Curriculum Vitae
Ruihua Liu

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EDUCATION

Ph.D., August 2001, Applied Mathematics University of Georgia, Advisor: Qing Zhang, Dissertation Title: Control and Filtering of Stochastic Markovian Systems.

M.S., August 2001, Computer Science University of Georgia, Advisor: Thiab Taha, Thesis Title: Numerical and Parallel Algorithms of CMKdV Equation.

Ph.D., June 1994, Control Theory and Application Nankai University, Tianjin, China, Advisor: Fengsheng Tu, Dissertation Title: On Some Problems of Discrete Event Dynamic Systems.

M.E., June 1988, Control Theory and Application Nankai University, Advisor: Zhuzhi Yuan, Thesis Title: Generalized Predictive Self-tuning Control and Applications.

B.E., June 1985, Control Theory and Application Nankai University.

ACADEMIC EXPERIENCE

Tenured Associate Professor, August 2010 - present Department of Mathematics, University of Dayton, Ohio.

Visiting Associate Professor, August 2011 - July 2012 Department of Mathematical Sciences, Stevens Institute of Technology, Hoboken, New Jersey.

Tenure-Track Assistant Professor, August 2004 - August 2010 Department of Mathematics, University of Dayton, Ohio.

Postdoctoral Research Associate, August 2003 - August 2004 Operations Management Area, School of Management, University of Texas at Dallas.

Teaching/Research Assistant, September 1996 - May 2001 Department of Mathematics, University of Georgia.

Associate Professor, December 1993 - September 1996 Department of Computer and System Sciences, Nankai University, Tianjin, China.

Lecturer, July 1990 - December 1993 Department of Computer and System Sciences, Nankai University, Tianjin, China.

Assistant Lecturer, June 1988 - July 1990 Department of Computer and System Sciences, Nankai University, Tianjin, China.

AWARDS AND HONORS

2011 College of Arts & Sciences Award for Outstanding Scholarship, University of Dayton.

2000-2001 University of Georgia Graduate School Doctoral Research Assistantship award (An award granted to selected exceptional doctoral candidates for their final year in the school).

1993 Nankai University Award for Exceptional Doctoral Candidate (top 2%).

1990 Nankai University Teaching Award.

1989 First Class Award for Advancement in Science and Technology (Awarded by the State Education Commission of China, one of the top awards in China for research achievements).

1988 Winner for Best Master Degree Thesis of Nankai University.

RESEARCH INTERESTS

- Financial Mathematics and Computational Finance.
- Stochastic Optimal Control and Applications.
- Applied Stochastic Analysis.

RESEARCH GRANTS

- University of Dayton Research Council SEED Grant, $6000, Summer 2008.
- University of Dayton Research Council SEED Grant, $6000, Summer 2007.
- University of Dayton Research Council SEED Grant, $4750, Summer 2006.
- University of Dayton Research Council SEED Grant, $4000, Summer 2005.

PUBLICATIONS

A. Journal Article.

1. **R.H. Liu**, "Optimal investment and consumption with proportional transaction costs in regime-switching model, " *Journal of Optimization Theory and Applications,* Vol. **163**, No. **2** (2014), 614-641. DOI 10.1007/s10957-013-0445-y.

2. **R.H. Liu**, "A Finite-Horizon Optimal Investment and Consumption Problem Using Regime-Switching Models." *Int. J. Theor. Appl. Finance,* Vol. **17**, No. **4** (2014) 1450027 (18 pages). DOI: 10.1142/S0219024914500277.

3. I. Florescu, **R.H. Liu**, M. Mariani & G. Sewell, "Numerical schemes for option pricing in regime-switching jump diffusion models." *Int. J. Theor. Appl. Finance,* Vol. **16**, No. **8** (2013) 1350046 (25 pages). DOI: 10.1142/S0219024913500465.

4. **R.H. Liu** & J.L. Zhao, "A lattice method for option pricing with two underlying assets in regime-switching model," *Journal of Computational and Applied Mathematics,* Vol. **250** (2013), 96-106.

