RESUME

LEWIS, FRANK L., Ph.D.   Tuesday, October 20, 2020

Moncrief-O'Donnell Endowed Chair, Professor of Electrical Engineering, UTA
> Fellow, National Academy of Inventors
> Professional Engineer, State of Texas
> Chartered Engineer, U.K. Engineering Council
> Fellow, International Federation of Automatic Control (IFAC)
> Life Fellow, Institute of Electrical and Electronics Engineers (IEEE)
> Fellow, Institute of Measurement and Control, U.K.
> Fellow American Association for the Advancement of Science (AAAS)

University Distinguished Scholar Professor, UTA
University Distinguished Teaching Professor, UTA
Texas Regents Outstanding Teacher
Head, Advanced Controls and Sensors Group, UTA Research Institute

Address. UTA Research Institute, The University of Texas at Arlington, 7300 Jack Newell Blvd. S, Ft. Worth, Texas 76118, tel 817-272-5972, Lewis@uta.edu, http://www.uta.edu/utari/acs/

SUMMARY OF ACTIVITIES

Research and Publications

Lewis is Ranked at position 89 worldwide, 63 in the USA, and 3 in Texas of all scientists in Computer Science and Electronics, by Guide2Research (August 2019).

See separate file of Publications. Author of 23 books, 420 journal papers, 35 reprint volumes/journal special issues, 63 book chapters, 420 fully refereed & published conference papers.

F. Lewis is a Thomson Reuters Web of Science Highly Cited Researcher. 59,000 google citations, h-index 114.

Textbooks. Author of 23 books, including 5 textbooks currently in use in universities worldwide-*Optimal Control, Optimal Estimation, Aircraft Control and Simulation, Applied Optimal Control, Robot Manipulator Control.*

Main Editorial Appointments

Editor in Chief, Taylor & Francis Book Series on Automation & Control Engineering
Editor in Chief, Taylor & Francis Book Series on Microgrids and Active Power Networks
Editor, Trans. Inst. Measurement and Control, Great Britain
Deputy Editor-in-Chief, J. Control Theory Technology, Springer, Berlin
Automatica, Senior Editor for Adaptive & Learning Control, 1999-2001.
Honorary Chair and Founder, International Symposium on Autonomous Systems ISAS. Founded in Guangzhou China, May 2017.

Research and Advising

Supervised 50 PhD students
Received 100 Research Grants for total funding of $10M
Awarded 7 US Patents

TABLE OF CONTENTS

EDUCATION AND PROFESSIONAL

B.A. in physics/electrical engineering	1971
Rice University, Houston, Texas	
M.E.E., Rice University, Houston, Texas	1971
M.S. in Aeronautical Systems	1977
University of West Florida, Pensacola	
Ph.D. in electrical engineering	1981
Georgia Institute of Technology, Atlanta	

Dissertation Title: *A Geometrical Approach to Linear Systems Based on the Riccati Equation*

Dissertation Advisor: Dr. E. W. Kamen

This thesis won the Monie Ferst Sigma Xi Award for Outstanding Doctoral Research.

Senior Member, IEEE	1986
Fulbright Fellow, Greece	1988
Professional Engineer, State of Texas, reg. nr. 72200	1992
Fellow, IEEE	1994
IEEE Control Systems Soc. Distinguished Lecturer	1998
Elected to UTA Academy of Distinguished Scholars, Charter Member	2004
UTA Research Institute Senior Research Fellow	2005
Fellow, U.K. Institute of Measurement and Control	2005
Chartered Engineer, U.K. Engineering Council, reg. nr. 562168	2006
Fellow, International Federation of Automatic Control (IFAC)	2008
Senior Member, Int. Neural Network Society	2010
Elected to UTA Academy of Distinguished Teachers	2012

IEEE Control Systems Soc. Distinguished Lecturer	2012
Fellow, National Academy of Inventors	2013
State of Texas Regents' Outstanding Teacher Award	2013
Senior Member, American Institute of Aeronautics and Astronautics	2014
Fellow, American Association for the Advancement of Science (AAAS)	2016
Life Fellow, IEEE	2016
Liaoning, China, Friendship Award	2017

EMPLOYMENT HISTORY

UTA Res. Inst., Univ. Texas at Arlington
    Head, Advanced Controls and Sensors Group   1990-pres
    Moncrief-O'Donnell Endowed Chair   1990-pres
    Professor of Electrical Engineering   1990-pres
Georgia Institute of Technology
    Professor   1990
    Associate Professor   1986-1990
    Assistant Professor   1981-1986
    Graduate Research Assistant   1977-1981
Lockheed Advanced Research Organization   1983-1987
    Consulting in aircraft adaptive controls
Colonial Pipeline Company, Atlanta, GA   1978
    Microprocessor design technician
Florida Junior College, Jacksonville, FL   1977
    Instructor
United States Navy (Final Rank Lt.)   1971-1977
    Acting Commanding Officer, USS SALINAN   1977
    Executive Officer, USS SALINAN (ATF-161)   1975-1977
    Navigator & Division Officer, USS TRIPPE (FF-1075)   1971-1975
Rice University, Houston, TX   1966-1971
    Graduate Teaching Assistant
Columbia Scientific Company, Austin, TX   1970
Texas Nuclear Company, Austin, TX   1969

OTHER HONORARY ACADEMIC POSITIONS

International Advisory Board, Czech Technical University, Prague, Czech Republic.
Steering Committee, Centre for Intelligent Control, National Univ. of Singapore, 2008-pres
Visiting Scholar Fellow, Singapore Institute of Manufacturing Technology, SIMTech, A-Star, 2009-2013.

MAIN EDITORIAL APPOINTMENTS

Editor, Taylor & Francis Book Series on Automation & Control Engineering, 2006-pres
Editor, Taylor & Francis Book Series on Microgrids and Active Power Distribution Networks, 2015-pres
Editor, Trans. Inst. Measurement and Control, Great Britain, 2000-pres
Deputy Editor-in-Chief, J. Control Theory Technology, Springer, Berlin, 2006-pres
Editorial Board, Optimal Control Applications and Methods, Wiley Journal,2008-pres
Editor for Adaptive and Intelligent Control, Automatica, 1999-2001.

EXPERIENCE SUMMARY

Board of Governors of international associations including IEEE Control Systems Society, Ft. Worth International Science and Engineering Fair 1998, Mediterranean Controls Association (Founding Member). Editor, CRC Press/T&F Book Series on Automation & Control Engineering. Editor, Taylor & Francis Book Series on Microgrids and Active Power Distribution Networks. Serve/Served as Editor of International Journals incl. Automatica, Optimal Control & Methods, Systems Man & Cybernetics B (AE). Served as member of NAE Committee on Space Station and various advisory panels including Fulbright/Greece Selection Panel, NSF reviews, U.N. Umbrella Project Warsaw, NSF/Portugal joint workshop on undersea vehicles. Principal Investigator on NSF grants since 1982. Received $10 million in funding. Director, UTARI Controls DoD Small Business Innovation Research (SBIR) Program. Organizer of international workshops and conferences incl. General Chair IEEE CDC Maui 2003, Gen. Chair Mediterranean Control Conf., Thessaloniki, June 2009.

1990-pres. At UTA, Professor in Elect. Eng. Dept., developing curriculum and teaching courses on robotics and controls. At UTA Research Institute, Institute Senior Research Fellow and Principal Research Engineer in charge of a research group of 8 Ph.D. students, 2 visiting faculty, and staff engineers. Designed, financed, set up, and supervised: (1) Wireless Sensor Networks Lab, (2) MEMS Design, Testing, Calibration Lab, (3) Research Lab on Real-Time Control of Industrial and Military Systems, (4) Robotic Intelligent Manufacturing Handling Cell with 3 robots, and (5) EE Systems & Control Undergraduate Teaching Lab.. Principal Investigator on research contracts. Research in robust and adaptive nonlinear controls, intelligent control (neural nets, fuzzy logic, decision-making systems), wireless sensor networks, MEMS sensors and actuators, robotics, manufacturing processes, and DoD vehicle systems.

1980-1990. At Georgia Tech, Professor in Systems and Controls. Principal research topics: generalized state-space systems, aircraft control, and robotics. Principal Investigator of research projects, directing the research efforts of between 6 and 10 Ph.D. students and coordinating research with several visiting faculty associates. Organization of and participation in international research workshops and conferences. Served on and chaired various campus committees.

1983-1987. Consulting in adaptive systems and controls in aircraft applications for Lockheed Advanced Research Organization, Atlanta, GA.

Experience in digital signal processing, including two-dimensional signal processing and linear predictive coding. Experience with programming digital signal processors for controls applications. 1977-1978- At Colonial Pipeline, repair and design of microprocessors using MOTOROLA 6800 series components. At Columbia Scientific, research in nuclear scattering and theories of vision. At Texas Nuclear, research in linguistics and vision. At Florida Junior College, instructor in computer logic and construction. At Rice University, teaching signal analysis and circuit design, researching applications of holography.

1971-1977. In U.S. Navy, acting Commanding Officer of USS SALINAN (ATF-161). Navigator and Executive Officer on 86 man salvage vessel, in charge of materiel, vessel and personnel readiness, and shipboard administration. Division Officer on the frigate USS TRIPPE (FF-1075), Navigator, Gunnery/Missile Officer responsible for readiness for combat of Mk 54 five-inch gun mount, two advanced missile systems, ISSM and BPDMS, using UNIVAC-based fire-control system. Personnel and Administrative Officer, in charge of all ship's correspondence and maintaining service records of 250 men, and Supervisor of shipboard clearance and security program. Held Top-Secret Clearance, member and supervisor of Personnel Nuclear Reliability Program.

ACTIVE RESEARCH INTERESTS

Cooperative multi-agent distributed systems.

Reinforcement Learning in Control, Intelligent Control
Nonlinear Control Systems
Wireless Sensor Networks for area security monitoring & condition-based maintenance
Robotic System Control
Robust and Adaptive Systems and Control
Discrete-Event Systems
Manufacturing Process Control, Scheduling

PH. D. STUDENTS

1. Bosen Lian, *Multi-agent systems*, in progress.

2. Yusuf Kartal, *Autonomous Aerial Vehicles Distributed Control and Interactive Games*, in progress.

3. Patrik Kolaric, *Autonomous Systems*, in progress.

4. Victor Lopez, "*Optimal Control Strategies for Dynamical Multiagent Systems in Graphical Games*," August 2019.

5. Bakur AlQaudi, *Brain functions, Adaptive Resonance Theory, and Their Use in Decision and Control Systems*, August 2018.

6. Susan Zuo Shan, "Control of Heterogeneous Multi-Agent Systems in Networks," coadvised PhD student visiting at UTA. Her primary adviser was Dr. David Song at UESTC University, China, June 2018.

7. Bahare Kiumarsi, *Reinforcement Learning and Bio-Inspired Cognition*, August 2017.

   Kiumarsi was awarded the UTA Graduate School Dissertation Fellowship for her research.

   Kiumarsi received the N. M. Stelmakh outstanding student research award, UT-Arlington Dept. of Electrical Engineering, Spring 2017.

8. Farnaz Yaghmai, "Control of Heterogeneous Multi-Agent Systems," coadvised this student at Nanyang Technological University, Singapore. Her primary adviser was Dr. Rong Su at NTU, December 2017.

9. Vahidreza Nasirian, coadviser, main adviser is Ali Davoudi in UTA Dept. of Electrical Engineering. *Revisiting established control paradigms in emerging energy hubs*, July 2015.

   Nasirian was awarded the UTA Graduate School Dissertation Fellowship for his research.

10. Reza Modares, *Reinforcement Learning, Off-policy and Multi-Agent Systems*, May 2015

    Modares was awarded the UTA Graduate School Dissertation Fellowship for his research.

    Modares received the N. M. Stelmakh outstanding student research award, UT-Arlington Dept. of Electrical Engineering, Spring 2015.

11. Giulio Binetti, coadviser, main adviser is Dr. David Naso at Bari Inst. of Technology, Italy. *Distributed Decision-Making and Consensus Algorithms for Cooperative Systems*, Bari Inst. of Technology, Feb. 2014.

12. Ali Bidram, coadviser main adviser is Dr.Ali Davoudi in UTA Dept. of Electrical Engineering. *Cooperative control for electric power micro-grid*, Aug. 2014.

    Bidram received the N. M. Stelmakh outstanding student research award, UT-Arlington

Dept. of Electrical Engineering, Spring 2014.

13. Kristian Hengster-Movric, *Distributed Cooperative Control,* August 2013.

    Movric was awarded the UTA Graduate School Dissertation Fellowship for his research.

14. M. Aurangzeb, *Coalitional Graph Games*, May 2013.

15. M. Abouheaf, *Optimization and Reinforcement Learning Techniques in Multi-Agent Graphical Games and Economic Dispatch*, Dec. 2012.

16. E. Stingu, *Intelligent Control and Cooperation for Autonomous Mobile Robots,* Dec 2011.

17. K. Vamvoudakis, *Online Learning Algorithms For Differential Dynamic Games And Optimal Control*, May 2011.

    K. Vamvoudakis won the NSF Career Award.

    This thesis resulted in US Patent 9,134,707 issued 15 Sept. 2015.

    Best Paper Award for Autonomous/Unmanned Vehicles, Army Science Conf, Orlando, 29 Nov- 2 Dec, 2010.

    Vamvoudakis won the ARRI Outstanding Student Award, 2010.

18. Hongwei Zhang, *Learning Techniques in Receding Horizon Control and Cooperative Control*, jointly advised with Jie Huang at Chinese University of Hong Kong, Aug. 2010.

