

# WEB VERSION OF MICHAEL MALISOFF'S CV

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Resident of Baton Rouge, LA. Born in the City of New York. US Citizen. Single. Zero children.

Current Position: Tenured Associate Professor, Department of Mathematics, LSU, Baton Rouge, 2007-present.

## I Professional preparation

1. Research Associate, November 1999–June 2000, Washington University in Saint Louis (Department of Systems Science and Mathematics, School of Engineering and Applied Science).
2. Ph.D. Student, August 1996–November 1999, Rutgers University, Graduate School at New Brunswick, New Brunswick, NJ (Ph.D. in Mathematics conferred in May 2000).
3. B.S. and M.A. Student, July 1991–May 1996, State University of New York at Binghamton (B.S. *summa cum laude* in Economics and Mathematical Sciences).

## II Research

Web of Knowledge Field: Automation and Control Systems. Associate Editor of 2 of top 10 journals in field, and author of 12 papers in top 10 journals in field (based on 2007 Web of Knowledge impact factors); PI of \$500,000 in active federal research grants. See <http://www.math.lsu.edu/~malisoff/research.html> for (p)reprints.

### II.1 Research monograph

1. Malisoff, M., and F. Mazenc, *Constructions of Strict Lyapunov Functions*, Communications and Control Engineering Series, Springer-Verlag London Ltd., London, UK, 2009. ISBN: 978-1-84882-534-5

### II.2 Refereed journal articles

2. Mazenc, F., and M. Malisoff, "Strict Lyapunov function constructions under LaSalle conditions with an application to Lotka-Volterra systems," *Institute of Electrical and Electronics Engineers (IEEE) Transactions on Automatic Control*, Vol. 55, No. 4, April 2010, to appear as regular paper.
3. Mazenc, F., M. de Queiroz, and M. Malisoff, "Uniform global asymptotic stability of a class of adaptively controlled nonlinear systems," *IEEE Transactions on Automatic Control*, Vol. 54, No. 5, May 2009, pp. 1152-1158.
4. Mazenc, F., M. Malisoff, and J. Harmand, "Stabilization in a two-species chemostat with Monod growth functions," *IEEE Transactions on Automatic Control*, Vol. 54, No. 4, April 2009, pp. 855-861.
5. Mazenc, F., M. Malisoff, and O. Bernard, "A simplified design for strict Lyapunov functions under Matrosov conditions," *IEEE Transactions on Automatic Control*, Vol. 54, No. 1, January 2009, pp. 177-183.
6. Malisoff, M., F. Mazenc, and M. de Queiroz, "Tracking and robustness analysis for controlled microelectromechanical relays," *International Journal of Robust and Nonlinear Control*, Vol. 18, No. 18, December 2008, pp. 1637-1656.
7. Mazenc, F., M. Malisoff, and Z. Lin, "Further results on input-to-state stability for nonlinear systems with delayed feedbacks," *Automatica*, Vol. 44, No. 9, September 2008, pp. 2415-2421.
8. Malisoff, M., and F. Mazenc, "Constructions of strict Lyapunov functions for discrete time and hybrid time-varying systems," *Nonlinear Analysis: Hybrid Systems*, Vol. 2, No. 2, 2008, pp. 394-407.