5. I. Florescu, **R.H. Liu** & M. Mariani, "Solutions to a partial integro-differential parabolic system arising in the pricing of financial options in regime-switching jump diffusion models," *Electron. J. Diff. Equ.,* Vol. **2012**, No. **231** (2012), 1-12.

6. A.Q.M. Khaliq, B. Kleefeld & **R.H. Liu**, "Solving complex PDE systems for pricing American options with regime-switching by efficient exponential time differencing schemes," *Numerical Methods for Partial Differential Equations,* Vol. **29**, No. **1** (2012), 320-336.

7. **R.H. Liu**, "A new tree method for pricing financial derivatives in a regime-switching mean-reverting model," *Nonlinear Analysis: Real World Applications,* Vol. **13** (2012), 2609-2621.

8. P. Eloe & **R.H. Liu**, "Upper and lower solutions for regime-switching diffusions with applications in financial mathematics," *SIAM Journal on Applied Mathematics,* Vol. **71**, No. **4** (2011), 1354-1371.

9. **R.H. Liu** & Q. Zhang, "Valuation of guaranteed equity-linked life insurance under regime-switching model," *Dynamic Systems and Applications,* Vol. **20** (2011), 101-128.

10. **R.H. Liu**, "Regime-switching recombining tree for option pricing," *Int. J. Theor. Appl. Finance,* Vol. **13**, No. **3** (2010), 479-499.

11. **R.H. Liu** & Y. Raffoul, "Boundedness and exponential stability of highly nonlinear stochastic differential equations," *Electron. J. Diff. Equ.,* Vol. **2009**, No. **143** (2009), 1-10.

12. **R.H. Liu**, "Analytical approximation method of option pricing under geometric mean-reverting process, " *International Journal of Computer Mathematics*, Vol. **86**, No. **6** (2009), 1082-1092.

13. P. Eloe, **R.H. Liu**, & J.Y. Sun, "Double barrier option under regime-switching exponential mean-reverting process," *International Journal of Computer Mathematics*, Vol. **86**, No. **6** (2009), 964-981.

14. A.Q.M. Khaliq & **R.H. Liu**, "New numerical scheme for pricing American option with regime-switching," *Int. J. Theor. Appl. Finance,* Vol. **12**, No. **3** (2009), 319-340.

15. P. Eloe, **R.H. Liu**, M. Yatsuki, G. Yin & Q. Zhang, "Optimal selling rules in a regime-switching exponential Gaussian diffusion model," *SIAM Journal on Applied Mathematics,* Vol. **69**, No. **3** (2008), 810-829.

16. **R.H. Liu**, Q. Zhang & G. Yin, "Option pricing in a regime switching model using the Fast Fourier Transform," *Journal of Applied Mathematics and Stochastic Analysis,* Vol. 2006, Article ID 18109, doi:10.1155/JAMSA/2006/18109.

17. A. Bensoussan, **R.H. Liu** & S.P. Sethi, "Optimality of an (s, S) policy with compound Poisson and diffusion demands: a QVI approach, " *SIAM Journal on Control and Optimization,* Vol. **44**, No. **5** (2006), 1650-1676.

18. G. Yin, Q. Zhang, F. Liu, **R.H. Liu** & Y. Cheng, "Stock liquidation via stochastic approximation using NASDAQ daily and intra-day data," *Mathematical Finance*, Vol. **16**, No. **1** (2006), 217-236.

19. Q. Zhang, G. Yin & **R.H. Liu**, "A Near-optimal selling rule for a two-time-scale market model," *SIAM Journal on Multiscale Modeling and Simulation*, Vol. **4**, No. **1** (2005), 172-193.

20. G. Yin, **R.H. Liu** & Q. Zhang, "Recursive algorithms for stock liquidation: a stochastic optimization approach," *SIAM Journal on Optimization*, Vol. **13**, No. **1** (2002), 240-263.

21. **R.H. Liu**, Q. Zhang & G. Yin, "Asymptotically optimal controls of hybrid linear quadratic regulators in discrete time, " *Automatica*, Vol. **38** (2002), 409-419.

