coupling between a viscoelastic gas/liquid interface and a swirling vortex flow."

31. Jan 1998: Air Products and Chemicals Inc., Allentown, PA. "Direct determination of viscoelastic properties of surfactant-influenced gas/liquid interfaces and computations of interfacial flows."

32. Feb 1998: Levich Institute for Physico-Chemical Hydrodynamics, CUNY, NY. "Hydrodynamic coupling between a surfactant influenced gas/liquid interface and a swirling vortex flow."

33. Feb 1998: Department of Mathematics, Arizona State University, AZ. "Hydrodynamic coupling between a surfactant influenced gas/liquid interface and a swirling vortex flow."

34. Mar 1998: Department of Mathematics, Tufts University, MA. "Hydrodynamic coupling between a surfactant influenced gas/liquid interface and a swirling vortex flow."

35. May 1998: Department of Aeronautical Engineering, University of Sevilla, Spain. "Quasiperiodic response to parametric excitation."

36. Sep 1998: Department of Mathematics and Department of Mechanical Engineering, Arizona State University, AZ. "Periodically forced centrifugally unstable flows."

37. Oct 1998: Department of Mathematics, University of Utah, Salt Lake City, UT. "Periodically forced centrifugally unstable flows."

38. Nov 1998: Department of Mathematics and SSERC, Arizona State University, AZ. "Peristaltic pumping."

39. Jan 1999: Program in Atmospheric and Oceanic Science, University of Colorado, Boulder, CO. "Periodically forced centrifugally unstable flows."

40. Sep 1999: Mathematics and Cognition Seminar, Arizona State University, AZ. "On the hydrodynamics of peristaltic pumping."

41. Oct 1999: Department of Aerospace Engineering, University of Southern California, LA. "Vortex breakdown: Onset of unsteadiness and multiple states."

42. Nov 1999: Department of Physics and Institute for Surface and Interface Sciences, University of California, Irvine, CA. "Aspects of interfacial flows with surfactants."

43. Feb 2000: Department of Mechanical and Aerospace Engineering, University of California, Irvine, CA. "Dynamics and bifurcations in a periodically forced Navier-Stokes flow."

44. May 2000: Department Mechanical Engineering, Georgia Institute of Technology, GA. "Multiple Unsteady Solutions and Symmetry Breaking in a Confined Swirling Flow."

45. June 2001: Mediterranean Institute for Advanced Studies Seminar, Universitat Illes Balears, Palma de Mallorca, Spain "Symmetry breaking, double Hopf bifurcations and mixed modes in flows with $SO(2)$ symmetry."

46. Oct 2001: Swiss Federal Institute of Technology, EPFL-Laussane, Switzerland "Symmetry breaking, double Hopf bifurcations and mixed modes in flows with $SO(2)$ symmetry."
47. Oct 2001: Laboratory of Thermodynamics in Emerging Technologies, Swiss Federal Institute of Technology, ETH-Zentrum Zurich, Switzerland "Symmetry breaking, double Hopf bifurcations and mixed modes in flows with $SO(2)$ symmetry."
48. Oct 2001: Computational and Applied Mathematics Proseminar, Department of Mathematics, Arizona State University, AZ. "Instabilities, Symmetry Breaking and Mode Interactions in an Enclosed Swirling Flow."
49. Mar 2002: Department of Mechanical Aeorspace and Nuclear Engineering Colloquium, Rensselaer Polytechnical Institute, NY. "Instabilities, Symmetry Breaking and Mode Interactions in Rotating Shear Flows."
50. July 2002: Department of Physics and Applied Mathematics, University of Navarra, Pamplona, Spain "Complex dynamics in a short Taylor-Couette annulus."
51. Oct 2002: Computational and Applied Mathematics Seminar, Department of Mathematics, Purdue University, "Complex dynamics in a short Taylor-Couette annulus."
52. Oct 2002: Applied and Computational Mathematics Seminar, Department of Mathematics, Pennsylvania State University, PA, "Complex dynamics in a short Taylor-Couette annulus."
53. Nov 2002: Environmental Fluid Dynamics seminar, Arizona State University, AZ, "Complex dynamics in a short Taylor-Couette annulus."
54. Dec 2002: Seminario de Mecánica de Fluidos y Matemática Aplicada, ETS Ingenieros Aeronáuticos, Universidad Politecnica de Madrid, Spain, "Complex dynamics in a short Taylor-Couette annulus."
55. Apr 2003: Colloquium, Department of Mathematics, University of Southern California, CA, "On 3D instabilities of 2D time-periodic flows."
56. Jul 2003: Mediterranean Institute for Advanced Studies Seminar, Universitat Illes Balears, Palma de Mallorca, Spain "On 3D instabilities of 2D time-periodic flows."
57. Nov 2003: Laboratory of Thermodynamics in Emerging Technologies, Swiss Federal Institute of Technology, ETH-Zentrum Zürich, Switzerland "Complex dynamics due to competition between instability mechanisms."
58. May 2004: Earth and Space Sciences, UCLA, "Spatio-temporal Complexity in a Short Taylor-Couette Flow."
59. Dec 2004: CSIRO, Melbourne, "Role of Surfactant Monolayers in Fluid Flow."
60. Apr 2005: Seminar, Department of Mechanical Engineering, National University of Singapore "On 3D instabilities of 2D time-periodic flows."
61. Apr 2005: Colloquium, Department of Mathematics and Department of Computational Science, National University of Singapore "Symmetry breaking and mode competition in Taylor-Couette flow."
62. Jul 2005: Seminar, Department of Applied Physics, Universitad Politecnica de Catalunia, "Symmetry breaking via global bifurcations in Taylor-Couette flow."
63. Sep 2005: Seminar, Department of Mechanical Engineering, New Mexico State University, Las Cruces, "On 3D instabilities of 2D time-periodic flows."