9. Mazenc, F., M. Malisoff, and J. Harmand, "Further results on stabilization of periodic trajectories for a chemostat with two species," *IEEE Transactions on Automatic Control*, Vol. 53, Special Issue on Systems Biology, January 2008, pp. 66-74.
10. Mazenc, F., M. Malisoff, and P. De Leenheer, "On the stability of periodic solutions in the perturbed chemostat," *Mathematical Biosciences and Engineering*, Vol. 4, No. 2, April 2007, pp. 319-338.
11. Mazenc, F., and M. Malisoff, "Further results on Lyapunov functions for slowly time-varying systems," *Mathematics of Control, Signals, and Systems*, Vol. 19, No. 1, February 2007, pp. 1-21.
12. Mazenc, F., M. Malisoff, and M. de Queiroz, "Further results on strict Lyapunov functions for rapidly time-varying nonlinear systems," *Automatica*, Vol. 42, No. 10, October 2006, pp. 1663-1671.
13. Mazenc, F., M. de Queiroz, M. Malisoff, and F. Gao, "Further results on active magnetic bearing control with input saturation," *IEEE Transactions on Control Systems Technology*, Vol. 14, No. 5, September 2006, pp. 914-919.
14. Malisoff, M., M. Krichman, and E.D. Sontag, "Global stabilization for systems evolving on manifolds," *Journal of Dynamical and Control Systems*, Vol. 12, No. 2, April 2006, pp. 161-184.
15. Krastanov, M., M. Malisoff, and P. Wolenski, "On the strong invariance property for non-Lipschitz dynamics," *Communications on Pure and Applied Analysis*, Vol. 5, No. 1, March 2006, pp. 107-124.
16. Mazenc, F., and M. Malisoff, "Further constructions of control-Lyapunov functions and stabilizing feedbacks for systems satisfying the Jurdjevic-Quinn conditions," *IEEE Transactions on Automatic Control*, Vol. 51, No. 2, February 2006, pp. 360-365.
17. Malisoff, M., and P. De Leenheer, "A small-gain theorem for monotone systems with multi-valued input-state characteristics," *IEEE Transactions on Automatic Control*, Vol. 51, No. 2, February 2006, pp. 287-292.
18. Malisoff, M., and F. Mazenc, "Further remarks on strict input-to-state stable Lyapunov functions for time-varying systems," *Automatica*, Vol. 41, No. 11, November 2005, pp. 1973-1978.
19. Malisoff, M., "Further results on Lyapunov functions and domains of attraction for perturbed asymptotically stable systems," *Dynamics of Continuous, Discrete and Impulsive Systems Series A: Mathematical Analysis*, Vol. 12, No. 2, 2005, pp. 193-225.
20. Malisoff, M., L. Rifford, and E.D. Sontag, "Global asymptotic controllability implies input-to-state stabilization," *Society for Industrial and Applied Mathematics (SIAM) Journal on Control and Optimization*, Vol. 42, No. 6, 2004, pp. 2221-2238.
21. Malisoff, M., "Bounded-from-below solutions of the Hamilton-Jacobi equation for optimal control problems with exit times: Vanishing Lagrangians, eikonal equations, and shape-from-shading," *NoDEA Nonlinear Differential Equations and Applications*, Vol. 11, No. 1, February 2004, pp. 95-122.
22. Malisoff, M., "Further results on the Bellman equation for optimal control problems with exit times and nonnegative Lagrangians," *Systems and Control Letters*, Vol. 50, No. 1, September 2003, pp. 65-79.
23. Malisoff, M., "Viscosity solutions of the Bellman equation for exit time optimal control problems with vanishing Lagrangians," *SIAM Journal on Control and Optimization*, Vol. 40, No. 5, 2002, pp. 1358-1383.
24. Malisoff, M., "Viscosity solutions of the Bellman equation for exit time optimal control problems with non-Lipschitz dynamics," *ESAIM: Control, Optimisation and Calculus of Variations*, Vol. 6, 2001, pp. 415-441.
25. Malisoff, M., and E.D. Sontag, "Universal formulas for feedback stabilization with respect to Minkowski balls," *Systems and Control Letters*, Vol. 40, No. 4, July 2000, pp. 247-260.

## II.3 Refereed conference papers in print or accepted

All available at <http://ieeexplore.ieee.org> unless otherwise noted. My conference papers are all summaries or extensions of my journal papers, or preliminary results.