19. Abhijit Das, *Control of Complex and Distributed Nonlinear Systems*, Aug. 2010.

    Abhijit was awarded the UTA Graduate School Dissertation Fellowship

20. Draguna Vrabie, *Online Adaptive Optimal Control for Continuous-Time Systems,* Dec. 2009.

    Best Paper Award at Int. Joint Conf. Neural Networks, Barcelona, 2010.

    Vrabie won the ARRI Outstanding Student Award, 2009.

21. P. Ballal, *Decision and Control in Distributed Cooperative Systems,* May 2008

    This thesis was published as a book by National Technology & Science Press, 2011.

22. P. Dang, *Distributed Recognition, Actuation, and Control*, Dec. 2007.

23. Asma Al-Tamimi, *Discrete-Time Control Algorithms and Adaptive Intelligent Systems Designs,* May 2007.

24. J. Gadewadikar, *H-Infinity Output Feedback Control: Application to Unmanned Aerial vehicle,* May 2007.

    J. Gadewadikar won the Dept. of Homeland Security "Early Career Faculty Scientific Leadership Award"

    This thesis work resulted in the Institute Outstanding Student Research Award 2006. This dissertation was selected for publication as a book by lambert Academic Publishing.

25. Cheng Tao, *Neural Network Solution for Fixed-Final Time Optimal Control of Nonlinear Systems*, December 2006.

26. B. Borovic, *Modeling, Actuation, and Control of Microelectromechanical Systems (MEMS)*, December 2005.

    This thesis resulted in US Patent 7,548,011, awarded 16 June 2009.

    This thesis won the Institute Outstanding Dissertation Award, ARRI, 2005.

27. V. Giordano, *Experimental Implementation of Intelligent Controls for Autonomous Robotic Systems*, co-adviser with B. Turchiano, Tech. Inst. Bari, Italy, Aug. 2005.

28. M. Abu-Khalaf, *Nonlinear H₂/H-infinity Constrained Feedback Control: A Practical Approach Using Neural Networks*, Aug. 2005.
This thesis was published as a book by Springer-Verlag.

   This thesis won the Institute Outstanding Dissertation Award, ARRI, 2005
29. N. Swamy, *Control Algorithms for Networked Control and Communication Systems*, May 2003.

30. O. Kuljaca, Intelligent Neural Network and Fuzzy Logic Control of Industrial and Power Systems, May 2003.

   Kuljaca won the ARRI Best Paper Award, 2003.

31. J. Mireles, *Matrix-Based Intelligent Discrete Event Control for Flexible Manufacturing Systems*, August 2002.

   Mireles won the Best Presentation Award at the UTA Graduate Research Symposium in 2000, and the ARRI Student Paper Award in 2002.

32. B. Harris, *Improving the Efficiency and Applicability of Machine Planning: Applications in Manufacturing Scheduling and Routing*, May 2002. Co-advised with Prof. Diane Cook, CSE Dept.

33. S. Ikenaga, *Real Time Digital Controller for Active Suspension Control of Ground Vehicles*, May 2000.

34. J. Campos, *Intelligent Control of Complex Mechanical Systems*, May 2000.

   This research won the UTA ARRI Best Paper Award in 1998 and the IEEE Ft. Worth Section Graduate Student Paper Second Place Award in 1999. Campos won the "Outstanding UTA International Student Award," 2000.

35. R. Selmic, *Neurocontrol of Industrial Motion Systems with Actuator Nonlinearities*, May 2000.
   Section Graduate Student Paper First Place Award in 1999.

   This research won the UTA ARRI Best Paper Award in 1997 and the IEEE Ft. Worth
36. Y. Kim, *Dynamic and High-Level Neural Networks for Control,* July 1997.

   This dissertation was selected for publication as a book by World Scientific Press.

37. R. Fierro, *A Hybrid System Approach to a Class of Intelligent Control Systems*, July 1997.

   R. Fierro won the NSF Career Award.

   This dissertation won the Ecuador Escuela Politecnica Nacional Best Research Award, 1998.

38. S. Commuri, *A Framework for Intelligent Control of Nonlinear Systems*, May 1996.

   This dissertation won the UTA Sigma Xi Ph.D. Dissertation Award, 1996.

39. H.-H. Huang, *Modeling and Control of Discrete Event Manufacturing Systems*, June 1995.

   This dissertation won the Republic of China "National Science Council Research Award", 1997.

40. M. Vandegrift, *Nonlinear and Intelligent Control of Flexible Robotic Systems*, May 1995.
41. A. Yesildirek, *Nonlinear Control of Continuous-Time Systems Using Neural networks*, Dec.

1994.

This dissertation was selected for publication as a book by Taylor and Francis.

42. S. Jagannathan, *Intelligent Control of Nonlinear Dynamical Systems using Multilayer Neural Networks,* Aug. 1994.

   S. Jagannathan won the NSF Career Award.

   This dissertation won the UTA Sigma Xi Ph.D. Dissertation Award, 1994.

43. J. Lin, *Dynamic Modeling, Estimation, and Control of Flexible Structural Systems*, May 1994.

   This dissertation won the Republic of China "National Science Council Award", 1995, the top honor for Ph.D. theses in Taiwan.

44. C. Temponi, *Dynamic Decision Model for an Integrated Manufacturing Enterprise: System Theory Approach*, May 1992.
45. F. AL-Sunni, *Applied Control of Linear Systems*, May 1992.
46. V. Syrmos, *Feedback Design techniques in Linear System Theory: Geometric and Algebraic Approaches*, June 1991.
47. D. Fountain, *Implicit Systems: Orthogonal Functions Analysis and Geometry*, June 1991.
48. A. Karamancioglu, *Two-Dimensional Implicit Linear Systems*, May 1991.
49. K. Liu, *Decentralized Control of Interconnected Systems With Applications to Mobile Robots*, Sept. 1990.
50. D.M. Dawson, *Uncertainties in the Control of Robot Manipulators*, Mar. 1990.

   Darren Dawson won the NSF Young Investigator Award and the Office of Naval Research Young Investigator Award.

51. G.N. Maliotis, *Adaptive Control of Partially Known Robotic Manipulators*, Mar. 1990.
52. G. Beauchamp, *Algorithms For Singular Systems*, Mar. 1990.
53. C.T. Abdallah, *Robust Control and Game Theory for Nonlinear Systems with Applications to Robotics*, Sept. 1988.
54. K. Özçaldiran, *Control of Descriptor Systems*, May 1985.
55. R.P. Malhamé, *A Statistical Approach for Modeling a Class of Power System Loads*, Feb. 1983. (Final adviser)

SELECTED MASTERS STUDENTS

1. Akash Borate, "Mapping by SLAM Using Multiple Unmanned Ground Vehicles," MS Degree, Dept. of Electrical Engineering, The University of Texas at Arlington, May 2016.

2. Karthik Arunachalam, "Control of Multiple Micro-air vehicles for Autonomous Teams," MS Degree, Dept. of Electrical Engineering, The University of Texas at Arlington, May 2015.

3. Etse Akpaibor, minority, "Voice Recognition and Control of Autonomous Ground and Aerial Vehicles," MS Degree, Dept. of Electrical Engineering, The University of Texas at Arlington, May 2015.

4. Nnennaya Udochu, female minority, "Joint Behavioral Control of Autonomous Multi-agent Systems to Improve Human-Robot Interaction," MS Degree, Dept. of Electrical Engineering, The University of Texas at Arlington, May 2015.

5. Chaitanya Rani Veeranna Gowda, female, "System Security, Threat Detection and Prevention Measures of Autonomous Systems," MS Thesis, Dept. of Electrical Engineering, The University of Texas at Arlington, May 2015.

6. Shaikh Tousif, "Physical Human Robot Interaction Using Model Reference Neuroadaptive

Control," May 2014.

7. I. Weintraub, multi-agent systems and UAV, 2011.

    Received the Air Force Summer Fellowship to work at Wright Patterson AFB with Dr. David Doman and Dr. Siva Banda, in 2011.

8. Drew Morgan, "Minirobot Designs for Swarm Motions," adviser Dr. Alan Bowling. MS Thesis,Dept. of Mechanical Eng., Univ. Texas at Arlington, May 2011.

    Received the Air Force Summer Fellowship to work at Wright Patterson AFB with Dr. David Doman and Dr. Siva Banda, in 2010.

9. Matt Middleton, "A Framework for Real-Time Fault Detection and Response in Multi-Agent Teams," MS Thesis, Dept. of CSE, Univ. Texas at Arlington, Dec. 2010.

10. Chris McMurrough, "Real Time Hardware and Software Systems for Micro Air Vehicle Flight Control Testing," MS Thesis, Dept. of CSE, Univ. Texas at Arlingtin, May 2010.

    His paper C. McMurrough, K. French, D. Doman, "Real-Time MAV Flight Control System Testbed" won the Multicore Graphical Design Achievement Award at National Instruments Week, Austin, Aug. 2009

    Received Outstanding Graduate Teaching Assistant Award, Dept of CSE, UTA, 2010.

    Received the Air Force Summer Fellowship to work at Wright Patterson AFB with Dr. David Doman and Dr. Siva Banda, in both 2008 and 2009.

11. A. Ramani, "Diagnosis and Prognosis of Electrical and Mechanical Faults Using Wireless Sensor Networks and a Two-Stage Neural Network Classifier," MS Thesis May 2008.

12. E. Stingu, "Hardware Platform for Research in Helicopter UAV Control," MS Thesis May 2008.

13. A. Patkar, "Localization in noisy environment using extended Kalman filter," MS Thesis, Dec. 2007.

14. S.B. Gorthi, "Real-Time Data Monitoring and Manipulation in Wireless Sensor Networks," MS Thesis, May 2006.

15. A. N. Das, "Data-Logging and Supervisory Control in Wireless Sensor Networks," MS Thesis, Dec. 2005.

16. K. Sreenath, "Adaptive Sampling with Mobile Wireless Sensor Networks," MS thesis, co-adviser, Dec. 2005.

    This thesis was published as a book by IET Press, London, 2011.

    This work won the Best Paper Award at IEEE International Conference on Robotics, Automation, and Mechatronics, Bangkok, Thailand, June 2006.

17. P. Ballal, "Control Structure and Decisions in Mobile Wireless Sensor Networks," MS thesis, Aug. 2005.

18. A. Bhilegaonkar, "Design and Implementation of Advanced Control Algorithms on an Electromechanical Plant for Trajectory Tracking," MS Thesis subst., May 2005.

19. S. Ramanathan, "Behavior-based vision-guided MEMS probe station with implementation in LabVIEW," MS Thesis, Aug. 2004.

20. P. Dang, "Controller for swing-up and balance of single inverted pendulum using SDRE-based solution," MS Thesis, July 2004.

21. A. Tiwari, "Design and Implementation of Wireless Sensor Networks for Condition Based Maintenance," Master's Thesis, May 2004.

22. N. Srianekkul, "Control with Nonlinearity Compensation for 2-D Flexible-Link Robot Arm," Master's Thesis Subst., Dec. 2003.

23. Chanitnan Khanthapanit, female, "Internet Based Control," Master's Thesis, May 2002.

    This thesis won the UTA ARRI Best Paper Award in 2002.

24. Murad Abu-Khalaf, "Intelligent Tracking of Geostationary Satellite Systems," Master's Thesis, Sept. 2000.

SELECTED UNDERGRADUATE STUDENTS AND AWARDS

Have advised numerous women and minority students under NSF REU funding or other funds.

1. Bella Ndabarushimana, female minority, Control of multiple autonomous aerial vehicles, 2017.

2. Michael Dakwar, Control of multiple autonomous aerial vehicles, 2017.

3. Matt Middleton, autonomous flying vehicles, UTA undergraduate student in CSE. Participated in design team that won 3rd place at the regional Robotics Challenge, 2006.

4. Chris McMurrough, autonomous flying vehicles, UTA undergraduate student in CSE. Participated in design team that won 3rd place at the regional Robotics Challenge, 2006.

5. Ziye Zhang, Univ. S. California, visiting undergraduate student, summer 2006.

6. J. Heatherly, "MEMS Sensors and Power Generation," NSF REU Scholar, BS, Aug. 2005

7. Antonio Quevedo, minority. NSF REU Scholar, 2003. His paper "Developing High Aspect Ratio MicroGrippers Using Electroplating Techniques for Robustness" was selected for presentation at the Society of Hispanic Professional Engineers Conference, Chicago, Jan. 2004.

8. Keith Francis, "Wireless Sensor Networks," NSF REU Scholar, 2003.

9. Andrew Dunn, "LabVIEW for control," 8th grade student, Oakridge School, summer 2003.

10. Joshua Small, "MEMS design," NSF REU Scholar, summer 2003.

11. Tyson Henry, "Control of mobile robot," NSF REU Scholar, summer 2003.

12. Alan Tomo, "Internet-based control of robotic systems with vision," NSF REU Scholar, summer 2002.

13. Shirin Haji-Mohammed, "Control of systems with saturation," NSF REU Scholar, summer 2002.

14. Simon Halbur, "Analysis of Wireless Systems for Sensor Networks," NSF REU Scholar, summer 2002.

15. Steve Scully. His 1999 paper on Modeling and Active Control of Vehicle Suspension Systems won the Dean of Engineering Paper Award at the UTA Symposium on Undergraduate Research.

16. Adam Floyd. His 1996 paper on Control of Complex Systems won the Sigma Xi Best Paper Award at the UTA Symposium on Undergraduate Research.

