



## **PROFESSIONAL CV**

**OF**

**MO JAMSHIDI, Ph.D., DEng. (h.c.)**

Fellow-IEEE, Fellow-ASME, Fellow-AAAS, Associate Fellow-AIAA, Fellow-NYAS, Fellow-TWAS (Academy of Science of Developing Nations), Foreign Fellow Hungarian Academy of Engineering

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Revised in September 2009

### **PRESENT POSITIONS:**

- Lutcher Brow Endowed Chair, Department of Electrical and Computer Engineering, University of Texas, San Antonio, TX, USA (University of Texas System Position)
- Founding Director, Center of Autonomous Control Engineering - ACE, 1995-present (UNM 1995-2006, UTSA 2006-present).
- UK Royal Academy of engineering Distinguished Fellow, Cardiff University, Cardiff, Wales, UK
- Regents Professor Emeritus of Electrical and Computer Engineering, University of New Mexico, Albuquerque, NM USA, 2006- present.
- AT&T Professor Emeritus of Manufacturing Engineering, University of New Mexico, Albuquerque, NM USA, 1989-present.
- Chairman, International Consortium on System of Systems Engineering ([icsos.org](http://icsos.org)), 2006-present.
- General Chairman, World Automation Congress and former ISRAM - International Symposium on Robotics and Manufacturing (<http://wacong.org>), 1986- present

- General Chairman, International Conference on System of Systems Engineering, (<http://ieeessose2009.org>), 2006- present

#### **MANAGEMENT POSITIONS:**

- Director, Autonomous Control Engineering Center, University of Texas, San Antonio, 2006-present (supervising 20 students and 1 staff)
- Founding Director, International Consortium on System of Systems Engineering (icsos.org), 2006-present, an industry-academia partnership at global level with close collaboration with Governments and Military, run as a not-for-profit corporation on campus of University of Texas, San Antonio.
- Founding Director, Autonomous Control Engineering Center, University of New Mexico, Albuquerque, NM, 1995-2006, (supervising 35 students and staff, annual expenditure ~ \$ 2 ML)
- Founding Chair, Establishing Committee of Manufacturing Engineering Program, University of New Mexico, Albuquerque, NM, 1986-88, currently with a \$ 2 ML per year with 2 accredited degree programs.
- Director, CAD Laboratory, University of New Mexico, Albuquerque, NM, 1984-1995.
- Director, University Computing Center, Pahlavi University, Shiraz, IR, 1973-1975. Upgraded and established 2 generations of IBM mainframe computers with responsibilities for all University affairs on the computer (payroll, academic affairs, libraries, purchasing, etc.)
- Director, Hybrid Computing Laboratory, L, University of Illinois at Urbana-Champaign, IL, 1970-1971
- Founding Chairman and Founding Editor of 4 conferences, 2 congresses and 3 journals, including the *IEEE Control Systems Magazine* and *IEEE Systems Journal* and Annual IEEE International Conference on System of Systems Engineering since 2006.

#### **OTHER MAJOR ACTIVITIES:**

- Co-Founder, TSI Enterprises, Inc., Albuquerque, NM USA (<http://tsipress.org>) , established in 1980, specializing in educational tools, publishing and conference management.
- Founding Director, University of New Mexico CAD Laboratory for Intelligent and Robotic Systems, 1984 - 1995.
- Co-Founder, Students Scholarship Fund, Inc., of Albuquerque, NM USA (a US IRS - 501C non-profit Corporation, co-founder: Lotfi A. Zadeh) Specializing in raising funds for needy graduate students in science and engineering around the world. (<http://wacong.org>)
- Editor-in-Chief, *International Journal of Computers and Electrical Engineering*, Elsevier, UK (1989 - present)
- Editor-in-Chief, *International Journal of Intelligent Automation and Soft Computing*, TSI Press, US (2002 -- present)
- Co-Editor-in-Chief, *International Journal of Control and Automation*, InterScience Publishers, England (2006-present)
- Founding Editor-in-Chief, *IEEE Systems Journal*, 2006-present ([systemsjournal.org](http://systemsjournal.org))

- General Chairman, IEEE International Conference on Systems, Man and Cybernetics, Big Island, Hawaii, USA, Oct. 10-12, 2005 (<http://ieeesmc2005.unm.edu>).
- Vice President, IEEE Systems, Man and Cybernetics Society, 2003- 2006.
- Board member, IEEE Systems, Man and Cybernetics Society, 2006-2008
- Board member, IEEE Systems Council, 2006- present.

**IMMIGRATION STATUS:**

US Citizen

**DATE OF BIRTH:**

May 10, 1944

**EXECUTIVE SUMMARY:**

Major Contributions: Jamshidi has a recognized record of engineering contributions in modeling, optimization, CAD & control of large-scale systems - LSS. Seeds of his work were planted with his graduate research at the University of Illinois. In 1969 at Illinois, he formalized an approach to modeling, model reduction & optimal control of LSS. Exploiting plant parameter variations, multi time-scale nature and plant variables sensitivity with respect to parameters of physically hybrid systems, e.g. electro-mechanical (later applied it to electro-optics, electro-hydraulic, robots, mechatronics, etc.), he formalized a systematic multi-stage design approach making control of LSS possible. He cemented this approach 14 years later with the publication of his seminal book on LSS, known as the "First Textbook" of the field. By then he extended the approach to time-delay, bilinear, stochastic & discrete-time systems. This book was translated into 5 languages and adopted in over 55 nations and is still being used as a text. Since 2006 he has concentrated on the extensions of LSS to System of Systems Engineering (SoSE) in theory and applications to national and homeland security, renewable energy, and robotic swarms in the air (UAVs), sea (submarines) and land rovers. He has 63 books in print and another 540 published works. His latest books are on SoSE subject.

Mo Jamshidi has had over 42 years of engineering career spanning from academics in US and overseas, US Government service (25 years, part-time) to work in the industry (USA and France, for a combined period of 4 years) on to entrepreneurship and philanthropic efforts at international level. In technical research and development he has contributed globally to the field of large-scale complex systems and system of systems and their applications and integration with various control and modeling paradigms, including intermixing control theory and intelligent paradigms of artificial intelligence, which is known as autonomous control.

As an engineering academician, he has graduated 35+ Ph.D. and 41+ MS students and has supported and overseen the graduate education of an additional 60 students at the ACE Center through NASA-funded grants and agreements. Among these 120 graduate degrees he has advised or mentored about 54 (45%) are from America's ethnic minorities. In addition, he helped create an undergraduate research program, called PURSUE (Performing University Research for Students in the Undergraduate Education, <http://pursue.unm.edu>) which has

mentored over 850 additional undergraduate students on another NASA supported contract at the University of New Mexico and partnership with high schools, 2- and 4-year colleges and universities. He has over 600 publications, which includes 61 books and edited volumes. His funded research amounts to approximately US \$ 18.2 ML in a span of 25 years.

