# **CURRICULUM VITAE**

# Gangaram S. Ladde

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Telephone:	(813) 974-2664 - Office (813) 531-9214 - Home

Date of Birth: March 9, 1940

Marital Status: Married, three children: Anil, Jay and Nathan and Grand Children: Lincoln, Mia and Benjamin

Citizenship Status: U. S. Citizen

# **EDUCATION**

Ph.D. Mathematics, University of Rhode Island, Kingston, Rhode Island, 1972

M.Sc. (First Class First) in Mathematics, Marathwada University, Aurangabad, India, 1965

B.Sc. (First Class) in Chemistry, Mathematics, and Physics, Marathwada University, Aurangabad, India, 1963

# **PROFESSIONAL EXPERIENCE**

### <u>Academic</u>

2007-Present	<b>Professor</b> of Mathematics and Statistics University of South Florida
1980-2007	<b>Professor</b> of Mathematics The University of Texas at Arlington
1976-1980	Associate Professor of Mathematics (tenured) The State University of New York at Potsdam
1973-1976	Assistant Professor of Mathematics The State University of New York at Potsdam
1971-1973	<b>Instructor</b> of Mathematics University of Rhode Island
1967-1971	<b>Teaching Assistant</b> in Mathematics University of Rhode Island
1965-1967	<b>Research Fellow</b> in Mathematics Marathwada University

## 02/12/19

# ADMINISTRATIVE EXPERIENCE

2015-Present	Director of Statistics Programs
	University of South Florida, Tampa
2007-2010	Advisor, Statistics Programs
	University of South Florida, Tampa
1983-1987	Graduate Advisor
	Graduate Programs in Mathematics
	The University of Texas at Arlington

## AWARDS AND GRANTS

June 2015- August 2018	US Army Office, U. S. Army Grant No: W911NF-15-1-0182 Title: Network-centric Stochastic Hybrid Dynamic Time-event Process
	Modeling. Methods and Applications
	Amount: \$433.857.00
	Funding Period: June 2015 to June 15, 2018
March 2012- June 2015	US Army Office. U. S. Army Grant No: W911NF-12-1-0090
	Title: Network Dynamic Processes Under Stochastic Perturbations
	Amount: \$227.652.00
	Funding Period: March 2012 to June 6, 2015
June 2007- March 2010	US Army Office (with A. Korzeniowski), U. S. Army Grant No:W911NF-7-1-0283
	Title: Modeling of Network Dynamics Under Markovian and Structural Perturbations Amount: \$225,009
	Funding Period: June 2007 to August 31, 2010
Summer 2003	National Science Foundation, Wayne State University Travel grant
Fall 1997-2002	National Science Foundation, Tennessee State University,
	NSF Prime Grant No. HRD-9706268
Spring 1994-1997	Army Research Office, Tennessee State University, U. S. Army Grant No.
	DAAH04-94-G-0001
Spring 1993-1996	Army Research Office, Tennessee State University, U. S. Army Grant No.
	DAAH04-93-G-0054
Fall 1992-Fall 1993	Army Research Office, Tennessee State University, U. S. Army Research Grant No.
	DAAH04-93-G-0024.
Fall 1990-Summer 1992	Army Research Office, Jarvis Christian College, U. S. Army Research Grant No.
	DAALO3-90-G-0180.
Fall 1989-Summer 1992	Army Research Office, UT at Pan American, U. S. Army Research Grant No.
	DAAL03-89-G-0107.
Summer 1987	Research Associate, School of Engineering, Santa Clara University, Santa Clara, California.
Fall 1984 - Fall 1986	Army Research Office-Bishop College, U. S. Army Research Grant No.
	DAAG29-84-G-0060.
Summer 1981 - Summer 1984	Army Research Office-Bishop College, U.S. Army Research Grant No.
	DAAG29-81-G-0008.
Summer 1981	Research Associate, School of Engineering, University of Santa Clara, Santa Clara,
	California, Department of Energy Grant.
Summer 1980	U. S. Army Research Support.
Summer 1979	U. S. Army Research Support.
Fall 1978	Faculty Research Fellowship, the Research Foundation of State University of New
	York, Albany, New York.
Summer 1978	U. S. Army Research Support.
Fall 1977	Faculty Research Fellowship, The Research Foundation of State University of New
	York, Albany, New York.

Fall 1976	Faculty Research Fellowship, The Research Foundation of State University of New
	York, Albany, New York.
Fall 1975	Faculty Research Fellowship, The Research Foundation of State University of New
	York, Albany, New York.
Fall 1974	Faculty Research Fellowship, The Research Foundation of State University of New
	York, Albany, New York.
Summer 1974	Research Associate, School of Engineering, University of Santa Clara, Santa Clara,
	California, NASA Grant.
Fall 1973	Faculty Research Fellowship, The Research Foundation of State University of New
	York, Albany, New York.
1972-1973	CNR Fellowship, Italian National Research Council, Piazzale delle Science,
	7-00100 Roma, Italy.