17. Antoine Langston, minority. His 1993 paper on Robotics in Construction won two awards:

the Ft. Worth City and the Texas State Student Technical Paper Awards, Amer. Soc. Civil Engineers.

18.   Nazee Barzin, female. Her paper on Discrete Event Manufacturing Systems won the UTA ARRI Best Paper Award in 1992.

19.   Margaret Hoffmann, female. Her 1992 paper on Expert Systems Control won two awards: fourth place at the IEEE Region 5 Meeting and second place in the National IEEE Industry Applic. Soc. paper contest.

SOCIETIES

(current and past member)
IEEE Societies of Automatic Control, Computational Intelligence, Industrial Electronics
International Neural Networks Society
U.K. Institute of Measurement and Control
American Institute of Aeronautics and Astronautics
Sigma Xi Scientific Research Society
American Association for the Advancement of Science
Society of Industrial and Applied Mathematics
Fulbright Association
Phi Beta Delta Honor Society for International Scholars
Sigma Pi Sigma   (physics)
Sigma Tau   (electrical engineering)
Pi Mu Epsilon   (mathematics)
Phi Kappa Phi

HONORS AND AWARDS

(Most Significant awards in boldface.)

Best Paper Awards

1. **2018 Best Paper Award**, IEEE Transactions on Energy Conversion, V. Nasirian, P. Yadav, F.L. Lewis, and A. Davoudi, "Distributed Assistive Control of Power Buffers in DC Microgrids".

2. **2018 Best Paper Award**, IEEE International Conference on Control and Automation, Hao Liu, Xiwang Dong, F.L. Lewis, Yan Wan, and Kimon Valavanis, Anchorage Alaska, June 2018.

3. **2017 Best Paper Award,** J. Control Theory and Technology, M. Abouheaf, F.L. Lewis, M.S. Mahmoud, D.G. Mikulski,

4. **2016 IEEE Power and Energy Society Prize Paper Award**, V. Nasirian, A. Davoudi, F.L. Lewis, and J. Guerrero, "Distributed Adaptive Droop Control for DC Distribution Systems."

5. **2014-2015 Best Paper Award,** IEEE Transactions on Energy Conversion, V. Nasirian, A. Davoudi, F.L. Lewis, and J. Guerrero, "Distributed Adaptive Droop Control for DC Distribution Systems"

6. **2015 Best Paper Award,** International Symposium on Resilient Control Systems, Philadelphia, Aug. 2015. V. Nasirian, H. Modares, F. Lewis, and A. Davoudi

7. **Best Application Paper Award,** Asian Control Conference, Taiwan, May 2011. C.K. Pang, J.H. Zhou, Z.W. Zhong and F.L. Lewis.

8. **Best Paper Award for Autonomous/Unmanned Vehicles,** Army Science Conf, Orlando, 29 Nov- 2 Dec, 2010. K.G. Vamvoudakis, D.G. Mikulski, G.R. Hudas, F.L. Lewis, and E.Y. Gu.

9. **Best Paper Award,** Int. Joint Conf. Neural Networks, Barcelona, July 2010. D. Vrabie and F.L. Lewis.

10. **Best Paper Award**, IEEE International Conference on Robotics, Automation, and Mechatronics, Bangkok, Thailand, June 2006. K. Sreenath, F.L. Lewis and D. Popa.

National and International Awards

Ranked by h-index at position 89 worldwide and 62 in the USA of all scientists in Computer Science and Electronics, by Guide2Research, June 2019.

H-index of 114, Citations of 62,000 on Google Scholar

John Ragazzini Education Award 2018 for writing Textbooks, PhD student mentoring, and international leadership, from American Automatic Control Council.

Liaoning Province International Science and Technology Cooperation Award 2017 China.

Liaoning China Friendship Award 2017. The highest award from Liaoning Province to foreigners.

Member, European Union Academy of Sciences, 2017

Albert Nelson Marquis Lifetime Achievement Award 2017.

Selected as a Thomson Reuters Web of Science Highly Cited Researcher, 2016.

Fellow, American Association for the Advancement of Science (AAAS), 2016

Invited Member, Chen Han Fu Award Committee, Chinese Academy of Science, 2015-2017.

IEEE Life Fellow, 2016

American Institute of Aeronautics and Astronautics Intelligent Systems Award, 2016

Fellow, National Academy of Inventors, 2013

State of Texas Regents' Outstanding Teacher Award, 2013.

Appointed as IEEE Control Systems Society "Distinguished Lecturer", 2012-2015.

IEEE Computational Intelligence Society *Neural Networks Pioneer Award*, 2012.

Visiting Scholar Fellow, Singapore Institute of Manufacturing Technology, SIMTech, A-Star, 2009-2013.

IEEE Region 5 Outstanding Engineering Educator Award, April 2010.

Benjamin Meaker Visiting Fellow, University of Bristol, U.K. March 2010. Sponsored by Dr. Guido Herrmann

Honeywell International Medal for Control Technology, U.K. Inst. Measurement and Control, 2009.

Gabor Award, Int. Neural Network Society, 2009.

Elected as Fellow, International Federation of Automatic Control (IFAC), April 2008

Appointed to Steering Committee, Centre for International Control, National University of Singapore, 2007.

Elected as Chartered Engineer, Engineering Council, U.K., July 2006.

Elected as Fellow, U.K. Institute of Measurement and Control, Nov. 2005.

Finalist, STARTech Dallas Business Plan Competition, March 2002.

Selected as Distinguished Speaker, 10th Anniversary Ceremony of Engineering Faculty, Chinese University of Hong Kong, Nov. 2001.

Elected to the New York Academy of Sciences, June 2000.

Ft. Worth Business Press, Who's Who in Manufacturing, Top 200 Leaders, 1999-pres.

Appointed as IEEE Control Systems Society "Distinguished Lecturer", 1998-2002.

Sigma Xi National "Certificate of Excellence" for UTA Chapter, as President of UTA Chapter, Oct. 1997.

Key Contributor, U.S. Small Business Administration SBIR Tibbets Award, June 1996.

Appointed to the Board of Governors, IEEE Control Systems Society, 1995-2002.

Invited Participant, National Science Foundation/Portugal 'Joint Workshop on Undersea Robotics & Intelligent Control', Lisbon, March 1995.

Engineer of the Year, Ft. Worth IEEE Section, April 1995.

Appointed to National Academy of Engineering's *'NASA Committee on the Space Station*', Jan. 1995-Dec. 1995.

Outstanding Paper Award, Dallas/Ft. Worth IEEE Control Systems Chapter, 1994.

IEEE Control Systems Society International Outstanding Chapter Award, as founding Chairman of DFW CSS Chapter, July 1994.

Outstanding Service Award, IEEE Dallas Section, Mar. 1994.

Elected to Fellow, IEEE, January 1994.

Invited Consultant-Lecturer, United Nations Umbrella Project, Warsaw, Poland, July 1991.

Moncrief-O'Donnell Endowed Chair, Automation and Robotics Research Institute, The Univ. of Texas at Arlington, Sept. 1990.

Invited Speaker, Fulbright Orientation Course for students studying in the U.S., Athens, Greece, June 1989.

Amer. Soc. Engineering Education Frederick E. Terman Award for Authors Under Forty, March 1989.

Invited to participate in the Fulbright Selection Committee for Greek Candidates, Athens, Greece, Oct. 1988.

Fulbright Fellow Award for Program of Educational Exchange Between the United States and Greece, October 1988.

Elected to Senior Member, IEEE, December 1986.

Received National Science Foundation "Research Initiation Grant," July 1982.

University Awards

Elected to UTA Academy of Distinguished Teachers, April 2012.

UTA Graduate Dean's Excellence in Doctoral Mentoring Award, 2010.

ARRI Leadership & Innovation Award, 2007.

Senior Research Fellow, Automation & Robotics Research Institute, 2005.

Elected as Charter Member of UTA Academy of Distinguished Scholars, March 2004.

Jeff Collins Best Paper Award, ARRI, Feb. 2003.

ARRI Patent Award, 2000.

UTA University-Wide Outstanding Research Achievement Award, March 2000.

ARRI Sponsored Research Award, 1999.

ARRI Best Paper Award, 1998.

ARRI Best Paper Award, 1997.

ARRI Patent Award, 1996.

University-Wide Distinguished Research Career Award, The Univ. of Texas at Arlington, April 1994.

ARRI Sponsored Research Award, Feb. 1993.

Jeff Collins Best Paper Award, ARRI, Feb. 1993.

Jeff Collins Best Paper Award, ARRI, Feb. 1992.

Halliburton Outstanding Research Award, UTA, Feb. 1992.

Monie A. Ferst Sigma Xi Faculty Best Paper Award, Ga. Tech., May 1990.

Monie A. Ferst Sigma Xi Junior Faculty Award in Engineering Research, Ga. Tech., May 1984.

Eta Kappa Nu "Outstanding Teacher Award", Ga. Tech., May 1981.

Monie A. Ferst Sigma Xi Award for Outstanding Doctoral Research in Engineering, Ga. Tech., May 1981.

Who's Who Listings

Albert Nelson Marquis Lifetime Achievement Award 2017.

VIP Listee in Marquis Who's Who in the World, Who's Who in America, Who's Who in the South and Southwest, Who's Who in Frontiers of Science and Technology, Who's Who of Emerging Leaders in America, Who's Who in Science and Engineering

Marquis Who's Who in Higher Education, Who's Who in American Education, Who's Who Among America's Teachers, Who's Who in Finance and Business.

Who's Who Among Executives and Professionals, Honors Edition, 2008.

Research Publications Who's Who in Technology Today

American Men and Women of Science, Thomson Gale.

Int. Biog. Centre, Cambridge, England, Men of Achievement, International Leaders in Achievement, International Register of Profiles, Dictionary of Int. Biography, 2000 Outstanding Scientists of the 20th Century, Twentieth Century Award for Achievement, International Man of the Year 2000/2001, Who's Who in the 21st Century.

Amer. Biog. Inst. International Directory of Distinguished Leadership, Community Leaders of America, Leading Intellectuals of the World, Great Minds of the 21st Century.

Amer. Biog. Inst Man of the Year Award, 2009.

RESEARCH GRANTS AND CONTRACTS RECEIVED

Continuously funded by NSF since 1982. Total funding, 100 grants for a total in excess of $12M. (Had 11 DoD SBIR contracts from small businesses.)

1. F.L. Lewis, Yan Wan, and Ali Davoudi," Graphical Games and Distributed Reinforcement Learning Control in Human-networked Multi-group Societies," ARO Grant, $750,000, Sept 2020-Sept 2023.

2. F.L. Lewis and Yan Wan, "Fast Autonomous Driving Decision based on Learning and Rule-based Cognitive Information," Ford Contract for 3 years, $150K. April 2019-April 2022

3. F.L. Lewis, Yan Wan, and Kyriakos Vamvoudakis, "Workshop on Distributed Reinforcement Learning and Reinforcement Learning Games," ARO grant, $30,000, April-June 2019.

4. F.L. Lewis and Yan Wan, "Heterogeneous Autonomous Networks for Sensor Optimizing Locomotion," $50,000 contract from Lockheed Martin Advanced Technology Labs, Feb.-Dec. 2019.

5. F.L. Lewis, Yan Wan, and Ali Davoudi, EAGER: Real-Time: Collaborative Research: Unified Theory of Model-based and Data-driven Real-time Optimization and Control for Uncertain Networked Systems, NSF grant, $220,000, September 2018-August 2020.

6. F.L. Lewis and Yan Wan, "Optimal Design for Assured Performance of Interactive Multibody Systems," ONR Grant, $815,000, June 2018-May 2022.

7. A. Davoudi, F.L. Lewis, and C. Edrington, "Distributed Autonomy, Resiliency, and Optimality in Naval Microgrids," ONR grant, $449,000, March 2017-Dec 2020.

8. A. Davoudi, F.L. Lewis, T. Johnson, and H. Modares, "Testbed acquisition for resilient self-organizing microgrids," Equipment only grant. ONR grant $220,000 Sept. 2016-Sept. 2017.

9. A. Davoudi, F. Lewis, T. Johnson, H. Modares, "Realizing resilient self-organizing microgrids," Equipment only. ARO grant $300,000, Aug. 2016-Aug. 2017

10. F.L. Lewis, Ali Davoudi, and Dan Levine, "New Adaptive Dynamic Programming Structures From Neurocognitive Psychology and Graphical Games," NSF grant, $370,513, August 2014-2017.

11. A. Davoudi, F.L. Lewis, and C.S. Edrington, "Organic Distributed Decision-making for Heterogeneous Energy Systems," Office of Naval Research, $225,000 (est.), 2014-2016.

12. F.L. Lewis, "Games and Learning for Cooperative Nonlinear Systems and Internal Structure of Coalitions on Graphs," US Army TARDEC Grant from US Army National Automotive Center, $81,000 grant for 1 year, Oct. 2014.

13. F.L. Lewis and Dan Levine, "Neurocognition, Controls, Efficient Communication, and Enhanced Decision for Fast Satisficing in Autonomous Military Systems," Office of Naval Research, $492,000 for 3 years, June 2013-2016.

14. S. Bogdan and F.L. Lewis, "Human-in-the-loop Control of Multi-agent Aerial Systems Under Intermittent Communication," AFOSR European Office of Aerospace Research & Development (EOARD) International Grant, $82,000 for two years, April 2013-2015.