### **MAJOR ACTIVITIES FOR US GOVERNMENT:**

Mo Jamshidi has been active for US Government in many major programs for nearly 25 years:

1. Researcher at US Air Force Research (formerly Weapons or Phillips) Laboratory (1984-90), working on Model-Reference Adaptive Optics for the Strategic Defense Initiative (SDI), Kirtland AFB, NM, USA. This work was later considered for the first generation adaptive optics on the Hubble Telescope.
2. Consultant with Department of Energy Oak Ridge National Laboratory, Oak Ridge, TN. Work was done on modeling, decentralized and adaptive control strategies of next generation nuclear breeder reactors, calibrated at Idaho National Laboratories.
3. Member of NASA JPL Advisory Committee on the Mars Pathfinder Project, 1992-1995. As Advisor to this program, he proposed behavior-based control strategies for the rover on the Mars surface.
4. Founded the Center for Autonomous Control Engineering (ACE) in 1995 with a Cooperative Agreement from NASA Code EU. To date the ACE Center under his leadership and support has graduated 65 minority MS and 18 minority Ph.D. students.
  - o In February 1997 he organized the inaugural NASA University Research Centers Technical Conference (URC\_TC 97) in which the Honorable Dan Goldin the former NASA Administrator and the Honorable Pete Dominica the then US Senate ranking member of the Senate Budget Committee were the two Honorary Co-Chairs. Over 400 scientists and technologists and managers attended this 3-day meeting. This conference was a cornerstone in making a statement on the quality of USA's Minority Institutions Research in Science and Technology to both NASA Personnel, many other scientists and technologists outside of NASA. The NASA Administrator called the meeting a "*knockout*". The Honorable NASA Administrator took the book and CD ROM Proceedings of this meeting to the floor of the US Senate.
  - o He was a member of the review committee for NASA's Review Board for Planetary Surface Systems. In this capacity, he helped direct NASA's future R&D efforts on the autonomy in space, through autonomous and semi-autonomous unmanned missions, 1999-2001.
5. Asides from Oak Ridge National Laboratory, he has consulted with DOE Los Alamos National Laboratory and Sandi National Laboratories and DOE Headquarters Office of Renewable and Energy Efficiency for 6 years in the span of 1988 till 2004.
6. From 1997 to 2003 he was a member of the NASA HQ minority businesses utilization (MBRAC) committee, overlooking all the contracting relations between minority and women-owned businesses and Prime contractors NASA-wide. He represented a Hispanic serving institution on the Board. The Board advised NASA on close to \$1.4 BL program.

7. During 2001-2003 he led a national team on the applications of robotics for energy efficiency of 10 US "Industries of the Future," for DOE HQ. His report is now on DOE Web site ([http://www.eere.energy.gov/industry/sensors\\_automation/tools.html](http://www.eere.energy.gov/industry/sensors_automation/tools.html)). Summary of his study will be part of the Call for Proposals: at DOE HQ.

## **MAJOR TECHNICAL CONTRIBUTION AND PATENTS:**

Mo Jamshidi is known around the world for many scientific and technical contributions, especially for his pioneering works on Large-Scale Systems - Modeling, Computation, Computer-Aided Design, Optimization and Applications. Currently he is expanding his 30-year experience on complex systems in the realm of "*System of Systems*" Engineering with applications in energy systems, national security and private enterprises. Among past and present achievements are the following:

1. He helped develop an environmental-economic dispatch of electric power systems methodology for coal-fired power plants in 1976 at IBM T. J. Watson Research Center, Yorktown Heights, NY. His approach is being used by many utilities (including the TVA) to avoid air pollution while meeting the power demand. The approach is a major research trend of EPRI - Electric Power Research Institute.
2. He helped design adaptive control architecture for multi-aperture telescope systems at US Air Force Phillips Laboratory as an IPA (Inter-Personnel Act) Professor. His approach was patented at US Air Force and the approach was used to reconstruct images for the Humble Telescope Project and Strategic Defense Initiative.
3. He helped create a fuzzy logic PI controller for environmentally friendly refrigeration systems and transferred the technology to a small New Mexico Company. The units are now being manufactured and sold nationwide.
4. He has guided and now receiving a US Patent (# 5,590,246) for a fuzzy logic video printer for creating quality prints from video. The technology is now producing two commercial products - SmartPhotoLab© (<http://ace.unm.edu/spl>) and SmartPhotoCard© for color image printing from the Internet or other sources as well as enhancing the quality of color film printing.
5. He published a book on large-scale systems in 1983 and its revised new edition in 1997, which was translated in 4 languages and used in all continents, and over 55 countries have used it as a textbook in 5 languages.
6. He has graduated 34+ Ph.D. and 41+ MS electrical, mechanical and computer engineering students and has supported and overseen the graduation of an additional 83 Ph.D. and MS students from America's Ethnic Minorities. Over 45% of Mo Jamshidi's MS and Ph.D. students have been members of USA's ethnic minorities. He initiated an innovative student research/teaching teaming concept, called the VI-P® Model (Vertically Integrated Projects, <http://ace.unm.edu>), which is now a nationally recognized and adopted by numerous institutions in the United States.
7. He chaired the New Mexico Statewide and City-Industry-level committee to establish the Manufacturing Engineering Program and the University of New Mexico with fiber optics links to a sister university - New Mexico State University and the subsequent Master of Manufacturing Engineering Degree, 1985-87. The program has now graduated many

- MEng. Students and now has a multi-million dollar research and training center, headed by a colleague hired in early 1990's. This program led to a major grant from AT&T, when Jamshidi was designated as the AT&T Professor of Manufacturing Engineering in 1989.
8. In 1984, he spent several months at GM Technology Center, Warren, MI working on modeling and control paradigms of a new car engine. The engine later on was the one chosen for GM's new Saturn Sedans.
  9. Currently, he has 2 more pending patents on:
    - a. MRI Images clustering and pattern recognition and
    - b. A new neuro-fuzzy clustering approach to satellite imagery and applications in remote sensing, medicine, etc.

## **MEDIA AND PRESS COVERAGES**

- **WOAI (NBC)** ... November, 2006; **KSAT (ABC)** December 2006; **PBS** (all 13 Texas stations and all Texas Senior High Schools coverage), throughout 2007-2008; **FOX News** (San Antonio and Houston) November 2007; **FOX News** January 2008; **KSAT (ABC)** January 2008; **KENS (CBS)** May 2008 (Great Day SA, live show)
- His contributions to America's Ethnic Minority education has been covered in national magazines like *Outlook on Hispanic Education* (2002, 2006) and many newspapers in NM and TX.
- His research work has been on local and regional TVs, and radios including ABC, CBS, FOX, NBC, and PBS in New Mexico.
- He has been covered in many Newspapers and TV and radio programs in foreign countries like New Zealand, Australia, United Arab Emirates, Iran, Bahrain, Saudi Arabia, South Africa, Tunisia, etc.