## PROFESSIONAL ORGANIZATIONS

Senior Life Member, IEEE Life Member, American Mathematical Society Life Member, Sigma Xi Life Member, Indian Mathematical Society Patron (Life), Marathwada Mathematical Society Elected Member of Academy of Nonlinear Sciences

### **PROFESSIONAL ACTIVITIES**

Founder and Editor (1983-Present): Journal of Stochastic Analysis and Applications

### Member of the Editorial Board:

American Journal on Algorithms and Computing Dynamic Systems and Applications Communications in Applied Analysis International Journal of Applied Mathematics International Journal of Mathematical, Engineering and Management Sciences (IJMEMS) Nonlinear Analysis: Hybrid Systems Neural, Parallel and Scientific Computations Nonlinear Studies

Reviewer for Mathematical Reviews

Reviewed: 70 papers (Russian); 2 books (Russian) 40 papers (Other); 1 book (Other)

### **Referee**

Ecology Journal of Mathematical Biology Journal of Mathematical Physics Journal of Mathematical and Physical Science Journal of Mathematical Analysis and Applications Journal of Nonlinear Analysis: Theory, Methods, and Applications Journal of Theoretical Biology IEEE Trans. Auto. Control Proc. of IFAC Mathematics and Computers in Simulation Mathematical Biosciences Large Scale Systems

#### **INVITED LECTURES**

#### Seminars:

- 1. School of Engineering, University of Santa Clara, Santa Clara, California: June 17-August 31, 1974, "Stochastic Differential Equations and Applications."
- 2. Department of Mathematics, The University of Texas at Arlington, Arlington, Texas: November 17-21, 1975, "Stochastic Differential Equations and Brownian Motion."
- 3. Department of Biology, Clarkson College of Technology, Potsdam, New York: February 10 and 17, 1978, "Stability vs. Complexity."
- 4. Instituto di Mathmatica, l'Universita di Roma, Roma, Italy: July 4-August 3, 1978, "Stability of Random Differential Equations with Applications."
- 5. School of Engineering, University of Santa Clara, Santa Clara, California: May 20-July 10, 1981, "Stochastic Differential Systems."
- 6. Department of Mathematics and Statistics, Annamalai University, Annamalainager 608002, India: December 17-20, 1981, "Stochastic Processes and Applications."
- Department of Mathematics and Statistics, Marathwada University, Aurangabad 431004, India: December 26-29, 1981, "Stochastic Analysis of Compressible Gas Lubricated Slider Bearing Problem."
- 8. Department of Electrical Engineering, University of Houston Central Campus, Houston, Texas: September 20-22, 1983, "Large-Scale Stochastic Systems."
- 9. Department of Mathematics and Statistics, Marathwada University Aurangabad 431004, India: December 11-16, 1983, "Stochastic Processes with Applications."
- 10. Department of Electrical Engineering, University of Houston Central Campus, Houston, Texas: August 6-8, 1984, "Large-Scale Stochastic Systems."
- 11. Department of Electrical Engineering, University of Houston Central Campus, Houston, Texas: August 13-16, 1985, "Large-Scale Stochastic Systems."
- 12. Department of Mathematics and Computer Science, Atlanta University, Atlanta, Georgia: March 15-18, 1986, "Stochastic Dynamic Systems."
- 13. Department of Electrical Engineering, University of Houston-Central Campus, Houston, Texas: September 26-29, 1986, "Large-Scale Stochastic Systems."
- 14. Department of Mathematics, Huazhong (Central China) University of Science and Technology, Wuhan, Hubei, The People's Republic of China: May 6-19, 1987, "Near-Optimum Regulators for Stochastic Singularly Perturbed Systems."
- 15. Department of Mathematics, Nanjing University, Nanjing, Jiangsu, The People's Republic of China: May 19-26, 1987, "Stochastic Systems Theory in Biomathematics and Management Sciences."
- 16. Department of Mathematics, Peking University, Beijing, The People's Republic of China: May 26-29, 1987, "Oscillations Caused by Delays."
- 17. School of Engineering, Santa Clara University, Santa Clara, California: July 13-August 14, 1987, "Stochastic Difference Inequalities and Applications."
- 18. Department of Mathematics, University of Oulu, Oulu, Finland: July 8-18, 1988, "Large-Scale Stochastic Systems."
- 19. Department of Mathematics, Morehouse College and Atlanta University, Atlanta, Georgia: August 20-25, 1989, "A Study of Stochastic Systems."
- 20. Department of Mechanical Engineering, Saga University, Saga, Japan: August 15-17, 1990, "Recent Control Theories in Applied Mathematics."
- 21. Department of Electrical Engineering, Oita University, Oita, Japan: August 18-21, 1990, "Multiplex Control Systems."
- 22. Department of Statistics and Modeling Science, University of Strathclyde, Glasgow, United Kingdom: July 10-23, 2000, □Stochastic Systems Modeling in Biological and Engineering Sciences□.
- 23. Department of Mathematics, Indian Institute of Technology, Powai, Bombay, India: January 9-11, 2001, "The robust stability of distributed parameter control systems".