22. **R.H. Liu**, Q. Zhang & G. Yin, "Nearly optimal control of singularly perturbed Markov decision processes in discrete time," *Applied Mathematics and Optimization* , Vol. **44** (2001), 105-129.

23. **R.H. Liu** & Q. Zhang, "Nonlinear filtering: a hybrid approximation scheme," *IEEE Trans. Aerospace and Electronic System*, Vol. **37**, No. **4** (2001), 470-480.

24. **R.H. Liu**, Q. Zhang & G. Yin, "Nearly optimal control of nonlinear Markovian systems subject to weak and strong interactions," *Stoch. Anal. Appl* , Vol. **19**, No. **3** (2001), 361-386.

25. **R.H. Liu**, Q. Zhang & G. Yin, "Singularly perturbed Markov decision processes with inclusion of transient states," *J. Systems Science and Complexity*, Vol. **14**, No. **2** (2001), 199-211.

26. **R.H. Liu** & F.S. Tu, "Local function expression approach of a class of tandem queueing networks," *Acta Automatica Sinica*, Vol. **23**, No. **3** (1997), 418-420.

27. **R.H. Liu** & F.S. Tu, "A new approach to estimate the gradient of the GI/G/m queueing systems," *Acta Automatica Sinica*, Vol. **21**, No. **6** (1995), 696-705.

28. **R.H. Liu** & F.S. Tu, "Modeling and stability of fork-join queueing networks," *Chinese Journal of Control and Decision*, Vol. **9**, No. **3** (1994), 161-166.

29. **R.H. Liu** & F.S. Tu, "Critical path and new perturbation analysis algorithm for a class of tandem processing networks," *Chinese Journal of Systems Engineering*, Vol. **1**, No. **9** (1994), 12-21.

30. Z.Q. Chen, **R.H. Liu** & Z.Z. Yuan, "Some problems on the applications of predictive control to industrial processes," *Chinese Journal of Automatic Instruments and Meters*, No. **1** (1994), 1-6.

31. Z.Z. Yuan, **R.H. Liu** & Z.Q. Chen, "Self-tuning control system of a ring-shape heating furnace," *Chinese Journal of Information and Control*, No. **3** (1991), 14-19.

B. Book Chapter.

1. **R.H. Liu**, "Recombining tree for regime-switching model: algorithm and weak convergence," in *Stochastic Analysis, Stochastic Systems, and Applications to Finance* (2011), Allanus Tsoi et al. Eds., 211-232, World Sci. Publishing.

2. G. Yin, J.W. Wang, Q. Zhang, Y.J. Liu & **R.H. Liu**, "Pricing American put options using stochastic optimization methods," in *Stochastic Processes, Optimization, and Control Theory: Applications in Financial Engineering, Queueing Networks, and Manufacturing Systems* (2006), H.M. Yan et al. Eds., 301-329, Springer.

3. Q. Zhang, **R.H. Liu** & G. Yin, "Nearly optimal controls of Markovian systems," in *Stochastic Modeling and Optimization* (2003), D. Yao et al. Eds., 43-86, Springer-Verlag.

4. G. Yin, Q. Zhang & **R.H. Liu**, "Using stochastic approximation algorithms in stock liquidation," Recent Developments in Mathematical Finance (Shanghai, 2001), 238–248, World Sci. Publishing, River Edge, NJ, 2002.

C. Book Review.

1. "Hybrid Switching Diffusions: Properties and Applications " (Yin, G.G. and Zhu, C.; 2010), *IEEE Control Systems Magazine*, Vol. **30**, No. **5** (2010), 74-75. Reviewer: **R.H. Liu.**

D. Paper Appeared in Refereed Conference Proceeding.

1. R.T. Thiab & **R.H. Liu**, "Parallel split-step Fourier methods for the CMKdV equation," Proceedings of the international conference on parallel and distributed processing techniques and applications, PDPTA '03, June 23-26, 2003, Las Vegas, Volume 3, 1317-1323.

2. **R.H. Liu** & Q. Zhang "Nonlinear filtering: a hybrid approximation scheme," The proc. of the 38th IEEE Conference on Decision and Control (1999), Phoenix, 4917-4922.