26. Del Vecchio, D., M. Malisoff, and R. Verma, “A separation principle for a class of hybrid automata on a partial order,” in *Proceedings of the 2009 American Control Conference (St. Louis, MO, 10-12 June 2009)*, pp. 3638-3643.
27. Mazenc, M., and M. Malisoff, “Lyapunov functions under LaSalle conditions with an application to Lotka-Volterra systems,” in *Proceedings of the 2009 American Control Conference (St. Louis, MO, 10-12 June 2009)*, pp. 96-101.
28. Mazenc, F., M. de Queiroz, and M. Malisoff, “Uniform global asymptotic stability of adaptively controlled nonlinear systems via strict Lyapunov functions,” in *Proceedings of the ASME Dynamic Systems and Control Conference (Ann Arbor, MI, 20-22 October 2008)*, Paper DSCC2008-2167.
29. Malisoff, M., F. Mazenc, and M. de Queiroz, “Remarks on tracking and robustness analysis for MEM relays,” in *Proceedings of the 2008 American Control Conference (Seattle, WA, 11-13 June 2008)*, pp. 2945-2950.
30. Mazenc, F., M. Malisoff, and O. Bernard, “Lyapunov functions and robustness analysis under Matrosov conditions with an application to biological systems,” in *Proceedings of the 2008 American Control Conference (Seattle, WA, 11-13 June 2008)*, pp. 2933-2938.
31. Mazenc, F., M. Malisoff, and J. Harmand, “Stabilization and robustness analysis for a chemostat model with two species and Monod growth rates via a Lyapunov approach,” in *Proceedings of the 46th IEEE Conference on Decision and Control (New Orleans, LA, 12-14 December 2007)*, pp. 3933-3938.
32. Mazenc, F., M. Malisoff, and J. Harmand, “Stabilization of a periodic trajectory for a chemostat with two species,” in *Proceedings of the American Control Conference (New York, NY, 11-13 July 2007)*, pp. 6128-6132.
33. Mazenc, F., M. Malisoff, and Z. Lin, “On input-to-state stability for nonlinear systems with delayed feedbacks,” in *Proceedings of the American Control Conference (New York, NY, 11-13 July 2007)*, pp. 4804-4809.
34. Mazenc, F., and M. Malisoff, “Lyapunov function constructions for slowly time-varying systems,” in *Proceedings of the 45th IEEE Conference on Decision and Control (San Diego, CA, 13-15 December 2006)*, pp. 5108-5113.
35. Malisoff, M., and F. Mazenc, “Control-Lyapunov functions for hybrid time-varying systems,” in *Proceedings of the 45th IEEE Conference on Decision and Control (San Diego, CA, 13-15 December 2006)*, pp. 3265-3270.
36. Mazenc, F., P. De Leenheer, and M. Malisoff, “Stabilizing a periodic solution in the chemostat: A case study in tracking,” in *Proceedings of the 45th IEEE Conference on Decision and Control (San Diego, CA, 13-15 December 2006)*, pp. 1794-1799.
37. Mazenc, F., M. Malisoff, and M. de Queiroz, “On strict Lyapunov functions for rapidly time-varying nonlinear systems,” in *Proceedings of the American Control Conference (Minneapolis, MN, 14-16 June 2006)*, pp. 2303-2308.
38. De Leenheer, P., and M. Malisoff, “Remarks on monotone control systems with multi-valued input-state characteristics,” in *Proceedings of the 44th IEEE Conference on Decision and Control and European Control Conference ECC 05 (Seville, Spain, 12-15 December 2005)*, pp. 8012-8017.
39. Mazenc, F., and M. Malisoff, “Control-Lyapunov functions for systems satisfying the conditions of the Jurdjevic-Quinn Theorem,” in *Proceedings of the 44th IEEE Conference on Decision and Control and European Control Conference ECC 05 (Seville, Spain, 12-15 December 2005)*, pp. 4724-4729.
40. Mazenc, F., M. de Queiroz, and M. Malisoff, “On active magnetic bearing control with input saturation,” in *Proceedings of the 44th IEEE Conference on Decision and Control and European Control Conference ECC 05 (Seville, Spain, 12-15 December 2005)*, pp. 1090-1095.

41. Malisoff, M., and F. Mazenc, “Further constructions of strict Lyapunov functions for time-varying systems,” in *Proceedings of the American Control Conference (Portland, OR, 8–10 June 2005)*, pp. 1889–1894.
42. Malisoff, M., L. Rifford, and E.D. Sontag, “Remarks on input to state stabilization,” in *Proceedings of the 42nd IEEE Conference on Decision and Control (Maui, HI, 9–12 December 2003)*, pp. 1053–1058.
43. Malisoff, M., “Viscosity solutions of the Bellman equation for perturbed optimal control problems with exit times,” in *Proceedings of the 41st IEEE Conference on Decision and Control (Las Vegas, NV, 10–13 December 2002)*, pp. 2348–2353.
44. Malisoff, M., “Viscosity solutions of the Bellman equation for infinite horizon optimal control problems with negative instantaneous costs,” in *Proceedings of the 41st IEEE Conference on Decision and Control (Las Vegas, NV, 10–13 December 2002)*, pp. 722–727.
45. Malisoff, M., and H. Sussmann, “Further results on the Bellman equation for exit time optimal control problems with nonnegative Lagrangians: The case of Fuller’s Problem,” in *Proceedings of the 39th IEEE Conference on Decision and Control (Sydney, Australia, 12–15 December 2000)*, pp. 2308–2310.
46. Malisoff, M., “An algorithm for feedback stabilization with respect to saturating controls using universal formulas for control-Lyapunov functions,” in *Proceedings of the American Control Conference (Chicago, IL, 28–30 June 2000)*, pp. 1771–1773.
47. Malisoff, M., “A remark on the Bellman equation for optimal control problems with exit times and noncoercing dynamics,” in *Proceedings of the 38th IEEE Conference on Decision and Control (Phoenix, AZ, 7–10 December 1999)*, pp. 877–881.
48. Malisoff, M., “On the Bellman equation for control problems with exit times and unbounded cost functionals,” in *Proceedings of the 38th IEEE Conference on Decision and Control (Phoenix, AZ, 7–10 December 1999)*, pp. 23–28.
49. Malisoff, M., “A new result on the Bellman equation for exit time control problems with critical growth dynamics,” in *Proceedings of the 37th Allerton Conference on Communication, Control, and Computing (Monticello, IL, 22–24 September 1999)*, pp. 657–658, <http://www.math.lsu.edu/~malisoff/research.html>.
50. Malisoff, M., and E.D. Sontag, “Universal formulas for CLF’s with respect to Minkowski balls,” in *Proceedings of the American Control Conference (San Diego, CA, 2–4 June 1999)*, pp. 3033–3037.