## **EDUCATION AND DEGREES:**

<b>Institution Name and Address</b>	<b>Date(s)</b>	<b>Degree/Program</b>
Queens College, Flushing, NY	2/63-6/63	English Proficiency
Oregon State University, Corvallis, OR	9/63-6/67	BS Electrical Engr.
University of Illinois, Champaign-Urbana, IL	9/67-6/69	MS electrical Engr.
University of Illinois, Champaign-Urbana, IL	6/69-2/71	Ph.D. electrical Engr.
IBM Watson Research Center, Yorktown Heights, NY	9/75-4/77	Post-Doctoral Fellowship

Azerbaijan National University, Baku, AZB	6/1999	Honorary Doctorate degree
University of Waterloo, Waterloo, Canada	6/2004	Hon Doc of Engr. degree
Technical University of Crete, Greece	12/2004	Honorary Doctorate degree

**WORK EXPERIENCE:**

<b>Employer</b>	<b>Duration</b>	<b>Position</b>	<b>Accomplishments</b>
Cardiff University, Wales, UK	Summer 2009	Distinguished Fellow, UK Royal Academy of Engineering	Lecture Series in UK and N. Ireland
Universidad de Politechnic de Madrid, Spain	Summer 2008	Distinguished Visiting Professor of UPM	Lectures and Workshop at UPM
Univ. of Texas San Antonio, TX	2006-present	Lutcher Brown Endowed Chair, Electrical & Comp Engr.	Research & Education
Univ. New Mexico	2006-present	Regents Professor Emeritus	Research & Education
Univ. New Mexico	2000-2006	Regents Professor	Research & Education
Hong Kong Poly. Univ.	2/2002-3/2002	Visiting Professor	Research & Education
Singapore Nat. Univ.	3/2002	Visiting Prof.	Research & Education
NATO	Summer 1999	Distinguished NATO Professor	Lecture Series in Portugal in Machine Intelligence
Univ. New Mexico	1995-2006	Director ACE Center	Executive & Managerial
CNRS, Toulouse (French NSF)	8/94-7/95	Dir de Recherch Assoc. du CNRS	Research & Education

Siemens Automotive Toulouse, France	12/94-5/95	Consultant	Intelligent Auto Mechanisms and Accessories
NASA, JPL & HQ	4/92-12/95 2/98-12/03	Advisor & Special Gov. Employee	Mars Pathfinder Mission & Min. Business-Prime Relations (MBRAC)
USAF Research Laboratory	4/88-2/90 10/201- Present	Senior Research Advisor	Work on Adaptive optics Diagnostics & Prognostics
Oak Ridge National Lab.	7/88-2/92	Consulting & Training	Large-Scale Complex Systems
Univ. Virginia	1/88-6/88	Visiting Professor	Robotics Training
George Washington Univ.	8/87-6/88	Dist. Visiting Professor	Research & Education
IBM Inf. Prod. Div Boulder, CO	5/82-8/83	Advisory Engr. & Consultant	Copiers Print head Electronics analysis
GM Tech Center Warren, MI	5/84-8/84	Visiting Scientist	Research & Training
IBM Inf. Prod. Div Boulder, CO	5/82-8/83	Advisory Engr. & Consultant	Copiers Print head Electronics analysis
Univ. New Mexico Albuquerque, NM	8/79-5/80	Visiting Professor	Research & Education
Shiraz University Shiraz, Iran	7/77-7/79	Professor of EE	Research & Education
Tech Univ. Denmark Lyngby, DK	4/77-7/77	Chaired Professor of Energy Systems	Research & Education
IBM Watson Res Ctr. Yorktown Heights, NY	9/75-4/77	IBM World Trade Fellow	Environmental & Water Resources Res.

University of Stuttgart Stuttgart, Germany	6/75-9/75	DAAD Professor of System Engr.	Research & Education
Shiraz University Shiraz, Iran	9/71-6/75	Assist. & Assoc. Professor of EE	Research & Education
University of Illinois Urbana, IL	1/71-9/71	Research Associate (Postdoctoral fellow)	Research Administration

### **PROFESSIONAL SOCIETIES, HONORS AND ACADEMIES MEMBERSHIPS:**

- Fellow, IEEE (for contributions to large-scale systems and applications), 1989
- Fellow ASME (for contributions to robotic and manufacturing systems), 1999.
- Fellow, AAAS - American Association for the Advancement of Science (for contributions to complex systems control and optimization), 1998.
- Fellow, TWAS - Third World Academy of Sciences, 1995.
- Fellow, Hungarian Academy of Engineering (for contributions to computer-aided control of Large-scale systems design), 1999.
- Fellow, New York Academy of Sciences, 2004
- Adjunct Professor, Deakin University, Australia, 2006-present
- Member, Russian Academy of Nonlinear Sciences, 2000
- Honorary Chaired Professor, Deakin University, Deakin, Vic., Australia, 2001
- Honorary Doctor of Science, Azerbaijan National University, Baku, AZR, 1999
- Honorary Doctor of Engineering, University of Waterloo, Canada, 2004
- Honorary Doctor of Engineering, Technical University of Crete, Greece, 2004
- Winner, College of Engineering Outstanding Researcher of the Year, UNM, 1993.
- Member "US National Academy of Science's NRC Comm. on Manufacturing Engr.
- US National Academy of Engineering Task Force on Aeronautical Engineering
- US National Research Council Review Board - DOE and Ford Foundation, 2001-present
- Member - IFAC Group on Large-Scale Systems
- Member - Numerous IFAC and other Conferences and Symposia Program Committees
- Winner four years of tuition scholarship at Oregon State University -1963-67
- Winner of General Electric College Bowl Scholarship - Oregon State Univ.- 1966-67
- Winner, full fellowship, University of Michigan - 1969 (not used)
- Eta Kappa Nu Electrical Engineering Outstanding Sophomore - 1965
- Phi Kappa Phi Junior Honor Student - 1966
- Member Eta Kappa Nu Electrical Engineering Honor Society - 1966
- Member Tau Beta Pi Engineering Honor Society - 1966
- Member Sigma Tau Engineering Honor Society - 1966
- Member Phi Kappa Phi General Scholarship Honor Society - 1967,
- Member Sigma Xi Scientific Research Society - 1980
- Recipient - IEEE CENTENNIAL Medal 1984
- Recipient - IEEE Control Systems Society Distinguished Member Award - 1985
- IEEE Control Systems Society MILLANEUM awardee , 2000