64. Apr 2006: Institute for Scientific Computing and Applied Mathematics Seminar, Mathematics Department, Indiana University, Bloomington,"Hydrodynamic Spatio-temporal Complexity."

65. Apr 2006: Computational and Applied Mathematics Seminar, Department of Mathematics, Purdue University, "On 3D instabilities of 2D time-periodic flows."

66. Oct 2006: Mechanical and Aerospace Engineering Seminar, Arizona State University, "Centrifugal Effects in Rotating Convection."

67. Feb 2007: Center for Interdisciplinary Research in Fluid Physics Seminar, University of California Santa Barbara, "Quenching of unsteady vortex breakdown."

68. Jul 2007: Seminarios de Física Nolineal y Teoría del Caos, Universidad Rey Juan Carlos, Madrid Spain, "Quenching of unsteady vortex breakdown."

69. Oct 2007: Center for Dynamical Systems and Nonlinear Sciences Colloquium, Georgia Tech, "Quenching of unsteady vortex breakdown."

70. Oct 2007: Applied Mathematics Seminar, University of Minnesota, "Quenching of unsteady vortex breakdown."

71. Dec 2007: Fluid Laboratory for Aeronautical and Industrial Research seminar, Department of Mechanical Engineering, Monash University, Melbourne, Australia, "Quenching of Vortex Breakdown Oscillations."

72. Mar 2009: Thermosciences Seminar, Centro de Investigación en Energía, Universidad Nacional Autonoma de Mexico, "Control of Instabilities via Periodic Forcing."

73. June 2009: Complex Dynamics and Turbulence Seminar, Max Planck Institute for Dynamics and Self-Organization, Göttingen Germany, "Onset of Küppers–Lortz dynamics in finite rotating convection."

74. Oct 2009: Keynote speaker for opening ceremony & workshop of WCU project "Computation and Methodology in Applied Fluid Dynamics," talk entitled "Mathematics in Fluid Dynamics: From fundamental understanding to prediction and control," Kyungpook National University, Daegu, South Korea, October 16–17.

75. Feb 2010: Computational and Applied Mathematics Seminar, "Onset of Küppers–Lortz-like dynamics in finite rotating thermal convection," Department of Mathematics, Purdue University, Indiana.

76. Sept 2010: High Performancs Computing for Space and Envirnoment seminar, "Instabilities and Transitions in Rapidly Rotating Flows," ASU.

77. Sept 2010: WCU Fluid Dynamics workshop, "Modulated waves in a periodically driven annular cavity," Department of Mathematics, Kyungpook National University, Daegu, Korea.

78. Jan 2011: WCU Fluid Dynamics Seminar, "Instabilities and Transitions in Rapidly Rotating Flows," Department of Mathematics, Kyungpook National University, Daegu, Korea.

79. March 2011: Mech. & Aerosp. Eng. Research Seminar, "Instabilities and inertial waves generated in a librating cylinder," Monash University, Melbourne, Australia.

80. March 2011: Applied Mathematics Seminar, "Onset of Küppers–Lortz dynamics in finite rotating convection," Swinburne University of Technology, Melbourne, Australia.

81. May 2012: Applied Mathematics Colloquium, "Inertial waves in a rapidly rotating cylinder driven by sidewall axial oscillation," Ulsan National Institute of Science and Technology, Ulsan, Korea.