3. **R.H. Liu** & F.S. Tu, " A control policy for fork-join queueing networks," The proc. of the 34th IEEE Conference on Decision and Control (1995), New Orleans, Vol. **4**, 3648-3649.

4. **R.H. Liu** & F.S. Tu, "Modelling and infinitesimal perturbation analysis of a class of fork-join manufacturing systems," Proc. of the international conference on Data and Knowledge Systems for Manufacturing and Engineering (1994), Hong Kong, Vol. **2**, 566-571.

5. **R.H. Liu** & F.S. Tu, "A new approach to analyze the unbiasedness of the sampled derivatives for the GI/G/m queues," Proc. of the first Asian Control Conference (1994), Japan, Vol. **3**, 571-574.

6. **R.H. Liu** & F.S. Tu, "Study of serial production lines with stochastic processing times," Proc. of the international conference on Computer Integrated Manufacturing (1993), Beijing, China, 110-114.

7. Z.Z. Yuan & **R.H. Liu**, "Recursive synthetic generalized predictive self-tuning controller," Proc. of the 8th IFAC/IFORS Symposium on Identification and System Parameter Estimation (1988), Beijing, China, Vol. **1**, 414-419.

8. Z.Z. Yuan & **R.H. Liu**, "A practical software package of identification and self-tuning control system," Proc. of the 8th IFAC/IFORS Symposium on Identification and System Parameter Estimation (1988), Beijing, China, Vol. **3**, 1986-1989.

9. Z.Z. Yuan & **R.H. Liu**, "Recursive generalized predictive STC and its application to a power plant," Proc. of IEEE Asian Electronics Conference (1987), Hong Kong, 566-570.

E. Paper Submitted and Work in Progress.

1. **R.H. Liu**, " Optimal Stopping of Switching Diffusions with State Dependent Switching Rates." Under review.

2. J.X. Jiang, **R.H. Liu** and D. Nguyen, "A Tree Method for Option Pricing in Switching Models with State Dependent Switching Rates." Under review.

3. **R.H. Liu** and D. Nguyen, "A Trivariate Tree Approach To Option Pricing Under Regime Switching Jump Diffusion Models." Under review.

4. "Optimal Investment and Consumption Problems with State-Dependent Regime-Switching." Work in progress.

5. "Pricing Multi-Asset American Options with Regime-Switching by Efficient L-stable Exponential Time Differencing Method." Work in progress

6. "Efficient L-stable Exponential Time Differencing Method for Pricing American Options with Regime-Switching. Work in progress." Work in progress.

TALKS AND PRESENTATIONS (Since 2004)

1. (Invited Talk) "Optimal Stopping and American Option in Switching Diffusion Models with State Dependent Switching Rates." Department of Mathematics Seminar, Wayne State University, Detroit, MI, June 24, 2014.

2. (Invited Talk) "Optimal Investment and Consumption with Proportional Transaction Costs in Regime-Switching Model." Special Session on Mathematical Finance, the AMS Western Spring Sectional Meeting. University of New Mexico, Albuquerque, NM, April 4-6, 2014.

3. (Invited Talk) "Optimal Stopping of Switching Diffusions with State Dependent Switching Rates." Special Session on Partial Differential Equations, Stochastic Analysis, and Applications to Mathematical Finance, the AMS Fall Eastern Sectional Meeting. Temple University, Philadelphia, October 12-13, 2013.

4. (Invited Talk) "Apply Stochastic Optimal Control to Investment and Consumption Problems with Regime-Switching." Minisymposium on New Developments in Stochastic Analysis, Control, and Their Applications, 2013 SIAM Conference on Control and Its Applications. San Diego, CA, July 8-10, 2013.

5. (Contributed Talk) "Optimal Investment and Consumption Problem with Markovian Parameters." 2013 Joint Mathematics Meetings. San Diego, January 9-12, 2013.

6. (Invited Talk) "Optimal Investment and Consumption in Regime-Switching Model with Transaction Costs." Special Session on Nonlinear Stochastic Systems and Applications, The International Conference on the Theory, Methods and Applications of Nonlinear Equations. Texas A&M University-Kingsville, December 17-21, 2012.