- 24. Department of Mathematics, Indian Institute of Technology at Delhi, New Delhi-110 016, India: December 18-20, 2001, (i) "Dynamic Processes under Random Environmental Perturbations" and (ii) Dynamic Processes ith Past-memory"
- 25. Department of Mathematical Sciences, N. E. S. Science College, Nanded-431 605, Maharashtra State, India: January 2-3, 2002, "Dynamic Processes in Biological, physical and Social Sciences with Past-Memory".
- 26. Department of Mathematics, Indian Institute of Technology at Madras, Chennai-600 036, Tamil Nadu State, India: December 24-26, 2002, "Stochastic Modeling of Inflation-Unemployment Processes".
- 27. Department of Mathematical Sciences, N. E. S. Science College, Nanded-431 605, Maharashtra State, India: January 3, 2003, "Dynamic Processes in Social Sciences with Random Perturbations".
- 28. Department of Mathematical, Goa University, Panji, India: December 13, 2005: "Hereditary and Stochastic Versus Ordinary Non-hereditary"
- 29. Department of Mathematics, Mahatma Basweshawar Mahavidyala at Latur-413 512, Maharashtra State, India: December 27, 2005: "A Few Illustrations in Competitive Processes in Biological, Physical and Social Sciences"
- 31. Department of Mathematics, Indian Institute of Technology at Bombay, Powai, India: December 29, 2005: "Variational Comparison Theorem: Stochastic Approximations of Dynamic Processes"
- 32. Department of Mathematics, Morehouse College, Atlanta, Georgia, April 25-27, 2007: Mathematics Colloquium: Dansby Guest Lecture .
- 33. Department of Chemistry, University of South Florida, Tampa, Florida: March/April 2009.
- 34. Department of Mathematics, Morehouse College, Atlanta, Georgia: November 9-11, 2012.
- 35. Department of Mathematics and Statistics, North Carolina State University, Raleigh, NC: March 23-24, 2015.
- 36. Department of Mathematics and Statistics, North Carolina State University, Raleigh, NC: April 16-17, 2017.
- 37. Faculty of Mathematics, Computer Science and Econometrics, University of Zielona Gora, Zielona Gora, Poland: June 23-27, 2018.
- 38. The Linz Institute of Technology, Johannes Kepler University, Linz, Austria: June 23-27, 2018.

#### Keynote Speaker:

- 1. The International Conference on, "Nonlinear Systems, Modeling, Simulation and Applications", N.E.S. Science College, Nanded, Maharashtra, India: December 26-29, 2000.
- 2. 23 rd Annual Conference of Maharashtra Mathematics Teachers Association at Nanded, Maharashtra State, India: December 22-23, 2001.
- 3. Thirty-Third Annual Lloyed Roeling/University of Louisiana at Lafayette, Mathematics Conference on "Applied Mathematics", University of Louisiana at Lafayette, Lafayette, Louisiana: October 24-26, 2003.
- 4. The Second The International Conference on, "Nonlinear Systems, Modeling, Simulation and Applications", N.E.S. Science College, Nanded, Maharashtra, India: December 19-23, 2006.
- 5. The Third International Conference on, " Modeling, Simulation and Applied Optimization", The American University at Sharjah, Sharjah, UAE: January 18-24, 2009.
- 6. World Congress: Tenth International Conference on, "Mathematical Problems in Engineering, Aerospace and Sciences", Narvik, Norway: July 15-18, 2014.
- The Seven-th International Conference on, "Dynamical Systems and Applications" and the Fifth International Conference on Neural, Parallel, and Scientific computations, Morehouse College, Atlanta, Georgia: May 27-30, 2015.

- 8. World Congress: Eleventh International Conference on, "Mathematical Problems in Engineering, Aerospace and Sciences", La Rochelle, France: July 4-8, 2016
- 9. Thirty-seventh Lloyed Roeling Mathematics Conference, Department of Mathematics, University of Louisiana at Lafayette, Louisiana: November 11-12, 2016.
- 10. The International Conference on "Emerging Trends in Applied Mathematics and Mechanics ETAMM-2018", Jagiellonian University, Krakow, Poland: June 18-22, 2018.
- 11. The World Congress: Eleventh International Conference on," Mathematical Problems in Engineering, Aerospace and Science, American University, Yerevan, Armenia: July 3-6, 2018.

#### **Plenary Lectures:**

- 1. An International Conference on "Nonlinear Analysis and Differential Equations" at the Indian Institute of Technology-Madras, Madras-600 036, India: December, 1981.
- 2. The Vth International Conference on "Trends in Theory and Practice of Nonlinear Differential Equations," Arlington, Texas: June, 1982.
- 3. The 10th IMACS World Congress on "Systems Simulation and Scientific Computation," Montreal, Canada: August, 1982.
- 4. VIIIth International Conference on "Stochastic Processes and Their Applications and Vth Annual Conference of Indian Society for Theory of Probability and Its Applications" at Banaras Hindu University, Varnasi-221005, India: December, 1983.
- 5. The 12th IMACS World Congress on "Scientific Computation," Paris, France: July, 1988.
- 6. Sixth International Conference on "General Inequalities," Oberwolfach, Germany: December 9-15, 1990.
- 7. Workshop on "Numerical Probabilities" in Luminy, Marseille, France: March 18-22, 1991.
- 8. A Chautauqua in Applied Mathematics, Atlanta, Georgia: March 4-6, 1992.
- 9. The First World Congress on, "Nonlinear Analysts," Tampa, Florida: August 18-27, 1992.
- 10. The First International Conference on, "Dynamic Systems and Applications," Atlanta, Georgia: May 26-29, 1993.
- 11. The Second International Conference on, "Dynamic systems and Applications", Morehouse College, Atlanta, Georgia: May 24-27, 1995.
- 12. The First International Conference on, "Neural, Parallel and Scientific Computation", Morehouse College, Atlanta, Georgia: May 28-31, 1995.
- 13. Next Program Meeting "Recruiting Mathematics Majors", The American Mathematical Society, Orlando, Florida: January 13, 1996.
- 14. The International Conference on, DDynamical Systems and Differential EquationsD, Southwest Missouri State University, Springfield, Missouri: May 29-June 1, 1996.
- 16. Third World Congress of Nonlinear Analysts, The University of Catania, Catania, Sicily, Italy: July 19-26, 2000.
- 17. Eleventh International Colloquium on Differential Equations in Plovdiv, Bulgaria: August 18-23, 2000.
- 18. The 66<sup>th</sup> Annual Conference of the Indian Mathematical Society, Aurangabad, Maharashtra, India: December 19-22, 2000.
- 19. The International Conference on "Dynamics of Continuous, Discrete, and Impulsive Systems", the University of Western Ontario, London, Ontario, Canada: July 26-31, 2001.
- 20. The International Conference on, "Current Trends in Differential Equations", Indian Institute of Technology, Kanpur-208- 016, India: December 15-17, 2001.
- 21. The Fourth International Conference on, "Nonlinear Problems in Aviation and Aerospace", Florida Institute of Technology, Melbourne, Florida: May 15-17, 2002.