- Honorary Chaired Professor, Nanjing Aeronautical University Nanjing, P. R. China
- Honorary Chaired Professor, Xia'n Institute of Technology Xia'n. P. R. China
- Honorary Chaired Professor, East China Industrial Institute, Nanjing, P. R. China
- IEEE Norbert Weiner Distinguished Research Award, 2005
- IEEE SMC Society Distinguished Contribution Award, 2006
- Awarded as a Distinguished Alumni in Engineering at Oregon State University (<http://enr.oregonstate.edu/oregonstater/2006/MohammadJamshidi.html> ) in 2006.
- The Royal Academy of Engineering Distinguished Visiting Research Fellow, UK, Summer 2009
- Member, Fellowship Review Board, US-Vietnam Education Foundation, 2009-present
- Member, Department of Defense Committee on System of Systems Engineering, 2009-present
- UK Royal Academy of engineering Distinguished Fellow, Cardiff University, Cardiff, Wales, UK, 2009-2010

### **EDUCATIONAL PROGRAM DEVELOPMENT, TEACHING, AND NEW COURSES:**

- M. Jamshidi has been teaching for over 33 years.
- He helped establish an undergraduate program on Computer Science and Engineering program in 1973 at Shiraz (formerly Pahlavi) University, Shiraz, IR.
- From 1984 to 1986, he was the chair of the Manufacturing Engineering MS Program at the University of New Mexico, collaborating with New Mexico State University (Las Cruces, NM) when he helped create MS in Manufacturing Engineering. Today, that program has had many graduates and is affiliated to a center called MTTC - Manufacturing Technology Training Center, with multi-million dollars funding, headed by a colleague from Mechanical Engineering Department with 2 accredited degree programs.
- He has taught the following courses during his tenure:
  1. Electric circuits and networks
  2. Numerical Analysis
  3. Computer programming languages
  4. Classical control systems
  5. Digital control systems
  6. Optimization techniques
  7. Optimal control systems
  8. Large-scale systems
  9. Robotics - From Fundamentals to advance topics
  10. Computer-aided Robotics
  11. Computer-aided design of control systems
  12. Fuzzy logic and engineering applications
  13. Intelligent control systems
  14. Intelligent systems
  15. Artificial Intelligence
  16. Linear systems
  17. Advanced Fuzzy Logic Control Systems
  18. Modern Control Systems

19. Autonomous Control Systems
20. System of Systems Engineering
21. Intelligent System of Systems Engineering
22. Network Control Systems

**STUDENTS EVALUATION** - His students' evaluation mark, when applicable in his career at UNM, has been within the range of 4.9 to 6.0 (out of 6.0). His teaching effectiveness has gained him three honorable mentions from the students associations and printed in the University's Daily Students Newspaper Daily Lobo. Many times, even though he has sufficient funding to release himself from teaching all together, he insists on teaching at least one course per semester to stay in touch with young men and women seeking a worthwhile higher education.

Below, are some students' comments on his teaching capabilities and style:

UNM:

"Very approachable, always make himself available  
Willing to answer questions, helpful, knowledgeable  
Enthusiastic, biggest motivator I have seen at UNM  
One of the best professors I have ever had  
Easy to talk to and unassuming person  
Friendly, knowledgeable and fair  
Graded fair, gave us second chance  
Projects and presentations were very rewarding experience  
Cared if we understand  
Best professor I have had at UNM"

University of Texas, SA:

"Both in the class and out of class, you were always more than willing to help me with any problem I had," ... "I do not think I will ever forget the wonderfully challenging course that you gave us think last spring." Thank you for teaching at UTSA and thank you for so kindly helping me on my journey to become a physician."

#### **VISITING OVERSEAS STUDENTS**

1. Ben Horan (PhD at Deakin University, Co-advisor, Ph.D. completed in 2008, 6 months visit at UTSA, 2006)
2. Matthew Joordens (PhD at Deakin University, Co-advisor, Ph.D. to be completed in 2009, 14 months visit at UTSA, 2008-2009)
3. Anjan Kumar Ray (PhD at Indian Institute of Technology, Co-advisor, Ph.D. completed in 2009, 6 months visit at UTSA, 2008)
4. Sami Al-Abrabbuh (BS at King Fahd University of Petroleum and Minerals, Saudi Arabia, July – October 2008)

5. Luis Vega (MS at CIVESTA, Mexico, visit in Spring 2009, Co-advisor, MS to be completed in 2010)

6. Aleksander Jevic (PhD at Universidad Polytechnic de Madrid, Co-advisor, Ph.D. to be completed in 2010, 3 months visit at UTSA, Fall 2009)

M. Jamshidi has developed 9 new courses at UNM (1980-2005) and UTSA (2006-present):

- Large-Scale Systems (EECE 545, 3 credit hours) first taught as EECE 595 in spring, 1980. A graduate-level course developed to provide students with a background and knowledge of an important class of systems - large-scale systems. New modeling and control philosophies are given in this course. To go with the course, a new text on this area was written which is now the standard textbook on large-scale systems throughout the world. The book has been translated and reproduced in 4 foreign and English languages.
- Computer-aided Robotics (EECE 444, 3 credit hours) first taught as in fall 1988. A senior-level course developed to provide students with a different background and knowledge of robotics, i.e. a computer-aided approach. Classical subject such as kinematics, dynamics, control, trajectory planning, and sensing are covered and the CAD packages are used extensively.
- Fuzzy Logic with Engineering Applications (EECE 548, 3 credit hours, cross listed with CE 548) first taught as CE 548 by Professor T. J. Ross. A graduate-level course developed to provide students with a background and knowledge of fuzzy logic and applications in engineering systems.
- Intelligent Systems (EECE 595-008, 3 credit hours) first taught as EECE 595-005 in spring, 1989. A graduate-level course developed to provide students with a background and fundamental correlation on expert systems, neural networks, and fuzzy logic. Several applications are also covered.
- Advanced Fuzzy Logic Control Systems (EECE 595, 3 credit hours) a graduate-level course on fuzzy logic clustering, pattern recognition and control.
- Autonomous Control Systems (EECE 595, 3 credit hours) a graduate level course on the applications of computational intelligence for design fuzzy logic clustering, pattern recognition and control.
- System of Systems Engineering (EECE 595, 3 credit hours) a graduate level course on the applications of complex systems and their formulations in the framework of system of systems. Applications are covered in national security, military, space, information technology, etc.
- Introduction to System of Systems Engineering (ECE 5243, 3 credit hours) a graduate level course on the architecture, modeling, simulation, control and applications of system of systems engineering. Applications are covered in national security, military, space, information technology, etc.
- Network Control Systems (EC 5243, 3 credit hours) a graduate elective course on the application of ad hoc wireless network fro sensor feedback, actuator signal transmission, stability of NCS as a function of network-induced delays, control of time-delay systems, real implementations.
- Renewable Energy Systems (EC 5243, 3 credit hours, offered in Spring 2010) an undergraduate /graduate elective course on the principles of renewable energy, marketing,

price dynamics, smart grids, wind turbines, solar power systems, interoperability and cyber security issues and cost-benefit aspects of renewable energy projects.