7. "Merton's Investment and Consumption Problem in Regime-Switching Model." University of Dayton Mathematics Colloquium, September 13, 2012.

8. (Invited Talk) "An Optimal Investment and Consumption Problem in Regime-Switching Model." The 4th Annual Modeling High Frequency Data in Finance Conference, Stevens Institute of Technology, New Jersey, July 19-22, 2012.

9. "Option Pricing in Regime-Switching Models." Graduate Seminar, Department of Mathematical Sciences, Stevens Institute of Technology, New Jersey, Oct 24, Oct 31, 2011.

10. (Invited Talk) "Regime-Switching Recombining Tree for Option Pricing." Department of Mathematical Sciences Seminar, Stevens Institute of Technology, New Jersey, April 25, 2011.

11. "Optimal Stopping in A Regime-Switching Model." University of Dayton Mathematics Colloquium, March 31, 2011.

12. (Invited Talk) "Regime-Switching Recombining Tree for Option Pricing." Department of Mathematics Seminar, Wayne State University, Detroit, MI, October 8, 2009.

13. (Invited Talk) "New Numerical Scheme for Pricing American Option with Regime-Switching." Department of Mathematical Sciences Seminar, Middle Tennessee State University, Murfreesboro, TN, October 31, 2008.

14. (Invited Talk) "Regime-Switching Recombining Tree for Option Pricing." Special Session on Mathematical Finance of the AMS Fall Central Section Meeting, Western Michigan University, Kalamazoo, MI, October 17-19, 2008.

15. "Implicit Penalty Method for Pricing American Option with Regime-Switching." CBMS/NSF Regional Research Conference in Mathematical Sciences: Malliavin Calculus and its Applications, Kent State University, Kent, Ohio, August 7-12, 2008.

16. (Invited Talk) "Valuation of Guaranteed Equity-Linked Life Insurance with Option of Early Surrender." Special Session on Financial Mathematics of the AMS Fall Southeastern Meeting, Middle Tennessee State University, Murfreesboro, TN, November 3-4, 2007.

17. "Option Pricing for An Inhomogeneous Stochastic Differential Equation." University of Dayton Mathematics Colloquium, October 26, 2006.

18. (Invited Talk) "Valuing Guaranteed Unit-Linked Life Insurance Under Regime-Switching Model." Special Session on Financial and Actuarial Mathematics of the AMS Fall Central Section Meeting, University of Cincinnati, Cincinnati, Ohio, October 21-22, 2006.

19. (Invited Talk) "Valuing Options Written on Variable Universal Life Insurance." International Conference on Management Sciences in Honor of Professor Suresh Sethi, University of Texas at Dallas, May 20-22, 2006.

20. (Invited Talk) "Option Pricing in a Regime Switching Model Using the Fast Fourier Transform." Special Session on Financial Mathematics of the AMS Spring Southeastern Meeting, Florida International University, Miami, Florida, April 1-2, 2006.

21. "A Boundary Value Problem Arising in Financial Security Trading Policy." 25th Southeastern-Atlantic Regional Conference on Differential Equations (SEARCDE), University of Dayton, Ohio, October 7-8, 2005.

22. "Option Pricing in a Regime Switching Model Using the Fast Fourier Transform." University of Dayton Mathematics Colloquium, November 17, 2005.

23. (Invited Talk) "Optimal Selling Rule Based on Regime-switching Model." the 2004 Tri-State Actuarial Club meeting, Columbus, Ohio, September 30, 2004.

24. "Introduction of Derivative and Derivative Pricing." University of Dayton Mathematics Colloquium, September 16, 2004.

25. (Invited Talk) "Asymptotically Optimal Controls of Hybrid Linear Quadratic Regulators." Department of Mathematical Sciences Seminar in Stochastic System, Stevens Institute of Technology, New Jersey, February 19, 2004.

26. "The Mode-Switching Model for Stock Price and An Optimal Selling Rule." University of Dayton Mathematics Colloquium, February 10, 2004.