## II.4 Other

51. Malisoff, M., “Book review for [*Algebraic Methods for Nonlinear Control Systems, Theory and Applications, Second Edition*, by G. Conte, C.H. Moog, and A.M. Perdon, Springer, Berlin, 2007],” *IEEE Transactions on Automatic Control*, Vol. 52, No. 12, December 2007, pp. 2395–2396.
52. Malisoff, M., and E.D. Sontag, “Asymptotic controllability and input-to-state stabilization: The effect of actuator errors,” in *Optimal Control, Stabilization, and Nonsmooth Analysis*, M. de Queiroz, M. Malisoff, and P. Wolenski, Eds., Lecture Notes in Control and Information Sciences Vol. 301, Springer-Verlag, New York, 2004, pp. 155–171.
53. de Queiroz, M., M. Malisoff, and P. Wolenski, Eds., *Optimal Control, Stabilization, and Nonsmooth Analysis*, Lecture Notes in Control and Information Sciences Vol. 301, Springer-Verlag, New York, 2004.
54. Malisoff, M., *Viscosity Solutions of the Bellman Equation for Optimal Control Problems with Exit Times*, Ph.D. Thesis, Department of Mathematics, Rutgers University Graduate School at New Brunswick, New Brunswick, NJ, 2000. (Thesis Advisor: Héctor J. Sussmann)

## III Awards

### III.1 Grants and fellowships

1. Principal Investigator (PI), “Theory, Methods, and Applications of Nonlinear Control,” Air Force Office of Scientific Research (AFOSR), Dynamics and Control Program. (\$312597 for 2009-2012.)

2. PI, “Research in Nonlinear Control Systems Theory: Lyapunov Functions, Stabilization, and Engineering Applications II,” National Science Foundation (NSF) Division of Mathematical Sciences (DMS) Mathematical Sciences Priority Area (MSPA) Interdisciplinary Program. (\$187917 for 2007–10.)
3. PI, “Research in Nonlinear Control Systems Theory: Lyapunov Functions, Stabilization, and Engineering Applications,” NSF DMS MSPA-Interdisciplinary and Control, Networks, and Computational Intelligence Programs. (\$171143 for 2004–7.)
4. PI, “Theory and Applications of Nonsmooth Dynamical Systems: Stabilization, Differential Inclusions, and Hamilton-Jacobi Equations,” NSF-National Academy of Sciences Collaboration in Basic Science and Engineering Program. (\$8200 for 2002–3.)
5. Conference Grants: Co-PI (joint with Peter Wolenski), “Conference on Optimal Control and Nonsmooth Analysis” (\$10000 for 2006–7) and “Support for MCT’03, an International Conference on Mathematical Control Theory at LSU” (\$10500 for 2003–4), NSF-DMS Applied Mathematics Program.
6. State Grants: Co-PI, “Enhancement of Control Theory at LSU” (joint with Marcio de Queiroz, Jimmie Lawson, and PI Peter Wolenski), Louisiana Board of Regents Enhancement Program (\$155000 for 2005–7). PI, “Research in Nonlinear Control Systems Theory: Lyapunov Functions, Output Signals, and Stability Basins,” Louisiana Board of Regents Support Fund Research Competitiveness Subprogram (Proposal ranked #1 in state. \$55959 for 2003–6. Superseded by NSF grant). Co-PI, “Interdisciplinary Education, Outreach, and Research in Control Theory at LSU” (joint with Guillermo Ferreyra, Jimmie Lawson, and PI Peter Wolenski), Louisiana Board of Regents Enhancement Program (\$103000 for 2002–4).
7. Internal Grants: PI (joint with Marcio de Queiroz, Stephen Shipman, Michael Tom, and Lead PI Michael Khonsari), “Rotor-Bearing Thermohydrodynamic Instability,” LSU Council on Research Interdisciplinary Faculty Research Grant (Graduate student support and equipment grant. \$40000 for 2005–6). PI, “Feedback Stabilization and Chemostats” (\$5000 for July 2007) and “Lyapunov Functions and Viscosity Solutions” (\$5000 for July 2002), LSU Council on Research Summer Stipend Program.
8. Graduate School Fellowships: University and Louis Bevier Fellowship, Rutgers-New Brunswick, 1999–2000. Center for Discrete Mathematics and Theoretical Computer Science Fellowship, 1998–9.