15. D. Popa, A. Bowling. F.L. Lewis, G. Mariottini, K. Subbarao, "Rapid and Agile Software Development for the DARPA Disaster Robotics Challenge," subcontract from RE2 technologies, $182,000 for 2 years, Oct. 2012-2014.

16. D. Popa, Woo Ho Lee, M. Wijesundara, and F.L. Lewis, "NRI: Multi-Modal Skin and Garments for Healthcare and Home Robots," NSF Grant, $1.3M for 4 years, Sept. 2012-2016. Lewis share $250,000.

17. F.L. Lewis, "Adaptive Dynamic Programming for Real-Time Cooperative Multi-Player Games and Graphical Games," NSF Grant, $272,000 for 3 years, July 2011-2014.

18. F.L. Lewis and S. Das., "Undergraduate Supplement support," $16,000, May 2010, on NSF grant "Pervasively Secure Infrastructures," PI S. Das.

19. F.L. Lewis and S. Das, "Graduate Research Supplement for PhD student support," $100,000 for 3 years, July 2009-2012. NSF GRS grant on NSF grant "Pervasively Secure Infrastructures," PI S. Das.

20. F.L. Lewis, "High Performance Intelligent Controller for Systems with Unknown Dynamics," DARPA SBIR Phase I, through Signal Processing, Inc, PI Chiman Kwan, $30,000 for 6 months, June 2009.

21. F.L. Lewis, "Trust Based Collaborative Control for Teams on Communication Networks," Air Force Office of Scientific Research (AFOSR), $250,000 for 3 years, April 2009.

22. International Collaborator on "Aircraft structure health monitoring and diagnosis using intelligent active sensor network technology," $200,000, PI Chunling Du, Singapore A-Star data Storage Institute Grant, 3 years, Feb. 2009.

23. F.L. Lewis and Weijen Lee, Dept. of Energy Small Business Innovation Research (SBIR) Contract, Phase II: "Secure and Reliable Wireless Communication and Fault Diagnosis for Energy Control Systems," from SignalPro, Inc., PI Chiman Kwan, 2 year contract for $180,000, Oct. 2008-Oct. 2010.

24. F.L. Lewis, "Supervisory Control and Nonlinear Motion Control of Networked Autonomous Teams," ARO MIPR extension grant, $100,000 for 15 months, July 2008,

25. F.L. Lewis, "Adaptive Dynamic Programming for Continuous Time Systems and Networked Agents on Graphs," NSF grant, $250,000 for 3 years, July 2008.

26. F.L. Lewis and Weijen Lee, Dept. of Energy Small Business Innovation Research (SBIR) Contract, Phase I: "Secure and Reliable Wireless Communication and Fault Diagnosis for

Energy Control Systems," from SignalPro, Inc., PI Chiman Kwan, 9 mo. contract for $33,000, Jun 2007-Mar. 2008.

27. International collaborator on "Disturbance Rejection for Mobile Hard Disk Drives," Data Storage Institute, A-Star, National Univ. Singapore campus, PI J. Zhang and S.S. Ge, $250,000 for 3 years, August 2007. Lewis share $15,000.

28. International Collaborator on "Markov Jump System Theory for Collaborative Signal and Information Processing in Wireless Sensor Network," Singapore SERC Grant No: 052 101 0037, $15,000, PI Lihua Xie, Nanyang Technological University, April 2006.

29. Y. Liu, S. Das, and F.L. Lewis, "Defending Against Compromised Nodes in Wireless Sensor Networks: A Multi-Layer Security Framework," Texas ARP Program, $100,000 for 3 years, May 2006.

30. F.L. Lewis, "Adaptive Critics for Nonlinear Continuous-Time Systems," NSF grant, $240,000 for 3 years, July 2005.

31. F.L. Lewis, "Nonlinear Motion Control for DoD and Industrial Systems," ARO grant, $260,000 for 3 years, July 2005.

32. International collaborator on "Intelligent Control for Hard Disk Drives," Data Storage Institute, A-Star, National Univ. Singapore campus, PI G. Guo and S.S. Ge, $250,000 for 3 years, August 2005.

33. F.L. Lewis, "Wireless Sensor Network Development System for Security, BDA, and Biochemical Monitoring," Army Research Office DURIP equipment grant, $78,741, March 2005.

34. F.L. Lewis, "LabVIEW Applications for Wireless Sensor Networks," National Instruments, Inc., Lead User Program, $25,000, May 2005.

35. F.L. Lewis and R. Gracy, "Wireless Biochemical Toxin Sensor Network," UNT Health Science Center/UTA Joint Funding, $12,000, April 2005.

36. Internal awards from Univ. Texas at Arlington, Dec. 2004
    F.L. Lewis and H. Stephanou, "Equipment for MEMS Assembly Station," $55,000.
    J. Gadewadikar and F.L. Lewis, "Equipment for Undergraduate Teaching Laboratory," $18,750.

37. F.L. Lewis and J. Mireles, NSF Supplement- Workshop support supplement for "Bi-National Effort on Distributed Manufacturing Supervisory Control Systems," $8,000, Sept. 2004.

38. L. Holder, I. Ahmad, S. Das, F.L. Lewis, F. Lu, NSF MRI- "Acquisition of Instrumentation for Engineering Research in Advanced Security Detection Systems," $250K, Sept. 2004, 3 years.

39. J.B. Zhang et al. PIs, F.L. Lewis international collaborator co-PI, "Integrating equipment health prognostics in high value manufacturing," Singapore Science & Engineering Research Council, $28,735, Sept. 2004 for 6 months.

40. F.L. Lewis, NSF REU Supplement- Research Experiences for Undergraduates supplementary funding for "Nonlinear Network Structures for Dynamic System Control," $5,958, May 2004.

41. F.L. Lewis and J. Mireles, NSF Supplement- Workshop support supplement for "Bi-National Effort on Distributed Manufacturing Supervisory Control Systems," $9,000, Sept. 2003.

42. F.L. Lewis, NSF REU Supplement- Research Experiences for Undergraduates supplementary funding for "Nonlinear Network Structures for Dynamic System Control," $10,000, Aug. 2003.

43. F.L. Lewis and J. Mireles, "Bi-National Effort on Distributed Manufacturing Supervisory Control Systems, "NSF/CONACyT, $80,000 for 3 years, Sept. 2002.

44. F.L. Lewis, K. Behbehani, D.B. Wallace, and E. Kolesar, "GOALI- Optical MEMS-Based Sensors for Medical and Biological Applications," NSF, $235,000 for 3 years, Sept. 2002.

45. F.L. Lewis, "Nearly Optimal Solution of HJB Equation using Neural Networks: Applications to Control of DoD Systems and MEMS Assembly," Army Research Office, $200,000 grant for 3 years, Sept. 2002.

46. F.L. Lewis, "Nonlinear Network Structures for Dynamic System Control," NSF, $200,000 for 3 years, July 2002.

47. F.L. Lewis, "Summer Youth Technology Program," $5886 in Grand Prairie SER funding for Paul Selvaraj to teach kids during Summer 2002.

48. NASA Small Business Innovation Research (SBIR) Contract, Phase I:
"MEMS Wire Testing for Aging Aircraft," PI, Williams Pyro, Inc., 6 mo. contract for $14,500, Jan. 2002.

49. UTA LERR Laboratory Equipment Funds, "Lab Equipment for Microelectromechanical Systems (MEMS) Teaching and Design," $35,000, Sept. 2001.

50. UTA LERR Laboratory Equipment Funds, "Lab Equipment for Capstone Design Course in Control Engineering," $5,000, June-Aug. 2001.

51. Bell Helicopter, "Laser-Assisted Automated Machine Tool Verification System," co-PI, 6 month contract for $45,000, Aug. 2000.

52. U.S. Army Research Office DURIP Grant DAAD19-00-1-0037, "Supervisory and Motion Control for DoD and Industrial Dynamical Systems," PI, equipment grant for $75,000, March 2000.

53. Andrew Corp, " Satellite Tracking Antenna Controller Design," PI, 6 month contract for $65,700, Apr. 2000.

54. Bell Helicopter Textron, "Testbed for Laser Positioning Sensors," co-PI, 6 month contract for $83,000, June 1999.

55. UTA Centennial Funds Grant, "Equipment for Web-Based Virtual Controls Teaching Lab," PI,

1 year grant for $50,000, May 1999.

56. U.S. Army Research Office Grant DAAD19-99-1-0137, "Neural Network Control of DoD and Industrial Motion Systems," PI, 3 year grant for $210,000, March 1999.

57. NSF Grant ECS-9521673 REU Supplement:
Research Experiences for Undergraduates supplementary funding for "Neural Networks for Control of Nonlinear Dynamical Systems," $10,000, Jan. 1999.

58. U.S. Navy ONR Small Business Innovation Research (SBIR) Contract, Phase I:
"Neural Network Control of Nonlinear Systems Using Multiple Models," PI, Intelligent Automation, Inc., 6 mo. contract for $22,998, June 1998.

59. Texas ATP Award:
F.L. Lewis and J.M. Fitzgerald, "Intelligent Real-Time Control System for Industrial and DoD Motion Systems," 2 year grant for $121,523, Oct. 1997.

60. NSF Grant DMI-9724497:
"MRI Equipment for Next Generation Supervisory and Real-Time Controller for Reconfigurable Manufacturing Workcells," 3 year grant $110,091, Sept. 1997.

61. U.S. Army ARO Small Business Innovation Research (SBIR) Contract, Phase II:
"Nonlinear/Fuzzy Logic Control for Scout Active Suspension and Steering," PI, Davis Technologies Int., 12 mo. subcontract for $34,000, Sep. 1997.

62. Raytheon Electrospace Systems, Inc.:
"Assistance in the Improvement of Timing Methods for 93C-30 Real-Time Controller" co-PI, 3 month contract for $16,107, April 1997.

63. NSF Grant ECS-9521673 REU Supplement:
Research Experiences for Undergraduates supplementary funding for "Neural Networks for Control of Nonlinear Dynamical Systems," $9,996, April 1997.

64. U.S. Army ARO Small Business Innovation Research (SBIR) Contract, Phase I:
"Advanced Nonlinear and Hybrid Systems Control Technology," PI, Intelligent Automation, Inc., 6 mo. subcontract for $12,500, Feb. 1997.

65. U.S. Army ARO Small Business Innovation Research (SBIR) Contract, Phase I:
"Extension of Intelligent Sensor Based Robotic Systems Technologies," co-PI with Simis Labs, 6 mo. contract for $31,016, Nov. 1996.

66. Electrospace Systems, Inc.:
"ARRI Membership," PI, 1 year grant for $26,000, Nov. 1996.

67. Electrospace Systems, Inc.:
"Technical Assistance in Support of 93C-30 ACU Titan Application" co-PI, 1 month contract for $9,927, Oct. 1996.

68. Electrospace Systems, Inc.:
"Design Support for 6.1m Conformable Antenna Development" co-PI, 1 month contract for $10,000, June 1996.

69. Electrospace Systems, Inc.:
    "C30 Antenna Controller Tracking Estimation Algorithm Redesign" co-PI, 1 month contract for $19,500, May 1996.

70. U.S. Army ARO Small Business Innovation Research (SBIR) Contract, Phase I:
    "Hybrid Controller for Complex Weapons Systems," co-PI with Sagent Corp., 6 mo. contract for $13,000, Feb. 1996.
    The award of the SBIR contracts and the work performed under them contributed in large measure to ARRI's winning in 1996 of the National SBA Tibbets Award.

71. U.S. Army ARO Small Business Innovation Research (SBIR) Contract, Phase II:
    "Design and Implementation of Advanced Controllers for Vibratory Weapons Systems," co-PI with Simis Labs, 2 yr. contract for $180,000, Feb. 1996.

72. NSF Grant ECS-9521673:
    "Neural Networks for Control of Nonlinear Dynamical Systems," 3 year grant for $148,596, Oct. 1995.

73. Electrospace Systems, Inc.:
    "ARRI Membership," PI, 1 year grant for $26,000, Oct. 1995.

74. Electrocom Automation, Inc.
    "Engineering Services Agreement," co-PI, $15,000, June 1995.

75. Electrospace Systems, Inc.:
    "Background Study for AN-WSC-6 Antenna Positioning System," co-PI, 3 month contract for $10,000, Apr. 1995.

76. Electrospace Systems, Inc.:
    "Implementation Support for AN-WSC-6 Antenna Positioning System," co-PI, 3 month contract for $25,923, Apr. 1995.

77. U.S. Army Research Office (ARO) Small Business Innovation Research (SBIR) Contract, Phase I:
    "Design and Implementation of Advanced Controllers for Vibratory Weapons Systems," co-PI with Simis Labs, 6 mo. contract for $75,000, Feb. 1995.

78. NSF Grant DMI-9413923:
    "Equipment Development for High-Performance Robotics Intelligent Material Handling in Unstructured Environments," 5 year grant for $210,784, Sep. 1994.

79. Electrospace Systems, Inc.:
    "Hydraulic Stewart Platform Demonstration," co-PI, 3 month contract for $58,216, Aug. 1994.

80. Electrospace Systems, Inc.:
    "Modeling, Simulation, and Control of Complex Tracking Systems with Vibration," 1 year grant for $26,000, Aug. 1994.

81. Electrospace Systems, Inc.:
    "Modeling and Pointing Control of Antenna Aboard Moving Vehicle," co-PI, 3 month contract

for $43,000, Aug. 1994.

82. Electrospace Systems, Inc.:
"AN/WSC-6 Antenna Modeling, Computer Simulation, and Controls Analysis," 3 month contract for $37,930, Jun. 1994.