#### **INTERNATIONAL PROFESSIONAL CONFERENCES:**

1. General Chairman, First Iranian Congress in Electrical Engineering, May, 1974, Shiraz, IR
2. Registration Chairman, IEEE Conf. Decision and Control (CDC), 1980.
3. General Founding Co-Chairman, 1st ISR (International Symposium on Robotics) - Nov., 1986, Albuquerque, NM, USA
4. General Chairman, 2nd ISR (International Symposium on Robotics) - Nov., 1988, Albuquerque, NM, USA
5. Chairman, Symposium on Circuits, Systems, and Information, May, 1990, Los Angeles, CA
6. General Chairman, 3rd ISRAM (Int. Symposium on Robotics and Manufacturing) - July, 1990, Vancouver, BC, Canada
7. Publication Chairman, 4th American Nuclear Society Topical Meeting on Robotics and Remote Systems, 1991, Albuquerque, NM, USA
8. General Founding Co-Chairman, 1st Int. Congress on Environmentally Conscious Manufacturing, September, 1991, Santa Fe, NM, USA
9. Chairman, Symposium on Fundamentals of Discrete-Time Systems (A meeting in honor of Professor Eli Jury), June 1992, Chicago, IL.
10. General Chairman, 4th ISRAM - November 1992, Santa Fe, NM, USA
11. General Co-Chairman, 2nd Int. Congress on Environmentally Conscious Design and Manufacturing, 1993, Washington, DC, USA
12. General Chairman, 5th ISRAM and 1st World Automation Congress - WAC, August 1994, Maui, HI, USA
13. General Chairman, 2nd WAC - World Automation Congress, May 1996, Montpellier, France
14. General Chair - Inaugural NASA University Research Centers Technical Conference, URC-TC '97 (Honorary Co-Chairs: The Honorable Dan Goldin, NASA Administrator and the Honorable Senator Peter Dominici, R-New Mexico), Albuquerque, NM, USA, February 14-16, 1997.
15. Program Chairman, 1997 IEEE Robotics and Automation Conf., April 1997, Albuquerque, NM, USA
16. General Chairman, 3rd WAC - World Automation Congress, May, 1998, Anchorage, AK, USA
17. General Chairman, 1st ACE – NASA PURSUE Student Conference - APSC '99, Univ. of New Mexico, April 19-20, 1999, Albuquerque, NM
18. General Chairman, 4th WAC-World Automation Congress, June 11-16, 2000, Maui, HI, USA.
19. General Chairman, 5th WAC-World Automation Congress, June 9-13, 2002, Orlando, FL, USA.
20. General Chairman, 6th WAC-World Automation Congress, June 28-July 1, 2004, Seville, Spain
21. General Chairman, IEEE International Conference on Systems, Man and Cybernetics, Big Island, Hawaii, USA, Oct. 10-12, 2005 (<http://ieeesmc2005.unm.edu>).

22. General Chairman, 2006 IEEE International Conference on System of Systems Engineering, April 24-26, 2006, Los Angeles, CA, USA.
23. General Chairman, 7th (20th Anniversary) WAC-World Automation Congress, July 25-28, 2006, Budapest, Hungary (wacong.org)
24. General Chairman, 2007 IEEE International Conference on System of Systems Engineering, April 24-26, 2006, San Antonio, TX, USA ([ieeesose2007.org](http://ieeesose2007.org))
25. General Chairman, 8th WAC-World Automation Congress, September 28 – October 1, 2008, Waikoloa, Hawaii, USA (wacong.org)
26. General Chairman, 2008 IEEE International Conference on System of Systems Engineering, June 1-5, 2008, Monterey, CA, USA ([ieeesose2008.org](http://ieeesose2008.org))
27. General Chairman, 2009 IEEE International Conference on System of Systems Engineering, June 1-3, 2009, Albuquerque, NM, USA ([ieeesose2009.org](http://ieeesose2009.org))
28. General Chairman, 9th WAC-World Automation Congress, September 19 – 23, 2010, Kobe, Japan (wacong.org)

## TECHNICAL REVIEWER

1. National Science Foundation
2. *IFAC J. Automation*
3. *Computers & Electrical*
4. *IEEE Trans. Sys. Man. Cybernetics*
5. *Intelligent and Robotic Systems*
6. *Robotic Systems*
7. *IEEE Trans. Automatic Control*
8. *IEEE Transactions on Fuzzy Systems*
9. *IEEE Trans. Robotics and Automation*
10. Canadian Research Council (NSERC)
11. *ASME J. Dynamic and Control*
12. *IEEE Control Systems Magazine*
13. American Control Conference
14. IEEE Conf. Decision and Control
15. IFAC World Congress
16. *Robotics & CIM Journal*
17. *Robotica Journal*
18. *Journal of Intelligent and Fuzzy Systems*
19. *Journal of Intelligent and Robotic Systems*
20. *Journal of Robotic and Autonomous Systems*
21. *Journal of Intelligent Manufacturing*
22. World Automation Congress
23. *Journal of Intelligent Automation and Soft Computing - AutoSoft*
24. IEEE International Conference on Robotics and Automation
25. IFAC International Conference on Large-Scale Systems
26. IEEE Conf. on Sys. Manufacturing and Cybernetics
27. Fuzzy Days Conference, Dortmund, Germany
28. NASA Surface Systems (Rover) Technology

29. NASA Office of Equal Opportunity (Code EU)
30. State of Texas University System
31. University of Bridgeport (Conn.) Computer Science Doctoral Program
32. North Carolina A&T State University, Chair of PhD Review Committee
33. University of United Arab Emirates, Al-Ain, UAE
34. University of Bahrain, Bahrain
35. Georgia State University, USA
36. University of Sharjah, UAE
37. American University of Beirut, Lebanon
38. DOE Idaho Laboratory
39. DOE HQ Office of Renewable Energy and Energy Efficiency
40. IEEE Transaction on System, Man and Cybernetics, Part A
41. IEEE Systems Journal
42. Indian Institute of Technology – Kanpur, India
43. Indian Institute of Technology – Rorkee, India
44. National University of Singapore, Singapore.