### III.2 Other awards

9. Best Paper Award for Biochemical Reactors and Reaction Networks Session, American Control Conference, New York, NY, July 11–13, 2007. [Award for paper “Stabilization of a periodic trajectory for a chemostat with two species.”]<sup>1</sup>
10. Best Paper Award for Lyapunov-Based Stability of Nonlinear Systems Session, American Control Conference, New York, NY, July 11–13, 2007. [Award for paper “On input-to-state stability for nonlinear systems with delayed feedbacks.”]<sup>1</sup>
11. Best Presentation Award for Stability Session, 45th IEEE Conference on Decision and Control, San Diego, CA, December 13–15, 2006. [Award for presentation “Lyapunov function constructions for slowly time-varying systems.”]<sup>2</sup>
12. Best Presentation Award for Stability Analysis Session, American Control Conference, Minneapolis, MN, June 14–16, 2006. [Award for presentation “On strict Lyapunov functions for rapidly time-varying nonlinear systems.”]<sup>3</sup>
13. 38th IEEE Conference on Decision and Control Best Student Paper Award, IEEE Control Systems Society, December 1999. [First place recognition plaque and travel grant for presenting paper “On the Bellman equation for control problems with exit times and unbounded cost functionals.”]<sup>4</sup>

<sup>1</sup><http://www.math.lsu.edu/~malisoff/MyTwoACC07BestPaperInSessionAwards.JPG>

<sup>2</sup><http://www.math.lsu.edu/~malisoff/MyCDC06AwardVideo.AVI>

<sup>3</sup><http://www.math.lsu.edu/~malisoff/MyACC06Award.JPG>

<sup>4</sup><http://www.math.lsu.edu/~malisoff/MyCDC99Award.JPG>

14. Undergraduate Awards at State University of New York at Binghamton: Award for Academic Excellence-Harpur College, and Awards for Excellence in Economics and Excellence in Mathematical Sciences, May 1993. Elected to Phi Beta Kappa Honor Society, Psi Chapter of New York, April 1993. Award for Outstanding Academic Achievement in Economics, May 1992.

## IV Participation in professional meetings

### IV.1 Organization and chairing

1. Session Chair at 2008 and 2009 American Control Conferences and 2006 IEEE Conference on Decision and Control. Session Co-Chair at 2005 American Control Conference.
2. Organizer for Workshop on Control Theory and Mathematical Biology, LSU, July 26-27, 2007.
3. Workshop Co-Chair, Louisiana Workshop on Mathematical Control Theory, LSU, May 22-31, 2007 and May 16-25, 2006.
4. Co-Organizer for minisymposium “Monotone Systems and their Applications” and Co-Organizer for minisymposium “Control of Nonlinear Systems,” 2005 SIAM Conference on Control and Its Applications, New Orleans, July 11-14, 2005.
5. Co-Organizer, Louisiana Conference on Mathematical Control Theory (MCT’03), LSU, April 10-13, 2003.
6. Co-Chair and Organizer for sessions “Nonsmooth Analytic Methods in Control Theory I-II” at 41st IEEE Conference on Decision and Control (Las Vegas, NV, December 10-13, 2002).
7. Co-Organizer (with Peter Wolenski) for “Special Sessions on Optimal Control, Calculus of Variations, and Nonsmooth Analysis I-IV,” 964th American Mathematical Society Meeting (Central Section Meeting), Lawrence, KS, March 30-1, 2001.

### IV.2 Papers presented

See <http://www.math.lsu.edu/~malisoff/research.html> for slides, posters, and abstracts.