83. Electrospace Systems, Inc.:
"AN/WSC-6 Antenna Control," 3 week contract for $7030, May 1994.

84. NSF Grant GER-9355110:
"Graduate Research Traineeships in Robotics/Intelligent Control," 5 year grant for $557,500, Oct. 1993.

85. NSF Grant MSS-9114009 REU Supplement:
Research Experiences for Undergraduates supplementary funding for "Integrated Modelling and Control for Intelligent Material Handling," $15,000, Nov. 1992.

86. Electrocom Automation, Inc.:
"Intelligent Vision-Guided Robotic Manipulator For Paper Handling," contract for $10,400, Oct.-Dec. 1992.

87. Electric Power Research Institute:
Supplementary funding for NSF grant "A Generic Framework for Flexible Agent-Based Intelligent Control," 3 year contract for $100,000, Oct. 1992.

88. NSF Grant IRI-9216545:
"A Generic Framework for Flexible Agent-Based Intelligent Control," 3 year grant for $200,000, Oct. 1992.

89. Lockheed Aeronautical Systems Co. contract:
"Development of a Mobile Duct Painting Manipulator - Phase II," Co-PI, contract for $159,000, Sept. 1992 - Feb. 1993.

90. Lockheed Aeronautical Systems Co. contract:
"Development of a Mobile Duct Painting Manipulator - Phase I," Co-PI, contract for $94,889, July-Aug. 1992.

91. NSF Grant MSS-9211970:
"Research Equipment Grant: Robotic Systems Control Research Lab," 2 year equipment grant for $20,000, Aug. 1992.

92. NSF Grant USE-9250179:
"Undergraduate Control Experiences Laboratory," 2 year equipment grant for $23,000, July 1992.

93. Tandy Electronics, Inc.:
"Intelligent Scheduling of Material Flow in Personal Computer Assembly Plant," contract for $50,000, Mar. 1992- Mar. 1993.

94. Texas Instruments Grant:
"Modular TMS320 C30-Based Controller for the Stewart Platform," $10,000 Graduate

Student Fellowship, Oct. 1991.

95. Texas Advanced Technology Program Grant 003656-008:
     "Modular Controls and Hardware Design for Manufacturing Workstations," 2 year grant for $248,000, Oct. 1991.

96. NSF Grant MSS-9114009:
     "Integrated Modelling and Control for Intelligent Material Handling," Co-PI, 2 year grant for $350,000, Sept. 1991.

97. NSF Grant MSS-8907779:
     "Engineering Research Equipment: A Basic Hardware Configuration For Robotics Research," Co-PI, 1 year grant for $20,373, July 1989.

98. Ga. Tech. Research Inst. Internal Research Grant E904-039:
     "Research in Control System Time-Response Shaping," Co-PI, 1 year grant for $78,544, July 1989.

99. NSF Grant ECS-8805932:
     "Structure and Output Feedback in Singular Systems," 3 year grant for $200,028, Sept. 1988. *The research performed under this grant resulted in the Monie Ferst Sigma Xi Faculty Best Paper Award, May 1990.*

100. NSF Grant ECS-8518164:
     "Subspace Recursions and Structure Algorithms for Singular Systems", 2 year grant for $54,134, April 1986.

101. Georgia Tech Research Institute Project Number A-4316:
     Boeing Advanced Technology Demonstration Program, "Space Station Thermal Control System" subproject, 1 year grant for $138,485, Co-PI, Sept. 1985.

102. National Science Foundation (NSF) Research Initiation Grant (RIG) ECS-8204656:
     "Extension of Geometric System Theory to Descriptor Systems", 2 year grant for $47,237, July 1982.

103. Equipment Donations, $30K.
     Texas Instruments Equipment Grant:
     "Digital Controls Laboratory," equipment worth $10,000, Nov. 1990.
     Texas Instruments Equipment Grant:
     "Digital Controls Laboratory," equipment worth $20,000, Nov. 1991.

104. Georgia Tech Research Corporation Grants, approx. $8K.
     Travel to Greece for conference and research, $1200, Dec.1986.
     Travel to Los Angeles for helping organize IEEE Conf. on Decision and Control, $1100, Dec. 1987.
     Funding to organize "International Symposium on Singular Systems," Atlanta, GA, $4200, Dec. 1987.
     Expenses for attending American Control Conference in Atlanta, for organizing IEEE Conf. on Dec. and Control, $800, June 1988.
     Travel to Paris to attend IMACS World Congress, $1000, July 1988.

105. Georgia Tech Foundation Faculty Development Grants, approx $40K
   Development of Systems and Controls Laboratory, $1000 for equipment, Jan. 1982.
   Development of Kalman Filtering Short Course, $1500 for expenses, June 1983.
   Completion of Optimal Control and Optimal Estimation manuscripts, $10,000 for typing expenses and release time, 1985.
   Supplementary funding to accept Fulbright Award for study in Greece: $9099, Oct. 1988; $9607, May 1989.
   Funding for "International Cooperative Program in Singular Systems," $9000, Mar. 1990.

PATENTS AWARDED

1. V. Nasirian, A. Davoudi, and F.L. Lewis, "System and method for distributed control of an Electrical Network," US Patent No. 10,809,678 issued 20 October 2020. **

2. K. Vamvoudakis, D. Vrabie, and F.L. Lewis, "Control methodology for online adaptation to optimal feedback controller using integral reinforcement learning," US patent 9,134,707 issued 15 Sept. 2015.

3. B. Borovic, F.L. Lewis, A.Q. Liu, and D. Popa, "Systems and Methods for Improved Control of Micro-Electrical-Mechanical System (MEMS) Electrostatic Actuator," U.S. Patent 7,548,011, awarded 16 June 2009.

4. J. Campos and F.L. Lewis, "Method for Backlash Compensation Using Discrete-Time Neural Networks," U.S. Patent 7,080,055, awarded July 2006.

5. R. Selmic, F.L. Lewis, A.J. Calise, and M.B. McFarland, "Backlash Compensation Using Neural Network," U.S. Patent 6,611,823, awarded 26 Aug. 2003.

6. F.L. Lewis, D.A. Tacconi, Ayla Gurel, and O.C. Pastravanu, "Method and Apparatus for Testing and Controlling a Flexible Manufacturing System," U.S. Patent 6,185,469, awarded 6 Feb. 2001.

7. S. Jagannathan and F.L. Lewis, "Discrete-time tuning of neural network controllers for nonlinear dynamical systems," U.S. Patent 6,064,997, awarded 16 May 2000.

8. A. Yesildirek and F.L. Lewis, "Method for feedback linearization of neural networks and neural network incorporating same," U.S. Patent 5,943,660, awarded 24 August 1999.

PATENTS APPLIED FOR AND DISCLOSURES

1. Victor Lopez, F.L. Lewis, Yan Wan, "Bayesian control methodology for the solution of graphical games with incomplete information," U.S. Patent application no. USSN: 16/411,938, filed 5/14/2019.

2. V. Nasirian, A. Davoudi, and F.L. Lewis, "System and method for distributed control of microgrids," Patent filed, application no. 15/070,611, March 2016.

3. A. Bidram, A. Davoudi, and F. L. Lewis, "Decentralized coordination of small-footprint energy nodes," UTA disclosure number 13-06, submitted 12/01/2013.

4. J. Lin and F.L. Lewis, "Two-time scale Kalman filter for flexible system estimation," Disclosure of Invention, The Univ. Texas at Arlington, Dec. 1994.

5. K. Liu and F.L. Lewis, "Stewart platform manipulator control system," Disclosure of Invention, The Univ. Texas at Arlington, Dec. 1991.

6. F.L. Lewis, C.T. Abdallah, and D.M. Dawson, "Hardware analog control chip for robot arm," Disclosure of Invention, Ga. Tech., Atlanta, Nov. 1988.

7. V.L. Syrmos and F.L. Lewis, "VLSI implementation of the inverse of the matrix pencil (zE-A) via systolic arrays," Disclosure of Invention, Ga. Tech, Atlanta, GA, Oct. 1988.

JOURNAL EDITORIAL ACTIVITIES

(Most Significant activities in boldface.)
(Guest editor for many journal special issues- see separate list of publications.)

Editor, Trans. Inst. Measurement and Control, Great Britain, 2000-pres.

Advisory Board, Unmanned Systems, World Scientific, 2012.

Deputy Editor-in-Chief, J. Control Theory & Technology, Springer-Verlag, 2008-pres

Editorial Board, Optimal Control Applications and Methods, 2005-pres

Senior Editor, Int. Journal of Control & Decision, World Scientific, 2012.

Editorial Board, Acta Automatica Sinica, 2012.

Associate Editor, J. Defense Modeling and Simulation, Sage Press, 2010-pres

Editor for Adaptive and Intelligent Control, Automatica, 1999-2001.

North American Regional Editor, Int. J. Systems Science, Taylor & Francis, 2007-pres.

Editor-at-Large for The Americas, Journal of Intelligent and Robotic Systems, Kluwer, 2006-pres.

Associate Editor, IEEE Trans. Neural networks, Jan 2010-pres.

Associate Editor, IEEE Trans. Systems, Man, and Cybernetics, Part B, Jan 2006-July 2007.

Associate Editor, IET J. Control Theory & Applications, 2006-pres.

Associate Editor, Circuits, Systems, and Signal Processing, 1987-1995.

Advisory Editor, The Arabian Journal for Science and Engineering, Special Issue on "Control Theory and its Applications," to appear 1996.

Editorial Board, Int. J. Intelligent Control and Systems, World Scientific Press, 1995-pres.

Editorial Board, Circuits, Systems, and Signal Processing, 1995-2005.

Editorial Board, Int. Journal of Control, 1995-1998.

Editorial Board, Int. J. Intelligent Control Systems, John Wiley, 1995-pres.

Editorial Board, Neural Computing & Applications, Springer-Verlag, 1995-pres.

Editorial Board, Journal of Intelligent and Robotic Systems, Kluwer, 2000-2006.

Associate Editor, Journal of Control Theory and Applications, 2006-pres

Editorial Board, J. South China Univ. Technology, 2004-pres.

Editorial Committee, Automatic Control and Computers Section IV, Buletinul Institutului Politehnic Iasi, Romania, 2005-pres.

Editorial Advisory Board, Int. J. Advanced Robotic Systems, 2006-pres.

Review Work:
    Mathematical Reviews
    IEEE Trans. Automatic Control
    IEEE Trans. Acoustics, Speech, and Signal Processing
    Automatica
    IEEE Trans. Education
    Optimal Control Applications and Methods
    Quart. Trans. J. Dynamic Systems, Meas. and Control, ASME
    SIAM J. Algebraic and Discrete Methods
    Springer-Verlag Publishers, Inc.
    Macmillan Publishers, Inc.
    Addison-Wesley Publishing Co., Inc.
    National Science Foundation
    American Control Conference
    IEEE Conference on Decision and Control
    Etc.

VISITING PROFESSORSHIPS

City University of Hong Kong, Senior Research Fellow, August 2011.

Singapore Manufacturing & Technology Institute, A-Star SIMTech, Distinguished Scholar Professor 2009-2011, 2011-2013.

Data Storage Institute, A-Star, National University of Singapore campus, with Dr. Ong Eng Hong and Dr. Du Chunling- Aug.-2009-Aug 2011.

Singapore Manufacturing & Technology Institute, A-Star SIMTech, Visiting Research Professor, August 2008-August 2010

Data Storage Institute, A-Star, National University of Singapore campus, with Dr. Ong Eng Hong and Dr. Sam Ge- Aug.-Sept. 2006, Aug 2007.

Nanyang Technological University, Singapore, visiting Youyi Wang and Lihua Xie- Aug 2006, Jan 2008.

National University of Singapore, April 2006, with Dr. Ben Chen.

A-Star Institute for Infocom Research / Nanyang Technological University, March 2006, with Dr. Lihua Xie and Dr. Wendong Xiao.

Data Storage Institute, A-Star, National University of Singapore campus, August 2005, with Dr. Guoxiao Guo and Dr. Sam Ge.

National Univ. Singapore, Oct. 2003, with Dr. Sam Ge.

Chinese Univ. Hong Kong, with Dr. Jie Huang- March 2003, March 2004, March 2005, May 2007, Jan 2008.

Hong Kong Univ. Science and Technology, Feb-April 1996, with Dr. Zexiang Li and Dr. Xiren Cao.

CONSULTING

1.   Nanyang Technological University, Singapore, distributed control, 2015.

2.   Northeastern University, Shenyang, China, Automation and control for industrial processes, 2015.

3.   Singapore Institute of Manufacturing Technology, A-Star SIMTech, renewable energy and sustainable manufacturing, March 2012

4.   Singapore Institute of Manufacturing Technology, A-Star SIMTech, control for transshipment sorting hubs, July 2011.

5.   Nanyang Technological University, Singapore, distributed control, Jan. 2011.

6.   Singapore Institute of Manufacturing Technology, A-Star SIMTech, control for sustainable manufacturing and green engineering, May 2010.

7.   Nanyang Technological University, Singapore, distributed control, Jan. 2010.

8.   A-Star Data Storage Institute, Singapore, intelligent diagnostics & prognostics, Aug 2009, July 2010.

9.   Singapore Institute of Manufacturing Technology, A-Star SIMTech, intelligent diagnostics & prognostics, June 2008, July 2009.

10.   Nanyang Technological University, Singapore, Control of Electric Power Systems, Aug. 2007.

11.   A-Star Data Storage Institute, Singapore, analysis and design of control systems for portable hard disk drives, Sept. 2006, Aug. 2009.