- 22. The Second International Conference on, "Neural, Parallel, and Scientific Computations", Morehouse College, Atlanta, Georgia: August 7-10: 2002.
- 23. International Conference on, Stochastic Modelling and IV International Workshop on Retrial Queues", Cochin University of Science and Technology, Cochi-682 022, Kerala State, India: December 17-21, 2002.
- 24. International Conference on, Operations Research for Development", Anna University, Chennai-600 025, Tamil Nadu State, India: December 27-30, 2002
- 25. The Fourth International Conference on, "Dynamical Systems and Applications", Morehouse College, Atlanta, Georgia: May 21-24, 2003..
- 26. An International Workshop on "Stability, Complexity and Robust Control of Dynamic Systems", Santa Clara University, Santa Clara, California: December 6, 2003.
- 27. Fourth World Congress of Nonlinear Analysts, Orlando, Florida, USA:: June 30-July 7, 2004.
- 28. 23 rd Annual Conference of Maharashtra Mathematics Teachers Association at Nanded, Maharashtra State, India: December 22-23, 2001
- 29. An International Workshop on "Differential Equations and Dynamical Systems", Guelph, Canada: July 29-31, 2005.
- 30. The 3rd National/International Conference on, "Mathematical and Computational Models-NCMCM 2005", PSG College of Technology, Coimbatore, Tamilnadu State, India: December 15-16, 2005.
- 3.1. An Annual National Conference in Mathematics-NCM-2005, Yashavantrao Chavan Institute of Science at Satara, Maharashtra State, India: December 22-24, 2005.
- 32. International Conference on hybrid Systems and Applications", University of Louisiana at Lafayette, Lafayette, Louisiana, USA: May 22-26, 2006.
- 35. Third International Conference on," Neural, Parallel and Scientific Computations", Morehouse College, Atlanta, Georgia, USA: August 09-12, 2006.
- 36. The Fifth International Conference on, "Dynamical Systems and Applications", Morehouse College, Atlanta, Georgia: May 30-June 2, 2007.
- 37. Fifth World Congress of Nonlinear Analysts, Orlando, Florida, USA: June 2-July 9, 2008. One of th Opening Speakers in the world Congress.
- 38. Fifth World Congress of Nonlinear Analysts, Orlando, Florida, USA: June 2-July 9, 2008.
- Fifth World Congress of Nonlinear Analysts: "Energy Workshop": Orlando, Florida, USA:: June 2-July 9, 2008. One of the Panel Members .
- 40. Fifth World Congress of Nonlinear Analysts: "The Seminal Contributions of Professor V. Lakshmikantham": Orlando, Florida, USA: June 2-July 9, 2008. One of the Organizers and Speakers.
- 41. Fifth Symposium on, "Frontiers of Statistical, Mathematical, and Computational Sciences", The George Washington University, Washington, DC: October 29-29, 2008
- 42. Conference on "Probability, Statistics and Related Areas", Lamar University, Beaumont, Texas: February 28, 2009: "
- 43. Fourth International Conference on, "Neural, Parallel and Scientific Computations", Morehouse College, Atlanta, Georgia, USA: August 11-14, 2010.
- 44. The Sixth International Conference on, "Dynamical Systems and Applications", Morehouse College, Atlanta, Georgia: May 25-28, 2011.
- 45. The Conference on "New Trends in Differential and Difference Equations" in Honor of Dr. John R. Graef's 70<sup>th</sup> Birthday, The University of Tennessee at Chattanooga, TN: March 15-16, 2013.
- 46. Mini-symposium-8 in Dynamic Systems and Applications. The International Conference on" Emerging Trends in Applied Mathematics and Mechanics-ETAMM-2018, Jagiellonian University, Krakow, Poland: June 18-22, 2018.

## **Colloquiums**

- 1. Department of Mathematics, Memphis State University, Memphis, Tennessee.
- 2. Department of Electrical and Computer Engineering, Clarkson College of Technology, Potsdam.