## **EDITORIAL ASSIGNMENTS OF PROFESSIONAL JOURNALS**

1. Associate Editor - *IFAC J. Automatica*, Pergamon Press, UK, - (1976-1990).
2. Founding Editor, Editor of *IEEE Control Systems Magazine*, NY, NY (1980-1984).
3. Editor-in-Chief, *Computers and Electrical Engineering - An International Journal*, Elsevier Publishing Company, Oxford, UK, (1989-present)
4. Associate Editor, *J. Large-Scale Systems* and later *Information and Decision Technologies*, North Holland, Amsterdam (1978-1989).
5. Associate Editor, *ASME Manufacturing Review*, ASME Press, NY (1990-1993).
6. Editorial Advisory Board, *J. of Intelligent and Robotics Systems*, Kluwer Academic Publishers, Dordrecht, The Netherlands (1987-2007).
7. Editorial Advisory Board, *Int. J. Control and Computers*, ACTA Press, Canada (1985-Present).
8. Editorial Advisory Board, *Encyclopedia of Physical Sciences and Technology*, Academic Press, San Diego, CA (1986 - present).
9. Editorial Advisory Board, *Electrosoft*, Computational Mechanics Publications, Dorchester, UK (1989 - 1992)
10. Associate Editor (1974-79) and Member of the editorial board, *Iranian Journal of Science & Technology* (1984-Present).
11. Series Editor, *ASME Press series on Robotics and Manufacturing - Recent Trends in Research, Education, and Applications*, New York, NY, 1986-1996.
12. Series Editor, *Prentice Hall Series on Environmental and Intelligent Manufacturing Systems*, Upper Saddle River, NJ, 1991-1998.
13. Regional Editor, *Scientia Iranica - International Journal of Sciences and Technology*, Sharif University of Technology Press, IR (1992-present).
14. Co-Editor-in-Chief, *International Journal of Environmentally Conscious Design and Manufacturing*, ECM Press, (1991-1994)

15. Founding Co-Editor-in-Chief, *International Journal of Intelligent and Fuzzy Systems - Applications in Engineering and Technology*, Wiley & Sons, New York, and IOS Press, Amsterdam, the Netherlands, (1992-present)
16. Series Editor, *Intelligent Automation and Soft Computing*, TSI Press, Albuquerque, NM (1994-Present).
17. Consulting Editor, *Encyclopedia of Life Support Systems - EOLSS*, UNESCO, Paris, France, 1994-1998.
18. Chairman, International Advisory Board, *Journal of Intelligent Automation and Soft Computing - AutoSoft*, AutoSoft Press, Albuquerque, NM (1994-Present).
19. Advisory Board Member, *International Journal on Soft Computing*, Springer Verlag, Germany, (1996-2002).
20. Editor-in-Chief, *Intelligent Automation and Soft Computing Journal*, (Official Journal of World Automation Congress), TSI Press, San Antonio, TX, USA, (2002-present)
21. Editorial Board Chairman, *Intelligent Computing for Medical Sciences and Image Processing, icmedejournal.org*, (Official Journal of International Forum on Biomedicine and image processing – IFMIP), TSI Press, San Antonio, TX, USA, (2007-present)

**UTSA ANNUAL STUDENT CONFERENCE** Since 2006, we have launched an annual research conference at UTSA for Engineering, Science and Business students. These conferences have been welcomed by students from engineering and science disciplines. Deans of both Science and Engineering and Associate Dean of Academic Affairs of Engineering (Dr. M. Shadaram) have been among supporters of this event. SwRI (via Mr. Walt Downing, Executive VP) is the primary industrial sponsor and supporter of this event from the beginning. Every element of these conferences from general chair, program chair, and finance chair on to award chair are all students from doctoral level to undergraduates.

**MINORITY STUDENTS RECRUITMENT** During the past 4 years or so, several student groups have been set up with undergraduate and graduate minority and majority students at ACE Laboratory. Jamshidi has helped educate 65 MS and 20 Ph.D. students at ACE Center (NM and Texas) since 1984. Jamshidi was featured in a national magazine -- in *Outlook on Hispanic Education*, pp. 19-21 under the title of “Mo Jamshidi – Big Thinker with a Big Heart”, by Tony and Alison Martinez on January 9, 2006. Jamshidi has used an innovative approach to educating minorities, called VI-P® (vertically-integrated projects, see Figure below), at UTSA from the very beginning.

## **COMMITTEE ASSIGNMENTS AT UTSA**

Member, DFRAC, ECE Department tenure and promotion committee, 2006-2009

Chair of search committee for 3 junior positions, 2007-2009.

Member, Special Session of DFRAC, Civil Engineering Department tenure and promotion committee, 2008

Member, CFRAC, College of Science promotion and tenure, 2007-2008

Chair of Department Graduate Studies Committee, responsible for all graduate admissions, reports to graduate School and Dean’s office and coordinate biannual qualifying exam (2007-2009)

Member, UFRAC (All university promotion and tenure committee), UTSA, 2008-2010

Member, UTSA Scholarship Committee, 2008-2010

Began establishing a Personal UTSA Scholarship Fund for ECE Department, 2006 – present

### **INTERNATIONAL TRAVEL AND SPEECHES:**

Mo Jamshidi has traveled to nearly 90 countries, many of the engagements as invited keynote speaker at national and international conferences. His books are housed in special sections of libraries in many parts of the world. Latest invitation is European Union's systems and control conference, October 5-7, 2009, Brussels, Belgium.

### **INTERNATIONAL AGREEMENTS AND RELATIONS**

Our effort has connected UTSA with Institutions in all continents except for Africa.

**IIT – Kanpur** This relationship started with a trip of COE Dean to Indian Institute of Technology, Kanpur (among the top Institutions in India). Control engineering professors at IIT-K came to attend IEEE SoSE Conference in 2007. The relation strengthened by a visit of a doctoral student from IIT-K to the Laboratory and subsequent co-advisorship of Jamshidi for that particular student. The student graduated from IIT-K in June of 2009. In 2008 a joint proposal between the Laboratory and similar group of Prof. L. Behera led to a grant from INDO-US science and technology Forum for a workshop on SoSE (approved funding at \$ 45K). This workshop will be held in Kanpur on October 26-28, 2009 with 8 top US and 15 Indian top scientists attending. Proceeds of this workshop will be published by CRC Taylor & Francis Publishers. The doctoral student has graduate at IIT-K in June 2009.

**Deakin University** – In summer of 2006 Deakin University Vice Chancellor designated Jamshidi as an honorary professor and approved a grant to visit there for 4 weeks. Deakin University approved 2 visits of 6 and 13 months of their doctoral students to the Laboratory. These visits led to 2 graduations of Ph.D. degrees based on their research works at UTSA.

**Cardiff University**, Wales, UK - I currently share an honorary position as UK Royal Academy of Engineering Distinguished Fellow for 2009-2010. Cardiff University's Manufacturing Engineering Center has welcomed SoSE technology and plan to send a visiting PhD student to ACE Laboratory at UTSA.

**University of East London** – Upon my IEEE SMC Lecture in London at UEL this summer, their Computing School is planning to prepare an agreement with UTSA to send their students to visit ACE Laboratory.