1. Speaker, “Strict Lyapunov function constructions under LaSalle conditions with an application to Lotka-Volterra systems,” Special Session on Dynamical Systems, American Mathematical Society Spring Southeastern Sectional Meeting, Boca Raton, FL, October 30-November 1, 2009.
2. Invited Speaker, “Towards a general theory of constructive nonlinear control for hybrid time-varying systems,” AFOSR Dynamics and Control Program Review, Washington DC, July 14-16, 2009.
3. Contributed Sessions Speaker, “Lyapunov functions under LaSalle conditions with an application to Lotka-Volterra systems,” Stability of Nonlinear Systems Session, American Control Conference, St. Louis, MO, June 10-12, 2009.
4. Contributed Sessions Speaker, “Lyapunov functions and robustness analysis under Matrosov conditions with an application to biological systems” and “Remarks on tracking and robustness analysis for MEM relays,” Stability of Nonlinear Systems-Applications Session, American Control Conference, Seattle, WA, June 11-13, 2008.
5. Speaker, “Stabilization and robustness analysis for a chemostat model with two species,” Special Session on Mathematical Modeling in Biology IV, American Mathematical Society Spring Southeastern Sectional Meeting, Baton Rouge, LA, March 28-30, 2008.
6. Contributed Sessions Speaker, “Stabilization and robustness analysis for a chemostat model with two species and Monod growth rates via a Lyapunov approach,” Control of Biological Systems Session, 46th IEEE Conference on Decision and Control, New Orleans, LA, December 12-14, 2007.
7. Speaker, “Stabilization of a periodic trajectory for a chemostat with two species,” Workshop on Control Theory and Mathematical Biology, LSU, July 26-27, 2007.
8. Contributed Sessions Speaker, “Stabilization of a periodic trajectory for a chemostat with two species,” Biochemical Reactors and Reaction Networks Session, American Control Conference, New York, NY, July 11-13, 2007.

9. Contributed Sessions Speaker, "On input-to-state stability for nonlinear systems with delayed feedbacks," Lyapunov-Based Stability of Nonlinear Systems Session, American Control Conference, New York, NY, July 11-13, 2007.
10. Speaker, "On strict Lyapunov functions for rapidly and slowly time-varying nonlinear systems," Louisiana Workshop on Mathematical Control Theory (MCT07), LSU, May 22-31, 2007.
11. Speaker, "Further results on the stability of periodic solutions in the chemostat," MCT07, LSU, May 22-31, 2007.
12. Contributed Speaker, "On the stability of periodic solutions in the perturbed chemostat," SIAM Minisymposium on Mathematical Modeling of Complex Systems in Biology, Joint Mathematical Meetings (113th Annual Meeting of the American Mathematical Society and 90th Meeting of the Mathematical Association of America), New Orleans, LA, January 5-8, 2007.
13. Contributed Sessions Speaker, "Lyapunov function constructions for slowly time-varying systems," Stability Session, 45th IEEE Conference on Decision and Control, San Diego, CA, December 13-15, 2006.
14. Contributed Sessions Speaker, "Control-Lyapunov functions for hybrid time-varying systems," Nonlinear and Hybrid Control Session, 45th IEEE Conference on Decision and Control, San Diego, CA, December 13-15, 2006.
15. Contributed Poster Presenter, "Stabilizing a periodic solution in the chemostat: A case study in tracking," Tracking Session, 45th IEEE Conference on Decision and Control, San Diego, CA, December 13-15, 2006.
16. Contributed Sessions Speaker, "On strict Lyapunov functions for rapidly time-varying nonlinear systems," Stability Analysis Session, American Control Conference, Minneapolis, MN, June 14-16, 2006
17. Speaker, "On strict Lyapunov functions for discrete time, continuous time, and hybrid time-varying systems," Louisiana Workshop on Mathematical Control Theory (MCT'06), LSU, May 16-25, 2006.
18. Invited Speaker, "Strict Lyapunov functions for discrete time and hybrid time-varying systems," International Conference on Hybrid Systems and Applications, International Federation of Nonlinear Analysts, University of Louisiana at Lafayette, May 22-26, 2006.
19. Invited Speaker, "A small-gain theorem for monotone systems with multi-valued input-state characteristics," Monotone Systems and Their Applications (Minisymposium MS17), Sixth SIAM Conference on Control and Its Applications, New Orleans, LA, July 11-14, 2005.
20. Invited Speaker, "Global stabilization for systems evolving on manifolds" and "Further constructions of strict Lyapunov functions for time-varying systems," Control of Nonlinear Systems (Minisymposium MS5), Sixth SIAM Conference on Control and Its Applications, New Orleans, LA, July 11-14, 2005.
21. Contributed Sessions Speaker, "Further constructions of strict Lyapunov functions for time-varying systems," Stability of Nonlinear Systems I, American Control Conference, Portland, OR, June 8-10, 2005.
22. Invited 45-Minute Lecture Speaker, "Asymptotic controllability and input-to-state stabilization: The effect of actuator errors," Special Session on Variational Analysis and Applications, Fourth World Congress of Nonlinear Analysts, Orlando, FL, June 30-July 7, 2004.
23. Speaker, "Remarks on input-to-state stabilization," Louisiana Conference on Mathematical Control Theory, LSU, April 10-13, 2003 and Rutgers Nonlinear Control Workshop, Rutgers University Department of Mathematics, August 4-8, 2003.
24. Contributed Session Speaker, "Viscosity solutions of the Bellman equation for perturbed optimal control problems with exit times," Optimization Methods in Control II, 41st IEEE Conference on Decision and Control, Las Vegas, NV, December 10-13, 2002.
25. Invited Speaker, "Viscosity solutions of the Bellman equation for infinite horizon optimal control problems with negative instantaneous costs," Nonsmooth Analytic Methods in Control Theory I, 41st IEEE Conference on Decision and Control, Las Vegas, NV, December 10-13, 2002.
26. Contributed Session Speaker, "Further results on the Bellman equation for optimal control problems with exit times," Differential Equations Weekend, University of Memphis, September 28, 2002.