- 3. Graduate School of Biomedical Sciences, The University of Texas Health Science Center at Dallas. (Two visits).
- 4. Department of Mathematics, University of Missouri-Rolla.
- 5. Department of Mathematics, Oklahoma State University, Stillwater, Oklahoma.
- 6. Department of Experimental Therapeutics, Roswell Park Memorial Institute, Buffalo, New York.
- 7. Center for Applied Mathematics, Cornell University, Ithaca, New York.
- 8. Instituto di Analisi Matematica, University Delgi di Studi di Bari, 70121 Bari, Italy.
- 9. Instituto di Matematico, Universita di Napoli, 80134 Napoli, Italy.
- 10. Instituto per le Applicazioni del Calcolo, Consiglio Nazionale Delle Ricerche, 00161 Roma, Italy.
- 11. Department of Mathematics, The University of Texas at Arlington, Texas.
- 12. Department of Mathematics, Southern Methodist University, Dallas.
- 13. Department of Mathematics, The State University of California at Fullerton, Fullerton.
- 14. Department of Mathematics, People's Science College at Nanded, Nanded, Maharashtra State, India.
- 15. Lal Bahadur Shastri Mahavidyalaya, Dharmabad, Maharashtra State, India. Professional visits: December 1981 and 1983, January 2001.
- 16. Department of Mathematics, Indian Institute of Technology at Kanpur, Kanpur, India.
- Centre for Atmospheric and Fluids Sciences, Indian Institute of Technology at Delhi, New Delhi-11016, India. Professional visits: December 1981 and 1983.
- 18. The South Oak Cliff Ninth Grade Center, Dallas Independent School District, Dallas, Texas.
- 19. Lake Worth High School, Lake Worth, Texas.
- 20. S. B. College, Aurangabad, India.
- 21. Department of Physics and Computations, Atlanta University, Atlanta, Georgia.
- 22. Department of Mathematics, University of Louisville, Louisville, Kentucky.
- 23. Office of Naval Research, Arlington, Virginia.
- 24. Division of Mathematical Sciences, Jarvis Christian College, Hawkins, Texas.
- 25. Department of Systems Engineering, Kobe University, Kobe, Japan.
- 26. Division of Mathematical Sciences, Jarvis Christian College, Hawkins, Texas.
- 27. Department of Mathematics, The University of Southwestern Louisiana, Lafayette, Louisiana.
- 28. High School at Palsa, Nanded, Maharashtra State, India: December 29, 2000.
- 29. High School at Jalkot, Latur, Maharashtra State, India: December 30, 2000.
- 30. Jai Jawan Jai Kisan Junior College at Kavalgaon, Nanded, Maharashtra State, India: January 3, 2001.
- 31 DSM College at Parbhani, Parbhani, Maharashtra State, India: January 8, 2001
- 32. Dr. Babasaheb Ambedkar Marathwada University, Aurangabad-431 004, India: December 27, 2001.
- 33. Department of Mathematics, Mahatma Basweshawar Mahavidyala. Latur-413 512, Maharashtra State, India: January 1, 2002.
- 34. Department of Mathematics, Indian Institute of Technology, Powai, Bombay, India: January 7, 2002.
- 35. Department of Mathematics: Statistics Program, University of South Florida, Tampa, Florida: May 20, 2005.
- 36. Department of Mathematics, Shahu Mahavidyala. Latur-413 512, Maharashtra State, India: January 3,2007.
- 37. Industrial & Management Systems Engineering Department, University of South Florida, Tampa, Florida: April 2007.
- 38. Department of Mathematics and Statistics, University of South Florida, Tampa, Florida: October 2007.
- 39. Department of Mathematics and Statistics, University of South Florida, Tampa, Florida: October 2010.
- 40. Department of Mathematics and Statistics, Howard University, 2441 6<sup>th</sup> Street, NW, Washington, DC: David Blackwell Memorial Lecture Speaker, November 2, 2012.

## **Conference Lectures**

- 1. Special Session on "Nonlinear Problems in Differential and Integral Equations," American Mathematical Society Meeting, New York: April, 1974.
- 2. Special Session on "Applicable Differential Equations," American Mathematical Society Meeting, New York

City, New York: April, 1976.

- 3. The International Conference on "Nonlinear Systems and Applications," Arlington, Texas: July, 1976.
- 4. The Initiation Ceremony of New York Phi Chapter of Pu Mu Epsilon at Potsdam, New York: October, 1976.
- 5. Mathematics Club at SUC-Potsdam, Potsdam, New York: October, 1976.
- 6. The International Conference on "Applied Nonlinear Analysis," Arlington, Texas: April, 1978.
- 7. Middle School Mathematical Instructional Seminar at J. L. Long Middle School, Dallas, Texas: November, 1979. 27.
- 8. Mathematics Personnel Development, Northeast Sub-District, Lakewood School, Dallas, Texas: February, 1980.
- 9. Research Conference on "Differential Equations and Applications to Ecology Epidemics and Population Problems," Claremont, California: January, 1981.
- 11. The Vth International Conference on "Trends in Theory and Practice of Nonlinear Differential Equations," Arlington, Texas: June, 1982.
- 13. An Interdisciplinary Workshop at the Bishop College, Dallas: December 1982.
- 15. Twenty-third Annual Allerton Conference on Communication, Control, and Computing, Monticello, Illinois: October, 1985.
- 16. A Conference on "30 Years of Modern Optimal Control," The University of Rhode Island, Kingston, Rhode Island: June, 1988.
- 17. Fifteenth NAFEO/DOD Annual Conference, Washington, D.C.: March 28-30, 1990, Panelist for NAFEO/DOD Educational Seminar.
- Second International Conference on "Integral Methods in Science and Engineering (IMSE-90)," Arlington, Texas: May 1990.
- 19. An International Symposium on "Functional Differential Equations and Related Topics," Kyoto, Japan: August 30-September 2, 1990.
- 20. An International Conference on "The Theory and Applications of Differential Equations," Edinburg, Texas: May 15-18, 1991.
- 21. The Ninth Army Conference on "Applied Mathematics," Minneapolis, Minnesota: June 18-21, 1991.
- 22. The Mini-symposium on "Weak and Strong Convergence and Applications to Stochastic Systems" at the "Second International Conference on Industrial and applied Mathematics," Washington, D.C.: July 8-12, 1991.
- 23. Special session on "Stability and Control", American Mathematical society Annual Meeting, Baltimore, Maryland: January 8-11, 1992.
- 24. The Tenth Army Conference on, "Applied Mathematics and Computing," West Point, New York: June 16-19, 1992.
- 25. The Eleventh Army Conference on, "Applied Mathematics and Computing," Pittsburgh, Pennsylvania: June 8-11, 1993.
- 26. The first International Conference on, "Difference Equations and Applications", Trinity University, San Antonio, Texas: May 24-28, 1994.
- 27. Special Session on, "Stochastic Systems and Applications", American Mathematical Society Annual Meeting, San Francisco, California: January 4-7, 1995.
- 28. Special Session on IIIStochastic Differential Equations and ApplicationsI, American Mathematical Society Annual Meeting, Orlando, Florida: January 10-13, 1996.
- 29. Special Session on Asymptotic Behavior of Difference Equations with Applications, Southeastern American Mathematical Society meeting, Baton Rouge, Louisiana: April 19-21, 1996.
- 30. Special Session on, [I]Nonlinear Differential Equations and their Applications], American Mathematical Society Meeting, Lafayette, Louisiana: April 14-16, 2000.
- 31. Tenth Inverse Problems in Engineering Seminar, The University of Texas at Arlington, Arlington, Texas: June 5-6, 2000.
- 32. Monthly Invited Lecture Series on, "Development in Graduate Level Mathematics", Marathwada Mathematical Society, Aurangabad-431 005, Maharashtra State, India: December 21, 2001.
- 33. Special Session on, "Hybrid Systems", American Mathematical Society Annual Meeting, San Diego, California, January 6-9, 2002.
- 34. NSF-Sponsored Workshop on, "Free Boundary Problems in Partial Differential Equations and Applications", Wayne State University, Detroit, Michigan: May 18-20, 2003