12.   Nanyang Technological University, Singapore, Decision and Control in Wireless Sensor Networks, Aug. 2006.

13.   National Univ. Singapore, analysis and control of UAV helicopters, May 2006.

14.   MEMS Testing of Aircraft Wiring Systems, Williams Pyrotechnic, Inc., 2002

15.   Fuzzy Logic Compensation of Deadzones in Vehicle Active Suspension, Davis Technol. Int., 1997-1998.

16.   Implementation of Real-Time Controllers, Sagent Corp., May 1996.

17.   Simulation, Control, and Estimation for Radar Tracking, Georgia Tech Research Institute, Atlanta, GA, summer 1988.

18.   Adaptive and Multivariable Control Applications to Aircraft, Lockheed Advanced Research Organization, Atlanta, GA, 1983-1987.

19.   Network Analysis, Celulosa de Chihuahua, S.A. Chihuahua, Mexico, March 1982.

TEACHING AND COURSE DEVELOPMENT

1. **At Georgia Tech.:**
      Taught one or two graduate or undergraduate courses per quarter for 10 years. Course topics included systems theory, controls, robotics, circuits, analog devices, digital devices.

    Developed Controls Project Lab

    Participated in Undergraduate Systems & Controls Curriculum Revision

    Graduate courses developed:
        Robot Dynamics and Control
        Implicit Systems
        Large-Scale Systems
        Geometric Systems Theory

2. **At UT Arlington:**
    1990, Revised entire Controls Curriculum of School of Engineering (Committee Chair).

    Developed Undergraduate Controls Laboratory with $60,000 from 3 NSF grants.

    Undergraduate courses developed:
        Control Systems Capstone Design Project

Graduate courses developed:
        Robot Dynamics and Control
        Nonlinear and Adaptive Control
        Kalman Filtering
        Intelligent, Fuzzy, Neural Control
        Computer Methods in Control Systems Design
        Distributed Decision & Cooperative Control on Graphs

Developed WWW-based coursework, putting on the web the courses: EE 4314 Control Systems, EE 5325/4315 Robotics, EE 4343/5329 Control Systems Capstone Design Project, EE 5307 linear Systems, EE 5322 Intelligent Control Systems, EE 5329 Distributed Decision & Control.

These courses are linked to http://www.uta.edu/utari/acs/

PLENARY AND INVITED SPEAKER

1. May 2019, Invited talk, Dalian Maritime University, "Cooperative control using reinforcement learning and multiplayer games."

2. April 2019, Invited Workshop at US ARO, Washington DC, "Reinforcement learning for multiplayer games,"

3. Jan. 2019, Invited Talk, Univ Southern California, "Reinforcement learning for feedback control,"

4. Dec. 2018, Workshop on Learning for Control, IEEE Conf. Decision and Control, Miami, FL

5. Dec. 2018, Workshop on Machine Learning, IEEE Conf. Decision and Control, Miami, FL

6. May 2018, invited talk, Nanyang Technological University, Singapore, "Advances in Reinforcement Learning."

7. April 2018, invited seminar, Pacific Northwest National Labs, "Introduction to reinforcement Learning."

8. March 2018, invited talk, Nanyang Technological University, Singapore, "Reinforcement Learning for Smart Buildings."

9. February 2018, invited panel member, National Science Foundation, DC, "New methods in machine learning for feedback control."

10. Invited talk, Nanyang Technological University, Singapore, "Reinforcement learning applications in robotics," Jan. 2018.

11. Invited Lecture Series, Chulalongkorn University, Bangkok, Thailand, "Reinforcement Learning and applications in robotics and process control," Nov. 2017.

12. Invited Talk, Northeastern University, China, "Output Regulation of Heterogeneous Multi-Agent Systems," July 2017.

13. Invited Talk, Guangdong University of Technology, China, "Integral Reinforcement Learning," July 2017.

14. Invited Talk, Huazhong Univ. Science and Technology, Wuhan, China, "Human-Robot Interaction, July 2017.

15. Invited Talk, Huazhong Univ. Science and Technology, Wuhan, China, "Cooperative Optimal Control and Multi-agent Games," June 2017.

16. Invited Talk, Symp. on Autonomous Systems, South China University of Technology, "Output Regulation of Heterogeneous Multi-Agent Systems," June 2017.

17. Invited Talk, Workshop on Nonlinear Systems, Northeastern University, China, "Output Regulation of Heterogeneous Multi-Agent Systems," June 2017.

18. Invited Talk, Shanghai Jiaotong Univ., "Synchronization Control of Electric Power Microgrids," May 2017.

19. Invited Talk, Northeastern Univ, China, "Cooperative Control and Multi-agent Games," May 2017.

20. Invited Talk, Chinese Univ. of Hong Kong, "Output Regulation of Heterogeneous Multi-Agent Systems," March 2017.

21. Invited talk, Huazhong Univ. Science and Technology, Wuhan, China, "Cooperative control of electric power microgrids," Mar 2017.

22. Invited talk, NTU Singapore, Jan. 2017, "Cooperative control of electric power microgrids,"

23. Invited talk, "Reinforcement learning for Resilient Control," University of Shanghai for Science and Technology, August 2016.

24. Plenary talk, "Human-robot Interaction," Int. Conf. Intelligent control- ICIC, Langzhou, China, August 2016.

25. Plenary talk, "Reinforcement learning and multi-player games," Int. Conf. on Optimization Theory and Applications- ICOTA, Ulaanbaatar, Mongolia, July 2016.

26. Invited lecture, "Cooperative control for electric Microgrid," City University of Hong Kong, July 2016.

27. Invited lecture, "Data-driven control," NTU Singapore, June 2016.

28. Plenary Speech, "Cooperative control for electric Microgrid," World Congress on Intelligent Control and Automation- WCICA, Guilin, China, June 2016.

29. Opening Keynote Talk, "Data-driven control," Data Driven Control Conference- DDCLS, Yinchuan, China May 2016.

30. Invited Talk, Chongqing University, China, May 2016, "Data-driven control using Reinforcement Learning."

31. Invited lecture on Reinforcement Learning," NTU, Singapore, Jan. 2016.

32. Keynote Speaker, Int. Symposium on Resilient Control Systems, Philadelphia, August 2015, "Reinforcement Learning for Resilient Control in Cooperative and Adversarial Multi-agent Networks: CPS Applications in Microgrid and Human-Robot Interactions"

33. Invited Talk, Chongqing University, China, May 2015, "Data-driven control using Reinforcement Learning."

34. Invited Talk, Carnegie Mellon Pacific Campus, NASA Ames, Cal, April 2015, "Cooperative control for renewable energy microgrids."

35. Invited Talk, Chinese University of Hong Kong, 13 March 2015, "Reinforcement learning for human-robot interaction."

36. Opening Invited Speaker, Workshop on Robotics and Biotechnology, Hong Kong City University, 16 Jan. 2015, "Reinforcement learning for human-robot interaction."

37. Invited Talk, South China University of Technology, Guangzhou, China, 12 Jan. 2015, "data-driven optimization using bio-inspired reinforcement learning."

38. Invited talk, Nanyang Technological University, Singapore, 18 Dec. 2014, "Cooperative synchronization in renewable energy microgrids."

39. Plenary Speaker, Int. Conf. Advanced Mechatronic Systems, ICAMechS, Kumamoto, Japan, Aug 2014, "Data-driven control for industrial processes using natural learning processes."

40. Plenary Speaker, Int. Conf. Intelligent Computing, ICIC Taiyuan, China, Aug. 2014, "Brain mechanisms of reinforcement learning for automation & feedback control."

41. Semi-Plenary Speaker, World Congress on Intelligent Control and Automation WCICA, Shenyang, China, June 29- July 2, 2014, "Industrial process control using data-driven optimization by reinforcement learning."

42. IEEE Distinguished Lecturer, Prague, Czech Republic, Dec. 2013.

43. Distinguished Lecture, Dept. of ECE, Univ. Central Florida, Oct. 2013.

44. Plenary Speaker, IFAC Int. Conf. on Intelligent Control and Automation Science, Chengdu, China Sept. 2013.

45. Plenary Speaker, IEEE Int. Conf. on Information & Automation, Yinchuan, China, Aug. 2013

46. Opening Plenary Speaker, "IEEE CIS Neural Network Pioneer Award Acceptance Speech," Int. Joint Conf. on Neural Networks, IJCNN, Dallas, Texas, Aug. 2013.

47. Opening Speaker, Workshop on Cooperative Control, Chinese Academy of Sciences, Academy of Mathematics and Systems Science, Beijing, July 2013.

48. H.S. Tsien International Distinguished Scientist Speaker, Chinese Academy of Sciences, Institute of Automation, Beijing, July 2013.

49. Opening Plenary Speaker, Int. Conf. Intelligent Control and Information Processing (ICICIP), Beijing China, June 2013.

50. Plenary Speaker, IEEE CYBER, Nanjing, May 2013.

51. Visiting SIMTech Fellow 20th Anniversary Speaker, Singapore Institute of Manufacturing Technology, May 2013.

52. Distinguished Invited Lecture on Reinforcement Learning for Feedback Control, Chinese University of Hong Kong, 22 May 2013.

53. IEEE Distinguished Lecturer, IEEE Santa Clara Section, CA, Feb., 2013.

54. Opening Plenary Talk, Int. Conf. on System Theory, Control and Computing, Sinaia, Romania, Oct. 2012.

55. Opening Plenary Talk, IEEE Multi-Conference on Systems and Controls, Dubrovnik, Croatia, Oct. 2012.

56. Opening Plenary Talk, FIRA Robo World Soccer Congress, Bristol, UK, August 2012.

57. Plenary Talk, Conference on Industrial Informatics INDIN, Beijing, July 2012.

58. Plenary Panel Chair, Int. Symposium on Neural Networks ISNN, Shenyang, China, July 2012.

59. Faculty 20th Anniversary Distinguished Lecture, Dept. of Mechanical and Automation Engineering, Chinese University of Hong Kong, Nov. 2011.

60. Plenary Panel Chair, Int. Symposium on Neural Networks, "Future directions of neural networks," Guilin, China, May 2011.

61. Plenary Speaker, ISA, "Approximate dynamic programming and cooperative control," Wuhan, China, May 2011

62. Invited Speaker, Chinese Academy of Sciences, "Reinforcement Learning for feedback control, Beijing, May, 2011.

63. Invited Tutorial, Int. Symp. ADP and Reinforcement Learning, Paris, April 2011.

64. Plenary Speaker, IFAC Workshop on Adaptation and Learning in Control, Antalya, Turkey, August 2010.

65. Plenary Speaker, World Congress on Intelligent Control and Automation WCICA, Jinan, 6-9 July 2010.

66. Plenary Speaker, International Symposium on Systems and Control in Aeronautics and Astronautics (ISSCAA 2010), Harbin, China. June 2010.

67. Keynote Speaker, Chinese Control & Decision Conf., Xuzhou, May 2010.

68. Invited Workshop on Nonlinear and Networked Systems, Chinese Academy of Sciences, Beijing, May, 2010.

69. Keynote Speaker, Asian Control Conference ASCC, Hong Kong, Aug. 2009.

70. Semi-Plenary Speaker, IEEE CDC- Conf. Decision & Control, Cancun, Dec. 2008.

71. Keynote Speaker, Int. Conf. Intelligent Control, Shanghai, China, Sept. 2008.

72. Keynote Speaker, Int. Conf. Computer Science and Education, Kaifeng, China, July 2008.

73. Invited Workshop on Neuro adaptive control, Xiamen University, July 2008.

74. Keynote Speaker, Workshop on Petri nets and Agile Manufacturing, Xian, China, June 2008.

75. Invited Speaker, 4th IDGA Military Antennas Conf., Washington DC, 7 May 2008.

76. Invited Speaker, Annual Chinese/Swedish Control Symposium, Hong Kong, Jan. 2008.

77. Keynote Speaker, IEEE Conf. Industrial Electronics and Applications, Singapore, June 2008.

78. Plenary Speaker, International Conference on Life System Modeling and Simulation (LSMS), Shanghai, Sept. 2007.

79. Plenary Panel on Control Research and Education, Int. Conf. Control Applications, Guangzhou, May 2007.

80. Keynote Speaker, Int. Symp. Approximate Dynamic Programming and Reinforcement Learning, Honolulu, April 2007.

81. Invited Speaker, IEEE Int. Conf. Nano/Micro Engineered Systems (IEEE-NEMS 07), Bangkok, Thailand, Jan. 2007.

82. Opening Ceremony Address, Founding of International Systems & Controls Center, Xiamen University, China, July 2006.

83. Keynote Speaker, IEEE Int. Conf. Computational Intelligence Systems / Robotics, Automation, Mechatronics, Bangkok, Jun. 2006.

84. Invited speaker, Workshop on Nonlinear Control & Sensor Networks, National University of Singapore, 13 April 2006.

85. Nan Ch`ang Plenary Speaker, Xiamen University, China, 85th Anniversary Celebration, School of Information Science and Technology, 5 April 2006.

86. Keynote Speaker, Int. Joint Conf. Neural Networks, Montreal, Canada, Aug. 2005.

87. Plenary Speaker, Int. Conf. Control & Automation, Budapest, June 2005.

88. Plenary Speaker, Int. Symposium on System Structure and Control, Oaxaca, Mexico, Dec.

2004.