27. Invited Speaker, “Further results on the Bellman equation for optimal control problems with exit times,” Minisymposium on Nonlinear Systems and Viscosity Solutions, SIAM Conference on Control and Its Applications, San Diego, CA, July 11-14, 2001.
28. Invited Speaker, “Recent results on viscosity solutions of the Bellman equation for optimal control problems with exit times,” Special Session on Optimal Control, Calculus of Variations, and Nonsmooth Analysis, 964th American Mathematical Society Meeting, Lawrence, KS, March 30-1, 2001.
29. Contributed Sessions Speaker, “A remark on the Bellman equation for optimal control problems with exit times and noncoercing dynamics,” Optimal Control and Optimization Session, IEEE Conference on Decision and Control, Phoenix, AZ, December 7-10, 1999.
30. Invited Speaker, “On the Bellman equation for control problems with exit times and unbounded cost functionals,” Optimal Control Session I, IEEE Conference on Decision and Control, Phoenix, AZ, December 7-10, 1999.
31. Contributed Sessions Speaker, “A new result for exit time control problems with critical growth dynamics,” Robust Control and Decision Making Session, 37th Annual Allerton Conference on Communication, Control, and Computing, University of Illinois, Monticello, IL, September 22-24, 1999.
32. Contributed Sessions Speaker, “Universal formulas for CLF’s with respect to Minkowski balls,” Nonlinear Stabilization Session, 1999 American Control Conference, San Diego, CA, June 2-4, 1999.

## V Service

### V.1 Professional service

1. Member of Editorial Board for *International Journal of Differential Equations*, September 2008–. Associate Editor for *Automatica* (December 2008–), *Mathematical Problems in Engineering* (December 2008–), and *Systems and Control Letters* (November 2008–).
2. Associate Editor for IEEE Control Systems Society Conference Editorial Board, July 2008–. (Associate Editor for American Control Conference and IEEE Conference on Decision and Control.)
3. Referee for journals *Automatica* (1 paper in 2004, 2 papers in 2005, 1 paper in 2006, 2 papers in 2007, 4 papers in 2008), *Differential and Integral Equations* (1 paper in 2004), *Differential Equations and Nonlinear Mechanics* (1 paper in 2007), *ESAIM: Modélisation Mathématique et Analyse Numérique* (1 paper in 2005), *European Journal of Control* (2 papers in 2006, 1 paper in 2009), *IEEE/ASME Transactions on Mechatronics* (1 paper in 2008), *IEEE Transactions on Automatic Control* (1 paper in 1999, 2 papers in 2004, 3 papers in 2005, 2 papers in 2006, 2 papers in 2007, 5 papers in 2008), *IEEE Transactions on Circuits and Systems I* (1 paper in 2007), *IEEE Transactions on Control Systems Technology* (1 paper in 2007), *International Journal of Control* (2 papers in 2006, 1 paper in 2008), *International Journal of Non-Linear Mechanics* (1 paper in 2008), *International Journal of Robust and Nonlinear Control* (1 paper in 2001, 2 papers in 2008), *Journal of Applied Mathematics and Computing* (1 paper in 2009), *Journal of Dynamics and Differential Equations* (1 paper in 2006), *Journal of Mathematical Analysis and Applications* (1 paper in 2005), *Journal of Mathematical Biology* (1 paper in 2006), *Mathematical Biosciences and Engineering* (1 paper in 2007), *Mathematical Methods in the Applied Sciences* (1 paper in 2008), *Mathematics of Control, Signals, and Systems* (1 paper in 2006, 1 paper in 2008), *Nonlinear Analysis: Hybrid Systems* (1 paper in 2008), *Nonlinear Analysis: Theory Methods and Applications* (1 paper in 2004), *SIAM Journal on Control and Optimization* (1 paper in 2002, 2 papers in 2003, 1 paper in 2006, 3 papers in 2007), and *Systems and Control Letters* (1 paper in 2002, 2 papers in 2004, 2 papers in 2005, 1 paper in 2006, 1 paper in 2007, 4 papers in 2008). Numbers of papers exclude reviews of revisions.
4. Referee for proceedings of IEEE Conference on Decision and Control (1999-2004 and 2006-9), American Control Conference (2004-8), IFAC Symposium on Nonlinear Control Systems (NOLCOS 2004 and 2007), Joint 44th IEEE Conference on Decision and Control and European Control Conference (2005), 14th Mediterranean Conference on Control and Automation (2006), 32nd Conference of the IEEE Industrial Electronics Society (2006), European Control Conference (2006), 17th IFAC World Congress (2007), and IEEE Multi-Conference on Systems and Control (2009).