- 35. Special Session on, "Stochastic Large-Scale, and Hybrid Systems ", American Mathematical Society's Annual Meeting, Atlanta, Georgia: January -5-8, 2005.
- Special Session on, "Theory and Applications of Stochastic Differential Equations ", American Mathematical Society's Central Section Meeting, Texas Tech University, Lubbock, Texas: April 8-10, 2005.
- 37. Special Session on, [] Theory and Applications of Stochastic Differential Equations ", American Mathematical Society Meeting, San Antonio, Texas: January 12-15, 2006.
- 38. Special Session on, "Stochastic Analysis and Applications ",American Mathematical Society's Spring Southeastern Section Meeting, Davidson College, Davidson, North Carolina: March 3-4, 2007.
- 39. Special Session on, "Stochastic Analysis and Applications ", American Mathematical Society Meeting, San Diego, California: January 6-9, 2008.
- 40. 14<sup>th</sup> Annual Army Conference on, "Applied Statistics", Virginia Military Institute, Lexington, Virginia, October 22, 24, 2008.
- 41. Special Session on, "Stochastic Hybrid Systems and Applications ", American Mathematical Society's Annual Meeting, Washington, DC: January 4-5, 2009.
- 42. 15<sup>th</sup> Annual Army Conference on, "Applied Statistics", Arizona State University, Tempe, Arizona, October 20-23, 2009.
- 43. Seventh International Conference on "Differential Equations and Dynamic Systems", University of South Florida, Tampa, Florida, USA: December 15-18, 2010. Hourly Lecture.
- 44. Special Session on, "Stochastic Hybrid Systems and Applications "American Mathematical Society's Annual Meeting, New Orleans, Louisiana: January 5-8, 2011.
- Special Session on, "Dynamic Equations on Time scales with Applications "American Mathematical Society's Spring Southeastern Section Meeting, Georgia Southern University, Statesboro, Georgia: March 12, 12, 2011
  - March 12-13, 2011
- 46. Special Session on, "Stochastic Differential Equations and Applications ", American Mathematical Society's Annual Meeting, Boston, MA: January 5-8, 2012.
- 47. Special Session on, "Stochastic Analysis and Applications "American Mathematical Society's Spring Spring Southeastern Section Meeting, Florida, University of South Florida, Tampa, Florida: March 1, 2012.
- 48. Special Session on, "Application on Functional Analytic Techniques to Nonlinear Boundary Value Problems", American Mathematical Society's Fall Southeastern Section Meeting, Tulane University New Orleans, Louisiana: October 13-14, 2012.
- 49. Special Session on, "Stochastic Analysis of Stochastic Differential Equations and Stochastic Partial Differential Equations ", American Mathematical Society's Annual Meeting, San Diego, CA: January 9-12, 2013.
- 50. Special Session on, "Fractional, Stochastic, and Hybrid Dynamic Systems and Applications ", American Mathematical Society's Annual Meeting, Baltimore, Maryland: January 15-18, 2014.
- 51. Special Session on "Mathematical Finance", American Mathematical Society's Spring Western Section Meeting, University of New Mexico, Albuquerque, Albuquerque, NM: April 4-6, 2014.
- 52. Special Session on, "Abstract Differential Equations", 10<sup>th</sup> American Institute of Mathematical Sciences-AIM Conference on, "Dynamical Systems, Differential Equations and Applications", Madrid, Spain: July 7-11, 2014.
- 53. Special Session on, "Fractional, Stochastic, and Hybrid Dynamic Systems and Applications ", American Mathematical Society's Annual Meeting, San Antonio, TX: January 10-13, 2015.
- 54. Special Session on Stochastic Analysis and Applications", American Mathematical Society's Spring Southeastern Section Meeting University of Alabama, Huntsville, Huntsville, AL: March 27-29, 2015.
- 55. 2016 Hawaii University International Conference in Arts, Humanities, Social Sciences & Education, January 8-112016 at Ala Moana hotel, Honolulu, Hawaii.
- 56. Special Session on, "Fractional, Stochastic, and Hybrid Dynamic Systems and Applications ", American Mathematical Society's Annual Meeting, Atlanta, GA: January 03-06, 2017.
- 57. Special Session on, "Fractional, Stochastic, and Hybrid Dynamic Systems and Applications ", American Mathematical Society's Annual Meeting, San Diego, California: January 10-13, 2018
- 58. Special Session on, "Fractional, Stochastic, and Hybrid Dynamic Systems and Applications", American