COURSES TAUGHT (Since 1998)

University of Dayton

Undergraduate Courses

- MTH 168 - Analytic Geometry & Calculus I (Fall 2004, Fall 2005, Fall 2007, Fall 20114)
- MTH 169 - Analytic Geometry & Calculus II (Winter 2006, Fall 2006, Winter 2008, Fall 2009, Summer 2013, Spring 2014)

- MTH 218 - Analytic Geometry & Calculus III (Winter 2010, Fall 2010, Fall 2012, Fall 2013, Spring 2015)
- MTH 219 - Applied Differential Equations (Winter 2005, Summer 2005, Winter 2007, Fall 2008, Fall 2009, Spring 2011, Spring 2013, Spring 2014, Summer 2014, Spring 2015)
- MTH 250 - Advanced Technical Mathematics (Winter 2005, Fall 2005, Winter 2006, Winter 2007, Fall 2007)
- MTH 138 - Calculus I with Review (Summer 2005)
- MTH 207 - Introduction to Statistics (Summer 2009, Summer 2010)
- MTH 310 - Linear Algebra & Matrices (Summer 2013, Summer 2014)
- MTH 343 - Mathematics for Electrical and Computer Engineers (Winter 2008, Winter 2009)
- MTH 435 - Advanced Multivariate Calculus (Winter 2006, Winter 2009)
- MTH 458 - Mathematical Models in Finance (Fall 2008)

Graduate Courses

- MTH 555 - Numerical Analysis I (Fall 2014)
- MTH 558 - Financial Mathematics I. Discrete Model (Fall 2008, Fall 2009, Fall 2010, Fall 2012)
- MTH 559 - Financial Mathematics II. Continuous Model (Winter 2009, Winter 2010, Spring 2011, Spring 2013)
- MTH 590 - Advanced Topics in Financial Mathematics (Fall 2013)
- MTH 528 - Stochastic Processes (Fall 2005, Fall 2007)
- MTH 538 - Introduction to Financial Mathematics (Fall 2004)
- MTH 551 - Methods of Mathematical Physics (Winter 2007)
- MTH 590 - Stochastic Differential Equations in Finance (Reading course, Winter 2006)
- MTH 590 - Advanced Interest Rate Models (Reading course, Winter 2007)

Graduate/Undergraduate Combined Course

- MTH 490/590 - Mathematical Models in Finance (Fall 2006)

Other Courses

- ASI 150 - Introduction to the University Experience (Fall 2006, Fall 2009)

Stevens Institute of Technology, New Jersey

Graduate Courses

- MA-810 - Special Topics in Stochastic Systems (Fall 2011, jointly taught by a group of 5 faculty members including myself)

- MA-623 - Stochastic Processes (Spring 2012)
- MA-661 - Stochastic Optimal Control and Dynamic Programming (Spring 2012)

University of Georgia

Undergraduate Courses

- Math1113 - Pre-calculus (Fall 1998)
- Math2200 - Analytic Geometry and Calculus (Summer 1998, Spring 2000)
- Math2200L - Differential Calculus Lab (MAPLE) (Fall 1998, Spring 1999, Fall 1999)

GRADUATE STUDENTS SUPERVISED

University of Dayton, students in the Master Program in Financial Mathematics

1. Jing Dan Zhang (2014). Project: *Pricing Options Using the Tree Method in A Switching Model with State Dependent Switching Rates*

2. Zhiyang Zhang (2014). Project: *Pricing Options in Jump Diffusion Models Using the Fast Fourier Transform*

3. Min Chen (2014). Project: *Implementation of A Numerical Scheme for Pricing European Options in Regime-Switching Jump Diffusion Models*

4. Pei Xiao (2013). Project: *Numerical solutions for option pricing in regime-switching jump diffusion with Kou's model*

5. Gracie Fasano and Sophia Munyemana (2013). Project: *A Comparison of the Merton Jump Diffusion and Kou Double Exponential Model for European Options*

6. Jiuxin Jiang (2013). Project: *A recombining Tree Method for Option Pricing in a Regime-Switching Jump Diffusion Model*