89. Plenary Speaker, International Symposium on Neural Networks, Dalian, China, Aug. 2004.

90. Invited speaker, Shanghai Jiao Tong Univ., Shanghai, Aug. 2004.

91. Plenary Speaker, Chinese Control Conference, Wuxi, China, Aug. 2004.

92. Invited Speaker, South China University of Technology, April 2003.

93. Invited Speaker, Harbin Institute of Technology, Shenzhen, China. Mar. 2003.

94. Sole Presenter, Workshop on Wireless Sensor Networks and Condition-Based Maintenance, National Singapore University, Oct. 2003.

95. Invited Speaker, Control Systems Lecture Series, National University of Singapore, Oct. 2003.

96. Keynote Speaker, A-Star Workshop on Complex Autonomous Systems, Nanyang Technological Univ., Singapore, Oct. 2003.

97. Opening Plenary Speaker, IEEE Int. Symp. Intelligent Control, Houston, TX, Oct. 2003

98. Invited Speaker, Mexico/US Workshop on MEMS, Puerto Vallarta, Sept. 2003.

99. Invited Speaker, National Instruments Technology Forum, Austin Texas, 12 Aug 2003.

100. Plenary Speaker, IFAC Int. Conf. Intelligent Control and Signal Proc., Algarve, Portugal, Apr. 2003.

SEMINARS AND SHORT COURSES OFFERED

1. March 11-22, 2019, Short course on autonomous systems and robotics, Hong Kong University.

2. Short Course on "Robotics and Autonomous Systems," South China University of Technology, May 2018.

3. Course on Classical Frequency Domain Design, Chulalongkorn University, Bangkok, Thailand, Nov. 2017.

4. Short Course on "Robotics and Autonomous Systems," Shanghai Jiao Tong Univ, China, July 2017.

5. Short Course on "Robotics and Autonomous Systems," South China University of Technology, May 2017.

6. Short Course on "Robotics and Autonomous Systems," Huazhong Univ. of Science and Technology, Wuhan, China May 2017.

7. Short Course on "Robotics and Autonomous Systems," South China University of Technology, Guangzhou, June 2016.

8. Short course on "Robots and Autonomous Systems," Hong Kong University, March 2016

9. Short Course on "Robotics and Autonomous Systems Modeling, Dynamics, and Control," South China University of Technology, Guangzhou, June 2015.

10. Short Course on "Intelligent Diagnostics and Prognostics," Northeastern University, Shenyang, China, Mar. 2015.

11. Workshop on Reinforcement Learning for Industrial Process Control, Singapore Institute of Manufacturing Technology, May 2013.

12. Workshop on Multi-Agent Cooperative Control, Hong Kong Univ. Science and

Technology, Aug. 2012.

13. Workshop on Cooperative Control of Multi-Agent systems, Nanjing Univ. Science and Technology, June 2012.

14. Workshop on Reinforcement Learning for Optimal Adaptive Control," IEEE CDC Orlando, Dec. 2011.

15. A-Star Singapore Institute for Manufacturing Technology, SIMTech, Singapore, "Decision & Control for multicommodity flow problems," July 2011.

16. South China Univ. Science and Technology, Guangzhou, "Cooperative Control for Networked Teams," May 2011.

17. King Fahd Univ. Petroleum and Minerals, Dhammam, Saudi Arabia, "Approximate Dynamic Programming for Control, May 2011.

18. Workshop on Student Mentoring , University of Texas at Arlington, Oct. 2010.

19. A-Star Singapore Institute for Manufacturing Technology, SIMTech, Singapore, "Decision & Control for Sustainable Manufacturing," May 2010.

20. A-Star Data Storage Institute, Singapore, "Intelligent diagnostics & prognostics for structural health monitoring," Aug 2009.

21. Adaptive dynamic programming and reinforcement learning for control applications," Invited Workshop, Int. Symposium on ADP/RL, Nashville, April, 2009.

22. Neural Network and Adaptive Control, Invited Workshop, Xiamen University, China, July 2008.

23. Decision and Control in Discrete Event Systems: Applications to Manufacturing and Wireless Sensor Networks, Singapore A-Star, June 2008.

24. Intelligent Disturbance Rejection of Portable Hard Disk Drives, A-Star Data Storage Institute, Sep. 2007.

25. Control of MEMS Micro actuators, IEEE Int. Conf. Nano/Micro Engineered Systems (IEEE-NEMS 07), Bangkok, Thailand, Jan. 2007.

26. Prognostics/Health Trend Monitoring Tutorial, Soc. Aerospace Engineering Conf, New Orleans, Nov. 2006.

27. Control of Portable Hard Disk Drives, A-Star Data Storage Institute, Sep. 2006.

28. Neural Networks for Optimal Control, Conf. for Founding of International Systems & Controls Center, Xiamen University, China, July 2006.

29. Intelligent Diagnostics & Prognostics for Machinery, A-Star Inst. for InfoCom Research, Singapore, April 2006.

30. Wireless Sensor Networks, School of Computing, National University of Singapore, Mar 2006.

31. Wireless Sensor Networks, Institute for Infocom Research, A-Star, Singapore, Mar 2006.

32. Invited lecture on Wireless Sensor Networks, in Workshop on Machine Diagnostics & Prognostics, George Vachtsevanos, Georgia Tech, Atlanta, May 2004.

33. Workshop on Wireless Sensor Networks and Condition-Based Machinery Maintenance, National Univ. Singapore, Oct 2003, Oct. 2004.

34. "Neural network design and implications of chaos," Chinese University of Hong Kong,

March 2003, March 2004, March 2005.

35. "Fuzzy logic and Neural Network Control," City University, Hong Kong, November 2001.

36. IEEE Distinguished Lecture Series:

    "Neural network control," Czech Academy of Sciences, Prague, July 1998.

    "Neural network control," Univ. Zagreb, Croatia, 1998.

37. "Fuzzy Logic Control of Nonlinear Systems," Cambridge University Lecture Series Mar. 1995.

38. "Design of Discrete-Event Manufacturing System Controllers," lecture: Ga. Tech. Distinguished Lecture Series June 1993; U.T. Dallas Workshop Dec. 1993, Cambridge University Lecture Series Mar. 1995, Hong Kong Univ. Science and Technology, Feb. 1996.

39. "Robots and Machine Intelligence in Construction," workshop: Amer. Inst. Constructors Nat. Forum, Dallas, Apr. 1993.

40. "Neural Network Control of Robots and Nonlinear Systems," 1 Day Workshop, NNACIP Conf., Mexico City, Nov. 1994.

41. "Neural Network Control of Robots and Nonlinear Systems," lecture: Ga. Tech. Distinguished Lecture Series Mar. 1993, Univ. Texas at Dallas Control Workshop Mar. 1993, Cambridge University Lecture Series Mar. 1995, Hong Kong Univ. Science and Technology, Feb. 1996, Plenary Lecture Mexico National Congress of Robotics Sep. 1997, Ft. Worth Industrial Expose Nov. 1997, UTA Seminar Feb. 1998, Southern Methodist Univ. Feb. 1998, University of Zagreb Croatia Sept. 1998.

42. "Control Applications in Manufacturing," lecture: Univ. Autónoma de Nuevo León, Monterrey, Mexico, Oct. 1992.

43. "Applications of DSP in Robotics and Control," Keynote Speech, Texas Inst. TMS320 Educator's Conf., Houston, Aug. 1992.

44. "Control of Robot Manipulators", lecture: Univ. of Patras, Greece, Dec. 1986; Univ. of Thrace, Xanthi, Greece, Oct. 1988; Int. Summer School on Modern Control Theory, Prague, Czechoslovakia, Sept. 1992; Rice Univ., April 1993.

45. "Adaptive Control", lecture: Ga. Tech., April 1985.

46. "Kalman Filtering", 2 day course: Ga. Tech. June 1983.; Univ. Texas at Arlington, May 1992, May 1993.

47. "Robust Nonlinear Control," lecture: The Univ. of Texas at Arlington, Aug. 1990.

48. "Aircraft Control," lecture: Clemson Univ., SC, March 1990.

49. "Applications of Singular Systems," lecture: Univ. of Thrace, Xanthi, Greece, Nov. 1988; SUNY Stony Brook, April, 1989.

50. "General Engineering Refresher", EIT exam 2 day course: Spring and Fall, Ga. Tech., 1982-1990.

INTERNATIONAL VISITORS HOSTED (FULLY FUNDED BY THEIR INSTITUTIONS)
Total cost for 1 visitor for 1 year is about $23,600, paid by their institutions or governments

1. Dr. Hao Liu, Beihang University, China. 2017 for 1 year
2. Yi Jiang, PhD student, Northeastern University, Shenyang, China. 2017 for 6 months.

3. Dr. Ci Chen, Guangdong University of Technology, China. 2016 for 2 years
4. Carlos Ma, PhD student, Hong Kong University. 2016 for 5 months.
5. Dr. Zhixi Shen, Chongqing University, China, 2016 for 1 year
6. Amir Parviz, PhD student, Azad University at Khoramabad, Iran. 2015 for 1 year.
7. Dr. Dawei Gong, University of Electronic Science and Technology, Chengdu, China. 2015 for 1 year.
8. Dr. Junwei Wang, Guangdong University of Foreign Studies, China. 2015 for 1 year.
9. Subramanya Nageshrao, PhD student, Delft University of Technology, Netherlands. 2015 for 1 year.
10. Dr. Yanhong Luo, Northeastern University, Shenyang, China. 2015 for 1 year.
11. Dr. Xuxi Zhang, Harbin Engineering University, 2015 for 1 year.
12. Kairui Chen, PhD student, Guangdong University of Technology, China. 2015 for 1 year.
13. Bing Cui, PhD student, Harbin Engineering University, China. 2015 for 1 year.
14. Lingling Fan, PhD student, Beijing Jiaotong University, China. 2015 for 1 year.
15. Dr. Tiedong Ma, Chongqing University, China. 2015 for 1 year.
16. Shan Zuo, PhD student, UESTC Chengdu, China, 2015 for 3 years
17. Jan Skach, PhD student, University of West Bohemia, Czech Republic. 2015 for 1 year.
18. Amirali Amiri, PhD student, Technical University of Munich. 2014 for 1 year.
19. Dr. Ruizhuo Song, University of Science and Technology, Beijing, China. 2014 for 1 year.
20. Dr. Qinglai Wei, Chinese Academy of Sciences, Beijing. 2014 for 6 months.
21. Giulio Binetti, PhD student, Polytechnic of Bari, Italy. 2012 for 1 year.
22. Sofie Haesaert, PhD student, Delft University of Technology, Netherlands. 2011 for 1 year.

SERVICE AND PROFESSIONAL ACTIVITIES

(Most Significant activities in boldface.)

National and International Activities

STOPPED KEEPING TRACK IN 2006

Member, IEEE Computational Intelligence Society, Committee on Tutorials, 2006.

Member, IEEE Computational Intelligence Society, Committee on Tutorials, 2006.

Member IEEE Control Systems Society Technical Committee on Integrated Manufacturing, July 2005.

Member, IFAC Technical Committee on Cognition and Control, March 2004.

Member, IFAC Technical Committee on Linear Control Systems, March 2003.

Member, Executive Committee, Year of Control and Automation 2000, 1999.

Member, Board of Governors, International Science and Engineering Fair ISEF'98, Ft. Worth, Texas, May 1998.

Founding Member, Board of Governors, Mediterranean Control Association, 1998.

Member, IEEE Control Systems Society Technical Committee on "Intelligent Control", April 1997- pres.

Member, Board of Governors, IEEE Control Systems Society, 1995- 2002.

Chairman, IEEE Control Systems Society 'IEEE Fellows Solicitation Subcommittee', 1996.

Chairman, IEEE Control Systems Society 'IEEE Fellows Solicitation Subcommittee', 1995.

Founding Chairman, IEEE Control Systems Society, Joint Dallas/Ft. Worth Chapter, April 1993-May 1994.

Local University Activities

Chair, EE Promotion and Tenure Committee, 2019

Chair, Systems & Controls Thrust Area, EE Dept., 2005-2019.

Chair, EE Diagnostic Exam Review Committee, 2008- 2009.

Chairman, EE Dept. Awards Committee, 2005-2007.

Member, Faculty Search Committee, EE Dept., 2004.

Member, Undergraduate Curriculum Committee, Dept. of Elect. Eng., 2000

Member, Faculty Search Committee, Dept. of Elect. Eng., 1999.

President, UTA Sigma Xi Chapter, 1996-1998

Member, EE Chairman Search Committee, UTA, 1994.

Vice President, UTA Sigma Xi Chapter, 1994-1996

Chairman, Standing Committee on the Academic Program in Control Systems, Univ. Tx. at Arlington, 1992.

Chairman, Best Paper Review Board, ARRI, Univ. Tx. at Arlington, 1991.

Member, Invention Review Board, ARRI, Univ. Tx. at Arlington, 1991-2010.

Member, Project Integration Team, ARRI, Univ. Tx. at Arlington, 1991-2010.

Member, Reappointment, Promotion, and Tenure Committee, Dept. of Elect. Eng., Univ. Tx. at Arlington, 1991-pres.

Chairman, Dean's Committee on Reapp., Promotion, and Tenure, Ga. Tech., 1988.

Chairman, Sigma Xi Best Paper Award Committee, Ga. Tech., 1988.

Member, Sigma Xi Admissions Committee, Ga. Tech., 1987-1990.

Member, Sigma Xi Best Paper Award Committee, Ga. Tech., 1987.

Member, Dean's Committee on Reapp., Promotion, and Tenure, Ga. Tech., 1987.

Member, Research Committee, School of Electrical Engineering, Ga. Tech., 1984-1990.