Mathematical Society's Annual Meeting,, Baltimore, Maryland: January 15-18, 2019.

### **RESEARCH SUPERVISION**

### Undergraduate Research Supported by the US Army Research Office-URAP:

- (a) Honors BA/BS Degree:
  - 1. Andrew J. Reilly: Mathematical Modeling, Methods, and Analysis of Native Language Learning Dynamic Processes [][2013.
  - 2. Minh Pham: Stochastic Dynamic Modeling of Unemployment-Inflation Processes: State, Parameter and Forecasting 2016.
  - Douglas C. Turner: Stochastic Modeling, Analysis and Simulation of Solar Cycle Dynamic Process III2016.
- (b) Summer ARO-URAP Undergraduate and High School Research:
  - 1. Amanda J. Kunkle: Mathematical Modeling, Methods, and Analysis of Groundwater Dynamic Processes [][2012.
  - 2. Andrew J. Reilly: Mathematical Modeling, Methods, and Analysis of Native Language Learning Dynamic Processes [][2012.
  - 3. Carlos A. M. Kinsman: Mathematical Modeling of hybrid Dynamic Systems 22013.
  - 4. Kyle MaGarth: Mathematical Modeling and Analysis of Stimulus-Response Processes 12013.
  - 5. Shasline Gedeon: Dynamic Model of Controlled Release in Neurological Drug Delivery Systems [][2016.
  - 6. Claire E. Bodemann: Mathematical Modeling of Curiosity Dynamic Process 12017.
  - 7. Sarah Caum: Mathematical Model of Maximizing Happiness-Using Queuing System<sup>1</sup>2018.
- (c) Summer ARO-REAP High School research:
  - 1. Jessica Alzamora: A Dynamic Model for Group Construction 002014.
  - 2. Kevin Palomino: A new and Improved Version of Bendable Concrete [][2017.
  - 3. Cassandra A. Colaco: The Dissemination of Information and the Implications Networking 002018

#### Master's Degree

- 1.Susan M. DmAmico: DControl Problems and its Optimization D1979.
- 2. Peter Brouwer: DCollective Choice and Social Preference Relations 1979.
- 3. Mark Mayhew: A Stability Analysis of a Macroeconomic Mode 1 [] 1979.
- 4. Stephen M. Micciche: DStability Analysis and Limit Cycles 1979.
- 5. Abhijeet R. Mishra Option Pricing under Jump Diffusions 2005.
- 6. Diana Prieto-Santa: Stochastic Models for Pandemic Progression: Existing Approaches and new Directions 2009.
- 7. Ryan Thurman: Stochastic Models for Pandemic Progression: Existing Approaches and new Directions 12013.

## **Doctoral Degree**

1. Srinivasa G. Rajalakshmi: DStudy of Large-Scale Singularly Perturbed Systems D1986.

- 2. Ongard Sirisaengtaksin: DMultitime-scale Singularly Perturbed Stochastic Systems with Applications D1986.
- 3. Janusz Golec: DDDDDDApproximations of Solutions of Stochastic Differential Equations D1988.
- 4. Mailvaganam Kathirkamanayagan: DStudy of Singularly Perturbed Systems 1988.
- 5. Michael S. Smith: Cascaded Kalman Filter Architectures with Applications to Global Positioning System 001989.
- 6. Bonita A. Lawrence: Qualitative Properties of Systems of Stochastic Differential Equations [1994.
- 7. Mahmoud J. Anabtawi: A Study of Stochastic Partial Differential Equations [1998.
- 8. Byron L. Griffin: A Study of Iterative Processes Under Random Structural Perturbations 002002.
- 9. Roger Dale Kirby: Qualitative Behavior of Dynamical Vector Fields 2007.
- 10. Ling Wu: Stochastic Modeling and Statistical Analysis [2010.
- 11. Divine Wanduku : Stochastic Modeling of Network-Centric Epidemiological Processes []2012.
- 12. Daniel P.Siu : Stochastic Hybrid Dynamic Systems: Modeling, Estimation and Simulation 2012.
- 13. Jean-Claude Pedjeu: Multi-time scales Stochastic Dynamic Processes: Modeling, Methods, Algorithm, Analysis and Application s. 2012.
- 14. Arnut Paothong: Dynamic Processes in Network Goods: Modeling, Analysis and Applications [2013.
- 15. Tadesse S. Zerihun : Nonlinear Techniques for Stochastic Systems of Differential Equations []]2013
- 16. Olusegun M. Otunuga: Stochastic Modeling and Analysis of Energy Commodity Spot Price Processes [2014.
- 17. Kristina B. Hilton: Dynamics of Multicultural Social Networks 002017.
- 18. Mr. Patrick Armand Assonken Tonfack: Modeling in Finance and Insurance with Levy-Ito Dynamic Processes under Semi- Markov-type Switching Regimes and Time Domains []]2017.
- 19. Emmanuel A. Appiah: Stochastic Hybrid Dynamic Modeling of Time-to-Event Process and Applications []]2018.