7. Weidong Li (2011). Project: *Upper and Lower Solutions for Double Barrier Options in Regime-Switching Models*

8. Jialin Zhao (2011). Project: *A Lattice Method for Option Pricing with Two Underlying Assets in Regime-Switching Model*

9. Rick Wuebker (2010). Project: *Analysis of the Pricing and Hedging of Spread Options*

10. Elham Negahdary (2010). Project: *Pricing Options in Mean-Reversion Jump-Diffusion Model by Radial Basis Functions*

11. Melissa Mattson (2008). Project: *Valuing American Put Options with Regime Switching*

12. Jinyang Sun (2008). Project: *Double Barrier Option Pricing in Regime-Switching Models*

13. Xiaoyan Ruan (2007). Project: *Implied Volatility of S&P500 Options and Soybean Options*

14. Fatima Bousso (2006). Project: *Pricing American Options with Monte Carlo Simulation*

15. Ran Huang (2006). Project: *Valuation of Variable Universal Life Rider*

UNDERGRADUATE STUDENTS ADVISED

University of Dayton, College of Arts and Sciences

- 15 undecided majors in science (UNS) (2006-2008)

- 10 mathematics majors (2009-2013)

DOCTORAL ADVISORY COMMITTEE

1. Temesguen Messay-Kebede, Ph.D. in Electrical and Computer Engineering, 2014, Department of Electrical and Computer Engineering, School of Engineering, University of Dayton.

2. Thomas Lonon, Ph.D. in Mathematics, 2013. Stevens Institute of Technology, Hoboken, New Jersey.

3. Jian Zhu, Ph.D. in Electrical and Computer Engineering, 2012, Department of Electrical and Computer Engineering, School of Engineering, University of Dayton.

4. Chunlei Zhang, Ph.D. in Electrical and Computer Engineering, 2006, Department of Electrical and Computer Engineering, School of Engineering, University of Dayton.

UNIVERSITY, COLLEGE AND DEPARTMENT SERVICES

Department Committee

Executive Committee (elected) 2009-2011, Department of Mathematics, University of Dayton.

Vision Committee 2009-2010, Department of Mathematics, University of Dayton.

Graduate Curriculum Committee 2005-2008, Department of Mathematics, University of Dayton.

Hiring Committee 2006-2007, 2007-2008, 2010, 2012-2013, Department of Mathematics, University of Dayton.

Tenure and Promotion Committee 2010-, Department of Mathematics, University of Dayton.

College Committee

Tenure and Promotion Committee (elected) 2013- , College of Arts and Sciences, University of Dayton.

University Committee

Academic Senate (elected) 2009-2011, University of Dayton.

Academic Policies Committee 2009-2010, University of Dayton.

Student Academic Policies Committee 2010-2011, University of Dayton.

PROFESSIONAL SERVICES

Guest Editor Special Issue on "Recent Developments on the Stability and Control of Stochastic Systems." *Mathematical Problems in Engineering.*

Program Committee SIAM Conference on Control and Its Applications (CT15), July 8-10, 2015, Paris, France.

Program Committee SIAM Conference on Control and Its Applications (CT13), July 8-10, 2013, San Diego.

Local Organizing Committee the 25th Southeastern-Atlantic Regional Conference on Differential Equations (SEARCDE), University of Dayton, Ohio, October 7-8.

Referee for:

- *Abstract and Applied Analysis*
- *Advances in Difference Equations*
- *Applicable Analysis*
- *Asia-Pacific Journal of Operational Research*
- *Asymptotic Analysis*
- *Automatica*
- *Birkhauser*
- *Communications in Statistics - Theory and Methods*
- *European Journal of Operational Research*
- *IEEE Transactions on Automatic Control*
- *IMA Journal of Management Mathematics*
- *International Journal of Computer Mathematics*
- *Journal of Systems Science and Complexity (JSSC)*
- *The International Journal of Production Economics*
- *Mathematical Methods of Operations Research*
- *Nonlinear Analysis Series B: Real World Applications*
- *Operations Research*
- *Science Press, China Science Publishing Group*
- *SIAM Journal on Control and Optimization*
- *Springer*
- *Stochastics: An International Journal of Probability and Stochastic Processes*