**University of Ulster**, Derry, N.I., UK - Upon my UK-RAE Lecture at Ulster, in Northern Ireland, this summer, their Intelligent Systems Center is also planning to prepare an agreement with UTSA to send their Ph.D. students to visit ACE Laboratory.

**Universidad de Polytechnic de Madrid** (UTSA-UPM Agreement signed) - Upon my Summer 2008 Lectures at UPM their Image Processing and DSP Laboratory has chosen to join our Consortium and currently we are hosting one of their Ph.D. students at ACE Laboratory.

**CINVESTAV** – Guadalajara, Mexico (UTSA-CINVESTAV – Mexican National Research Center group official agreement signed). This agreement was formalized by UTSA Administration and the first exchange was an MS student visited ACE Laboratory for 7 months. His research was consisted of a quad-rotor helicopter design.

### **SCIENCE CITATIONS:**

The research work has been cited a total of approximately 5,000 times in the publications since 1984.

### **RESEARCH FUNDING:**

Mo Jamshidi has been the principle investigator or co-principle investigator of several research grants, contracts and cooperative agreements in the US. Among his funding agencies one can name NASA, Department of Defense (US Air Force and DARPA), Department of Energy (Sandia National Laboratories, Los Alamos National Laboratory and Oak Ridge National Laboratory), National Science Foundation, IBM Corporation, General Motors Corporation, AT&T Corporation, Siemens Corporation (France) among others. The total research funding he has brought in at the University of New Mexico is approximately US \$ 18 ML from 1983-2004. Detailed list is given below.

### **FUNDED RESEARCH GRANTS AND COOPERATIVE AGREEMENTS:**

1. Principal investigator for over \$18 million from various agencies since 1983. A partial list follows:
2. 1983 - \$55,000 Funding acquired from: IBM Information Products Division (Modeling and design of print head electronics of laser printers). Student support: 1 Ph.D.
3. 1984 - \$99,000 Funding acquired from: GM Research Laboratories (Automobile engine modeling and simulation), US Air Force Weapons Laboratory (Phase-array telescopes), UNM Office of Research (establishment of CAD Laboratory). Student support and release time: 1 MS, 1 Ph.D. 15% release time.
4. 1985 - \$93,000 Funding acquired from: US Air Force Weapons Laboratory (Phased-array telescopes), Digital Equipment Corporation (optimal pixel location of gray-level images), and Lockheed Corporation (Identification of STAR-LAB project). Student support and release time: 2 MS, 1 Ph.D., 20% release time.
5. 1986 - \$67,000 Funding acquired from: US Air Force Weapons Laboratory (Phased-array telescope), SYSCON Corp. (AI use in character recognition). Students' support and release time: 1 MS 20% release time.
6. 1987 - \$54,000 Funding acquired from: US Air Force Weapons Laboratory (An Adaptive Control of Phased-array Telescopes). This research produced one US Air Force patent. Student support and release time: 1/2 time Ph.D. and 20% release time. This work lead to a US Air Force Disclosure.
7. 1988 - \$84,000 Funding acquired from: Sandia National Laboratories (Intelligent control of a robotic gripper). US Air Force Weapons Laboratory (Simulation environment for Phased array imaging telescopes). Student support and release time: 3 MS
8. 1989 - \$150,000 Funding acquired from: US Air Force Weapons Laboratory (Phased-Array Imaging Telescopes), Sandia National Laboratories (Neural Networks-based control of

- robot manipulators), and Oak Ridge National Laboratories (Control and simulation environment for nuclear reactors). Students' support and release time: 3 MS, 3 Ph.D., 20% release time.
9. 1990 - \$214,000 Funding acquired from US Air Force Weapons Laboratory (Modeling of Phased-array imaging telescopes), Sandia National Laboratories (Control and teach pendant design of an Adept II robot), Oak Ridge National Laboratory (Simulation and control of nuclear reactors). Canadian Research Council (Robotics and manufacturing education and research evaluations). Student support and release time: 3 MS and 3 Ph.D.
  10. 1991 - \$268,000 Funding acquired from US Air Force Phillips Laboratory (Image restoration by optimization), Sandia National Laboratories (Adaptive force Control of an Adept II robot. Simulation and control of nuclear reactors, intelligent control of robot manipulators), US Air Force Office of Scientific Research (Research on imaging telescopes), Los Alamos National Laboratory (Fuzzy control of chemical process control systems) Student support and release time: 3 MS and 4 Ph.D., 10% release time.
  11. 1992 - \$89,000 Funding acquired from NASA Jet Propulsion Laboratory (Primary PI for NASA's initial minority students graduate research program, other co-PIs are T. Ross, Civil Engr., G. Starr, ME, C. Abdallah and D. Peterson, EECE, and R. Colbaugh, ME-NMSU) Student support: 2 MS and 1 Ph.D.
  12. 1993 - \$13,000 Funding acquired from WERC Waste Education and Research Consortium (Co-PI with R. D. Colbaugh, NMSU) Research on fault-tolerant robotics Student support: 2 Ph.D., partial.
  13. 1992 - \$50,000 Funding acquired from Polaroid Corporation Research on fuzzy control of a video printer Student support: 1 Ph.D. The work lead to a US Patent in 1996.
  14. 1995 - \$6,400,000 Funding acquired from NASA to establish Center for (5-year grant) Autonomous Control Engineering - ACE, Student support to graduation to date: 65 MS and 17 Ph.D. Minority Students (see <http://ace.unm.edu>)
  15. 1996- \$165,000 Funding acquired from WERC (Co-PI with N. Vadiiee). Research (2-year grant) on intelligent control of environment clean-up: 2 MS students
  16. 1996- \$35,000 Funding acquired from University of New Mexico Development Fund (1-year grant) of a fuzzy logic film printing unit, 1 MS and 1 PhD students
  17. 1997- \$76,000 Funding acquired from Montana State University (NSF) (3-year grant Applications of a fuzzy logic to power systems transient stability, 1 PhD student
  18. 1998- \$2,490,000 Funding acquired from NASA for Undergraduate (5-year grant) Research for Space Applications (Co-PI. D. Kauffman). Funds has supported over 250 undergraduate research students (see <http://pursue.unm.edu>)
  19. 1999- \$26,000 Funding acquired from University of Arizona (1-year grant) (Prime for DARPA) for Applications of Discrete-Event Systems to Autonomous Robotic Agents
  20. 2000- \$1,070,000 Funding acquired from NASA Cross Enterprise (NRA) (3-year grant) for Stochastic Learning Automata and Intelligent Approaches to Multi-Physics Modeling
  21. 2001 - \$6,000,000 Funding acquired from NASA to continue URC-2 Program (5-year grant) Autonomous Control Engineering - ACE, Proposed schedule is for 50 MS and Ph.D. Minority Students (see <http://ise.unm.edu>).
  22. 2002- \$ 160,000 Funding acquired from US Air Force Research Laboratory (2 years) Diagnostic and Prognostics of Hardware Systems via Neural network Paradigms
  23. 2003- \$ 22,000 Funding acquired from Missile Defense Agency (1/2 year) Diagnostic and Prognostics of Laser Borne Systems

24. 2004 - \$ 30,000 Funding acquired from DOE Headquarters via Oak Ridge National Laboratory (2 years)

Applications of robotic Manipulation in Efficient Energy Consumption of 10 US industries of the Future

25. 2004 \$ 65,000 Funding acquired from US Air Force Research Laboratory (1 year) Diagnostic and Prognostics of Hardware Systems via neural network Paradigms

26. 2006 \$ 250,000 Funding from University of Texas System, Austin, Texas to build ACE at UTSA, San Antonio, Texas.