82. Oct 2012: WCU Fluids Dynamics Seminar, "Thermosolutal convection from a discrete heat source in an annulus," Department of Mathematics, Kyungpook National University, Daegu, Korea.
83. May 2013: Aero-hydrodynamics Seminar, "Instabilities of plumes driven by localized heating in initially isothermal or stably stratified ambients," Fluid Dynamics Group, School of Industrial Engineering, University of Málaga, Spain.
84. May 2013: Fluid Dynamics Seminar, "Instabilities of plumes driven by localized heating in initially isothermal or stably stratified ambients," Department of Mechanical Engineering, University of Melbourne, Australia.
85. June 2013: Mechanical and Aerospace Engineering Seminar, "Instabilities of plumes driven by localized heating in initially isothermal or stably stratified ambients," Department of Mechanical and Aerospace Engineering, Monash University, Australia.
86. July 2013: Fluid Dynamics Seminar, "Instabilities of plumes driven by localized heating in initially isothermal or stably stratified ambients," Institute of Fluid Mechanics, Department of Chemical and Biological Engineering, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany.
87. March 2015: Modeling, Computation, Nonlinearity, Randomness, and Waves Seminar, "Precession of a rapidly rotating cylinder flow: traverse through resonance," Department of Mathematics, University of Arizona, Tucson AZ.

Graduate students: advisor

1. Dawn L. Stewart, Masters "Spin-up in a rectangular cylinder," (Mathematics, Penn State University; co-advisor with Henderson, December 1993).
2. Jinhong Janice Chen, Ph.D. "Hydrodynamic coupling between a viscoelastic gas/liquid interface and a swirling vortex flow," (Mathematics, Penn State Univ., May 1998).
3. John Valenzuela, Masters (Mech. & Aerospace Eng., ASU; co-advisor with Saric, May 2001),
4. Michael J. Belisle, Masters "Experiments in mode competetion in temporally-modulated Taylor–Couette flow," (Mech. & Aerospace Eng., ASU; co-advisor with Saric, December 2007).
5. Marc Avlia, Ph.D. "Nonlinear dynamics of mode competition in annular flows," (Applied Physics, Univ. Politècnica de Catalunya, Barcelona Spain; co-advisor with Marques and Meseguer, June 2008).
6. Antonio Rubio, Ph.D. "Studies in rotating convection," (Mathematics, ASU, July 2009).
7. Peter Brady, Ph.D. "Numerical methods and simulations of complex multiphase flows," (Mech. & Aerospace Eng., ASU; co-advisor with Herrmann, August 2011).
8. Paloma Gutierrez, Ph.D. started in the APM program August 2012.
9. Jason Yalim, Ph.D. started in the APM program August 2013.
10. Ke Wu, Ph.D. started in the APM program August 2013.

Undergraduate students:

James D. Buntine, Summer Internship at The Aeronautical Research Laboratory, Melbourne, Summer 1986.

Anthony Perry, Summer Internship at The Aeronautical Research Laboratory, Melbourne, Summers 1990 & 1991.

Matt Bomhoff, NSF-REU, Mathematics, ASU, Spring/Summer/Fall 1999.

Stan Seibert, Footnote 18 Honors, Mathematics, ASU Spring 1999.

Albert Kern, Footnote 18 Honors, Mathematics, ASU Fall 1999.

Craig Thalhauser, Footnote 18 Honors, Mathematics, ASU Fall 1999.

Craig Thalhauser, ASU/NASA Space Grant Fellow, Mathematics, ASU, Fall 1999 & Spring 2000.

Melissa Blank, Footnote 18 Honors, Mathematics, ASU Fall 2001.

Jeff Casimir, Footnote 18 Honors, Mathematics, ASU Fall 2001.

Nicole Richardson, Footnote 18 Honors, Mathematics, ASU Fall 2001.

Joseph Vahabzadeh, Footnote 18 Honors, Mathematics, ASU Fall 2001.

Alison Williams, Footnote 18 Honors, Mathematics, ASU Fall 2001.

Makalika Naholowaa, ASU/NASA Space Grant Fellow, Fall 2001 & Spring 2002.

Andreas Hundseid Ronneseth, NSF-REU, Mathematics, ASU, Spring/Summer/Fall 2001; ASU/NASA Space Grant Fellow, Spring & Fall 2002.

Mark Sipperley, NSF-REU Spring 2004.

Matt Grimes: NSF-REU Fall 2007; NSF-CSUMS Spring & Fall 2008; NSF-REU Fall 2009 & Spring 2010.

Andrew Brandon: NSF-REU Fall 2009 & Spring 2010.

Stephanie Taylor: NSF-REU Fall 2014 & Spring 2015