Member, Graduate Committee, School of Electrical Engineering, Ga. Tech., 1981-1984.

Faculty Advisor, Pi Kappa Phi Fraternity, Ga. Tech., 1981-1983.

CONFERENCE ACTIVITIES

National and International Conference Organization

Honorary Chair and Founder, International Symposium on Autonomous Systems ISAS. Founded in Guangzhou China, May 2017.

Honorary General Chair, Int. Symposium on Autonomous Systems, Shanghai, May 2019.

Honorary General Chair, Int. Symposium on Autonomous Systems, Chongqing University, May 2018.

Honorary General Chair, Int. Symposium on Autonomous Systems, South China University of Technology, June 2017.

Honorary General Chair, Int. Conf. Unmanned Aircraft Systems ICUAS 2018, Dallas, June 2018.

Honorary General Chair, Int. Conf. Unmanned Aircraft Systems ICUAS 2017, Miami, June 2017.

General Chair, Conference on Automation & Systems Engineering CASE, Ft Worth, 2016.

Regional Chair, World Congress on Intelligent Control and Automation, Shenyang, China 27-30 June 2014.

Honorary General Chair, IEEE Conf. Cyber Security, Bangkok Thailand, 28-30 May 2012.

IEEE Conf. Decision & Control, Shanghai, Dec. 2009, Industry Sponsor Chair, secured $35K in industry sponsorships from 8 companies.

Co-chair, International Symposium on Optomechatronic Technologies, Istanbul, Nov. 2009.

Co-General Chair, IEEE Mediterranean Control Conference, Thessaloniki, June 2009.

Industry Relations and Funding Development Chair, IEEE Multi Systems Conf., Singapore, Oct. 2007. Secured $15K in industry sponsorship funding.

Selected to Honorary Advisory Committee, European Control Conference, Kos, July 2007.

Advisory Committee, Int. Conf. Life System Modeling and Simulation, Shanghai, Oct. 2007.

Sponsorship Chair, IEEE Multi-Conference on Systems & Control, Singapore Oct. 2007.

General Chairman, IEEE Conference on Decision and Control, Hawaii, Dec. 2003.

Program Chairman and Organizer, International Symposium on Homeland Security, "Developing Agile Enterprises to Overcome Vulnerability," 28-30 July, 2003, at ARRI, UTA.

General Chair, ARRI / Georgia Tech Workshop on Automated Machinery Maintenance, 17 July, 2003, at ARRI, UTA.

Co-Chair, Workshop on US/Mexico MEMS Collaboration, 7 May, 2003, at ARRI, UTA.

General Chairman, Mediterranean Control Conference, Rhodes, June 2003.

General Chairman, Texas MEMS Conf., TEXMEMS 03, Arlington, TX, May, 2003.

Co-organizer, Hong Kong Symposium on Control Systems, Nov, 2001.

International Program Chairman, Int. Conf. System Structure and Control, Prague, Sept. 2001.

General Chairman, IEEE Conf. Control Applications, Trieste, Sept. 1998.

General Chairman, IEEE Mediterranean Symp. New Directions in Control Theory and Automation, Crete, June 1996.

Organizer, Symposium on Automation and Control, UTA, Dec. 1995.

Publicity Chairman, IEEE Conf. Decision and Control, New Orleans, Dec. 1995.

Program Chairman, IEEE Int. Symp. Intelligent Control, Monterey, Aug. 1995.

Program Chairman, IEEE Mediterranean Symp. New Directions in Control Theory and Automation, Cyprus, July 1995.

Program Chairman, IEEE Mediterranean Symp. New Directions in Control Theory and Automation, Crete, June 1994.

Organizer and Chairman, International Symposium on Implicit and Nonlinear Systems, ARRI, Ft. Worth, Dec. 1992.

Joint Chairman and Organizer, Second International Symposium on Implicit and Robust Systems, Warsaw, Poland, July 1991.

Organizer and Joint Chairman, ARRI Symposium on "Control of Robots and Manufacturing Systems," UTA, Ft. Worth, Tx, Nov. 1990.

International Publicity Chairman, IEEE International Conference on Control and Applications, Jerusalem, Israel, April 1989.

Finance Chairman, 27th IEEE Conference on Decision and Control, Austin, TX, Dec. 1988.

Local Arrangements Chairman, American Control Conference, Atlanta, GA, June 1988.

Organizer and Chairman, International Symposium on Singular Systems, Ga. Tech., Atlanta, GA, Dec. 1987.

Publications Chairman, 23rd IEEE Conference on Decision and Control, Las Vegas, NV, Dec. 1984.

International Program Committee Memberships

STOPPED KEEPING TRACK IN 2009

2009 IEEE International Symposium on Adaptive Dynamic Programming and Reinforcement Learning, Nashville, Mar. 2009.

IEEE Mediterranean Conf. on Control and Automation, Corsica, June 2008.

IEEE Int. Conf. Nano/Micro Engineered & Molecular Systems NEMS, Hainan, Jan 2008.

SPIE Int. Conf. Optomechatronic Technologies, Lausanne, Switzerland, Oct. 2007.

IFAC Symp. Systems, Structure, and Control, Iguacu Falls, Brazil, Oct. 2007.

Honorary Advisory Committee, European Control Conf., Kos, July 2007.

IASTED Int. Conf. Control Applications, Montreal, June 2007.

IEEE Intelligent Vehicles Symposium, Istanbul Turkey, June 2007.

Int. Conf. Control & Automation, Guangzhou, China, June 2007.

IEEE Conf. System of Systems, San Antonio, April 2007.

IEEE Int. Symp. On Approximate Dynamic Programming and Reinforcement Learning, Hawaii, April 2007.

Conf. Control, Automation, Robotics, and Vision- ICARV, Singapore, Dec. 2006.

IEEE Int. Symp. Intelligent Control, Munich, Oct. 2006.

IEEE Int. Conf. Industrial Informatics (INDIN), Singapore, August 2006.

IEEE Int. Conf. Service Operations, Logistics, and Informatics, Shanghai, June 2006.

IEEE Int. Conf. Robotics & Automation, Cybern. & Intel. Systems, Bangkok, June 2006.

IEEE Mediterranean Conf. on Control and Automation, Ancona, June 2006.

SPIE ISOT Optomechatronic Systems Control Conf., Sapporo, Japan, Dec. 2005.

Int. Symp. Collaborative Research in Applied Science, Vancouver, Oct. 2005.

Int. Symp. Neural Networks, Chongqing, China, May 2005.

Int. Conf. Control & Automation (ICCA), Budapest, May 2005.

IASTED Int. Conf. Control & Applications, Cancun, May 2005.

Int. Conf. Control, Automation, Robotics, Vision (ICARV), Kunming, China, Dec. 2004.

IFAC Symp. Systems, Structure, and Control, Oaxaca, Mexico, Dec. 2004.

Int. Conf. Informatics in Control, Automation, Robotics, ICINCO, Portugal, Aug. 2004.

IFAC Int. Conf. Intelligent Control and Signal Proc., Algarve, Portugal, Apr. 2003.

Conf. Control, Automation, Robotics, Singapore, Dec. 2002.

IEEE Int. Symp. Intelligent Control, Vancouver, Oct. 2002.

IEEE Symposium on Intelligent Systems, Bulgaria, Sept. 2002.

IEEE Mediterranean Conf. Control and Automation, Lisbon, July 2002.

Int. Conf. Control and Automation, Xiamen, China, June 2002.

Int. Conf. Comp. Intelligence and Robotics, Singapore, Nov. 2001.

IFAC Conf. New Technologies for Computer Control, Hong Kong, Nov. 2001.

IFAC Workshop on Advanced Fuzzy/Neural Control, Valencia, Spain, Oct. 2001.

IEEE Mediterranean Conf. Control and Automation, Dubrovnik, June 2001.

IEEE Conf. Decision and Control, Sydney, Australia, Dec. 2000.

World Conference on Systems, Athens, Greece, July 2000.

IEEE Int. Symposium on Intelligent Control, Patras, Greece, July 2000.

IEEE Conf. Control Applications, Hawaii, Aug. 1999.

Int. IMACS Conference on Circuits, Systems, and Computers, Athens, July 1999.

Mexican International Symposium of Robotics and Automation, Saltillo Coahuila, Mexico, Dec. 1998.

IEEE Int. Symposium on Intelligent Control, NIST, Gaithersburg, MD, Sept. 1998.

Int. Symposium on Automatic Control and Computer Science, Iasi, Romania, Nov. 1998.

"Int. Conf. Circuits, Systems, and Computers," Hellenic Naval Academy, Piraeus, Greece, Oct. 1998

IEEE Int. Symposium on Intelligent Control, Gaithersburg, MD, Sep. 1998.

IEEE European Workshop on Computer-Intensive Methods in Control, Prague, Sep. 1998.

IEEE Mediterranean Conf. Control and Automation, Sardinia, Jun. 1998.

European Robotics, Intelligent Systems, and Control Conf., Athens, Jun. 1998.

IEEE Conf. Computational Eng. in Systems Applications, Tunisia, April 1998.

IFAC Workshop on Architectures for Real-Time Control, Cancun, Mexico, Apr. 1998.

Year of Control and Automation 2000, Oct. 1996.

Int. Symp. on Artificial Intelligence, Cancun, Mexico, Nov. 1996.

IEEE Int. Symp. Intelligent Control, Dearborn, MI, Sep. 1996.

Workshop on Modeling, Simulation, and Control Technologies for Manufacturing, organizer Ron Lumia, SPIE Int. Symp. Intelligent Systems and Advanced Manufacturing, Philadelphia, Oct. 1995.

Int. Symposium on Automatic Control and Computer Science (SACCS), Iasi, Romania, Oct. 1995.

Int. Joint Conf. of NAFIPS/IFIS/NASA, San Antonio, Dec. 1994.

IEEE Conf. Decision and Control, San Antonio, TX, Dec. 1993.

Third Int. Conf. Industrial Fuzzy Control and Intelligent Systems (IFIS), Houston, Dec. 1993.

IEEE Mediterranean Symp. New Directions in Control Theory and Applications, Crete, July 1993.

IEEE Conf. Decision and Control, Tucson, Dec. 1992.

Second IFAC Workshop on System Structure and Control, Prague, Czechoslovakia, Sept. 1992.

IFAC Workshop on System Structure and Control, Prague, Czechoslovakia, Sept. 1989.

Session Organization and Chair

STOPPED KEEPING TRACK IN 2006

G, Vachtsevanos and F.L. Lewis, Session on "Autonomous Air Vehicles," Mediterranean Conf. Control and Automation, Ancona, June 2006.

Co-organizer, Session on "Neural Network Control for Industrial Systems," IEEE Conf. Decision and Control, Sydney, Dec. 2000.

Co-organizer, Workshop on "Petri Nets in Industrial Automation," IFAC World Congress, San Francisco, June-July, 1996.

Chairman, Session on "Manufacturing Systems," IEEE Conf. Decision and Control, San Antonio, TX, Dec. 1993.

Chairman, Session on "Neural Networks," IEEE Conf. Decision and Control, San Antonio, TX, Dec. 1993.

Chairman, Session on "Control of Flexible Link Manipulators," IEEE Conf. Robotics and Automation, Atlanta, May 1993.

Organizer and Co-Chairman, Session on "Advanced Control Issues for Robot Manipulators, ASME Winter Annual Meeting, Anaheim, Nov. 1992.

Chairman, Session on "Linear Multivariable Systems," American Control Conf., Chicago, June 1992.

Organizer and Joint Chairman, Session on "Control of robots and industrial processes," 13th IMACS World Congress, Dublin, July 1991.

Member, Panel Discussion on "Implicit Systems," European Control Conference, Grenoble, France, July 1991.

Co-Chairman, Session on "Descriptor and Interconnected Systems," 29th IEEE Conference on Decision and Control, Honolulu, Dec. 1990.

Organizer and Joint Chairman, Invited Session on "New Directions in Implicit Control Systems," 29th IEEE Conference on Decision and Control, Honolulu, Dec. 1990.

Chairman, Session on "Robot Control," 28th IEEE Conference on Decision and Control, Tampa, FL, Dec. 1989.

Organizer and Chairman, Invited Session on "Singular Systems," IFAC Workshop on System Structure and Control, Prague, Czechoslovakia, Sept. 1989.

Co-Chairman, Invited Session on "Recent Advances in Theory and Applications of Singular Systems," American Control Conf., Pittsburgh, PA, June 1989.

Organizer and Joint Chairman, Invited Session on "Singular Systems," Conf. on MTNS, Amsterdam, June 1989.

Co-Chairman, Session on "Adaptive Control," 27th IEEE Conference on Decision and Control, Austin, TX, Dec. 1988.

Organizer and Joint Chairman, Invited Session on "Computational Methods for Singular Systems," 12th IMACS World Congress, Paris, July 1988.

Co-Chairman, Session on "Stochastic Systems and Control," ACC, Atlanta, GA, June 1988.

Organizer and Joint Chairman, Invited Session on "Singular Systems," 26th IEEE Conference on Decision and Control, Los Angeles, CA, Dec. 1987.

Chairman, Session on "Singular Systems," 25th IEEE Conference on Decision and Control, Athens, Greece, Dec. 1986.

Organizer and Joint Chairman, Invited Session on "Generalized State Space Systems," 23rd IEEE Conference on Decision and Control, Las Vegas, NV, Dec. 1984.

Co-Chairman, Session on "Pole-Placement Design," ACC, San Diego, CA, June 1984.

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