## **RESEARCH PUBLICATIONS**

- 1. General Dynamical Systems and Functional Differential Equations, (with S.G. Deo), *Journal of Mathematical and Physical Sciences*, Vol. 3 (1969), pp. 257-268. MR 42 #2128.
- 2. Some Integral and Differential Inequalities, (with S.G. Deo), *Bulletin of the Calcutta Mathematical Society*, Vol. 61 (1969), pp. 47-53. MR 45 #5513.
- 3. Stability Properties of Functional Differential Systems, *Journal of Mathematical and Physical Sciences*, Vol. 4 (1970), pp. 236-254. MR 45 #7668.
- 4. Global Results and Stability of Motion of Functional Differential Equations, (with G. Ladas), *Journal of Mathematical and Physical Sciences*, Vol. 5 (1971), pp. 75-82. MR 46 #2187.
- 5. Oscillations of Functional Differential Equations Generated by Delays, (with G. Ladas and J.S. Papadakis), *Journal of Differential Equations*, Vol. 12 (1972), pp. 385-395. MR 48 #11724.
- 6. Asymptotic Equivalence and Functional Differential Equations, *Analele Stiintifice ale Universitatii "Al. I. Cuza" din Iasi Sectinunea I Matematica*, Vol. XVIII (1972), pp. 331-342. MR 49 #5511.
- Oscillations of Nonlinear Functional Differential Equations Generated by Retarded Actions, <u>Delay and Functional Equations and Their Applications</u>, (Editor: Klaus Schmitt), Academic Press, New York (1972), pp. 355-365. MR 52 #6146.
- 8. Asymptotically Conditionally Invariant Sets and Perturbed Systems, (with V. Lakshimkantham and S. Leela), *Annali di Matematica Pura ed Applicata*, Vol. XCIV (1972), pp. 33-40. MR 48 #2506.
- 9. Analysis of Invariant Sets, (with S. Leela), Annali di Matematica Pura ed Applicata, Vol. XCIV (1972), pp.

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- 10. On the classes of Differential Systems with the Desired Behavior, (with S. Bernfeld and V. Lakshmikantham), *Rendiconti del Circolo Matematica di Palermo*, Vol. XXI (1972), pp. 85-97. MR 48 #2505.
- 11. On Some Fundamental Properties of Solutions of Differential Equations in a Banach Space, (with G. Ladas and V. Lakshmikantham), *Annali di Matematica Pura ed Applicata*, Vol. XCV (1973), pp. 255-267. MR 48 #662.
- Differential Inequalities and Ito's Type Stochastic Differential Equations, (with V. Lakshmikantham and P. T. Liu), <u>Equations Differentielles et Fonctionnelles Non Lineaires</u>, (Editors: P. Janssens, J. Mawhin et N. <u>Rouche)</u>, Hermann, Paris (1973), pp. 611-640. MR 55 #6572.
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- 14. Growth Properties of Functional Differential Equations, Atti della Accademia Nazionale dei Lincei. *Rendiconti. Classe di Scienze Fisiche, Mathmatiche e Naturali*, Vol. LV (1973), pp. 356-363. MR 51 #6089.
- 15. Oscillations of Nonlinear Functional Differential Equations Generated by Retarded Actions I, *Rendiconti del Circolo Matematico di Palermo*. Vol. XXII (1973), pp. 67-76. MR 50 #13815.
- 16. Differential Inequalities and Stochastic Functional Differential Systems, *Journal of Mathematical Physics*, Vol. 15 (1974), pp. 738-743. MR 49 #8105.
- 17. Stability of Stochastic Functional Differential Equations, (with M. Chang and P.T. Liu), *Journal of Mathematical Physics*, Vol. 15 (1974), pp. 1474-1478. MR 50 #11443.
- 18. On Flow-Invariant Sets, (with V. Lakshmikantham), *Pacific Journal of Mathematics*, Vol. 51 (1974), pp. 215-220. MR 49 #10972.
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- 21. Differential Inequalities and Stability and Boundedness of Stochastic Differential Equations, (with V. Lakshimkantham and P. T. Liu), *Journal of Mathematical Analysis and Applications*, Vol. 48 (1974), pp. 341-352. MR 50 #11445.
- 22. Some *n*-th Order Differential Inequalities, (with S. G. Deo), *Indian Journal of Mathematics*, Vol. 16 (1974), pp. 89-96. MR 82j: 34011.
- 23. Nonlinear Boundary Value Problems and Several Lyapunov Functions for Functional Differential Equations, (with S. Bernfeld and V. Lakshmikantham), *Bolletino della Unione Mathemaica Italiana*, Vol. 10 (1974), pp. 602-613. MR 51 #6089.
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- 30. Connective Stability of Large-Scale Stochastic Systems, (with D. Siljak), *International Journal of Systems Science*, Vol. 6 (1975), pp. 713-721. MR 56 #15069.
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### Work in Progress

1 IllQualitative Analysis of Competitive-Cooperative Process in Biological, Physical and Social Science