5. Panels: NSF Division of Electrical, Communications and Cyber Systems Power, Controls and Adaptive Networks Program (2007 and 2009) and Panel for Selecting Student Best Paper Award Finalists for the 2000 IEEE Conference on Decision and Control (2000).
6. Grant Proposal Reviewer: Air Force Office of Scientific Research (AFOSR) Dynamics and Control Program, NSF DMS Applied Mathematics Program, US-Israel Binational Science Foundation, U.S. Civilian Research and Development Foundation, 2005-9.
7. Reviewer: MathSciNet (2002–3) and South Africa National Research Foundation (2007).

## V.2 Community, departmental, and university service

8. Volunteer, Pete Maravich Assembly Center, LSU Hurricane Gustav Field Hospital, September 2008.
9. Member, College of Arts and Sciences Faculty Senate, LSU, 2006-9. [Member of Academic Freedom and Scholarship Committee, 2006-9. Member of Academic Oversight Committee, 2007-9. Chair of Academic Freedom and Scholarship Committee, 2007-9. Second Vice-President, 2007-9.]
10. Dean's Representative for General Exam and Final Exam Committees for Hongye Wang, LSU Department of Construction Management and Industrial Engineering, 2007-8.
11. LSU Math Club Adviser, 2006–8. <https://www.math.lsu.edu/dept/ugrad/mathclub>. Faculty Representative, LSU Spring Commencement, May 21, 2004 and May 16, 2008.
12. Panel Presentation at Graduate Student Meeting for Career Guidance from Faculty, “Postdoctoral Opportunities in Applied Mathematics,” LSU Department of Mathematics, October 20, 2006.
13. Exam Committee Work at LSU Department of Mathematics: General Exam Committees for Jacob Blanton in 2009; for Rick Barnard, Qingxia Li and Piotr Maciak in 2007; and for Stanislaw Zabic in 2002. Final Exam Committees for Norma Ortiz and Stanislaw Zabic in 2005.
14. Other Departmental Committee Work at LSU: Internal Review Committee, 2002. Elected Member of Executive Committee, 2002–4 and 2008–. Graduate Committee, 2004–6. Betti and Robert Giles Senior Math Award Committee, 2008–. Mentoring, Promotion, and Tenure Committee for Hongyu He, 2009–.
15. Departmental Committee Work at TAMU-CC: Chair of Course Committee on Calculus III, Advanced Calculus, Differential Equations, Numerical Analysis, and Real Analysis; and of Course Committee on Foundations of Higher Mathematics; and Member of Course Committee on Calculus I-II and Department of Computing and Mathematical Sciences Assessment Committee, Fall 2000-Spring 2001.

## VI Positions held

Teaching Assistant (1996-8) and NSF-Sponsored Graduate Assistant (1998-9), Rutgers University Department of Mathematics. DARPA Joint Force Air Component Commander Project Research Associate, Department of Systems Science and Mathematics, Washington University in Saint Louis, 1999–2000. Tenure-Track Assistant Professor, Department of Computing and Mathematical Sciences, Texas A&M University-Corpus Christi (TAMU-CC), 2000–2001. Tenure-Track Assistant Professor (2001-7) and Tenured Associate Professor (2007–), LSU Department of Mathematics. Associate (2001–7) and Full (2007–) Member of Graduate Faculty, LSU.

## VII Teaching and advising

1. Undergraduate Courses: Calculus II (Rutgers-New Brunswick); Precalculus, Calculus I, Linear Algebra (TAMU-CC); Analytic Geometry and Calculus I-II, Honors Analytic Geometry and Calculus I, Multi-dimensional Calculus, Elementary Differential Equations and Linear Algebra, Mathematical Methods in Engineering (LSU).
2. Graduate Courses: Introduction to Mathematical Control Theory, Mathematical Topics in Systems Theory, Ordinary Differential Equations (LSU).
3. Current Graduate Students: Jacob Aguilar and Aleksandra Gruszka (Ph.D. students in LSU Department of Mathematics).