27. 2006-present \$ 200,000 Lutcher Brown Endowment Fund, Mobile Robotics and Anti-Terror Technology.(Progress of this work has been featured on NBC and FOX Affiliates in October 2006 in San Antonio and Houston, TX) and was on PBS in 2007 in Austin, Texas.

28. 2008 \$ 45,000 INDO-US Workshop on System of Systems Engineering, held in Kanpur, India, October 26-28, 2009.

29. 2009, \$30,000 MedPod Corporation Foundation, Donation for Research in Environmental Systems, 2009-2011.

30. 2009, \$80,000, WorldCar Foundation, Donation for Research in Green energy Systems, 2009-2011.

31. 2006, \$ 90,000, IEEE, Headquarters of the IEEE Systems Journal. 2006-present

**Subtotal Funding - \$18,650,000**

#### **EQUIPMENT GRANTS:**

Funding agencies: IBM, AT&T, National Semiconductor, DEC, Polaroid, and UNM Foundation.

1984 - 1993 \$210,000 Equipment Grants: Assorted new equipment (DEC terminals, industrial Robot, Adept-II Robot, AT&T workstations, computers, video printer, camera, etc.).

2006 \$ 45,000 BEI Technology – Sensor equipment, UTSA.

**Total Grants and Equipment \$18,280,000 (1983-2006)**

#### **MS THESES AND PhD DISSERTATIONS SUPERVISED:**

Jamshidi has supervised (or co-supervised) or currently supervising the following 40 MS theses and 33 Ph.D. dissertations since 1984.

**Master of Science Theses: (\*\* minority Student)**

1. "Hierarchical model and structural properties of large-scale energy systems" - Thierry Portas, 1985.
2. "Sun tracking by peak power positioning for photovoltaic concentrator arrays" - Daniel A. Pritchard, 1986.
3. "Hierarchical control of time-delay discrete-time systems" - Jane M. Brideau, 1987.
4. "Optimization of large-scale non-linear systems with time-delay" - C.-M. Wang, 1988.
5. "Software engineering design of linear control systems" - Robin S. Morel, 1989.
6. "On the computational aspects of Kalman filtering" - Tom C. Yenn, 1990.
7. "Software engineering design and analysis of multivariable control systems" - Gerald L. Schotik, 1990.
8. "The design of device independent and system independent computer application packages" - John T. McGuffin, 1990.
9. "On the computer aided robust decentralized control design of a five-axis robot" - Chung-Shi Tseng, 1991.
10. "Robot-S: An interactive design and simulation language for robot manipulators," Steven R. O'Neill, 1991.
11. "On the connection-based control architecture for robot manipulators" - William Horne, 1992.
12. "Modeling and control of an optical phase array imaging telescope with a wide field of view" - Joseph A. Meinhardt, 1993.
13. "A MATLAB-based ToolBox for robot manipulators" - William Honey, 1992.
14. "Modeling and control of fuzzy control systems with applications to industrial systems" - Denis Barak, 1993.
15. "Adaptive Optics System Control Using Linear Quadratic Methods" - Scott Peterson, 1993.
16. "Nonlinear and fuzzy control of electric power systems" - Elli Kristjansson, 1993
17. "Applications of fuzzy logic to stock markets and financial planning" - Douglas Miller\*\*, 1993
18. "Fuzzy Control of Automotive Engines Idle Speed," A. Martinez\*\*, 1993.
19. "Adaptive fuzzy control of electric power systems" - Huimin Xue, 1994.
20. "A control approach for laser guidance systems" - Steve Baugh\*\*
21. "A software environment for risk assessment " - Jay Bhata (Co-advisor: S. Heger), 1996
22. "Fuzzy control of multi-stage flash desalination systems" - Finnur Olafsson (LAAS-CNRS, France), 1995
23. "Fuzzy control of complex systems using rule hierarchy and sensory fusion" - Jasper Bruinzeel (LAAS-CNRS, France), 1995.
24. "On the stability of fuzzy logic control systems" - Ali Jadbabaie, 1997.
25. "Intelligent simulation for cooperative robots" - Olivier Pages (INSA France), 1997.
26. "Fuzzy Logic Image Enhancement of Film Printing" - Aly El-Osery, 1998
27. "SoftLab© - Neural network applications" - Daniel Aznar (INSA, France), 1998
28. "Intelligent control of electric power systems" - Remi Lecointe (INSA, France), 1999
29. "SoftLab© - Neurcomputing and Adaptive Fuzzy systems" - Francois Lhomme (INSA, France), 1999
30. "Intelligent navigation of mobile robots" - Tanya Lippincott\*\*, 1999
31. "Numerical Solutions of Dynamic Mode Inverse Kinematics Problem for Robotic Manipulators," X. Zhu (Mechanical Engineering), 2000

32. "Dynamic Modeling and Optimal Control of Satellite Arrays," A. Rommel (University of Seigen, Germany) 2001
33. "Fuzzy Control of Water Desalination Systems," V. Vakipuram, 2002
34. "Fuzzy Control of Electric Power Systems," Y. Lu, 2002
35. "Stability of Fuzzy Control Systems with Application to Power Systems," S. Murali, 2002
36. "Fuzzy logic applications of mobile rovers," S. Sheikh-Bahaei, 2003
37. "A virtual discrete-event simulation and modeling of intelligent agents," Prasanna Sridhar, 2003.
38. "A genetic algorithm optimized fuzzy control of intelligent agents," Shan Xia, 2004.
39. "Predictive control of intelligent agent systems," Alireza Naddaf, 2004.
40. "Intelligent Navigation of All-Train Rovers," Umesh Dole, 2004.
41. "Simulation of a Spacecraft Electrical Power Distribution System Using the Simulink Power System Block set and Soft Computing Techniques," Scott Beatty, 2005.
42. "Autonomous control and sensor fusions of robotic agents," Vikraman Raghavan, 2007.
43. "Underwater communication among Rovers," Kranthi Manooj, 2009
44. "Design and Simulation of a DC Thruster Motor," Srujana Eega, 2009
45. "Design and implementation of autopilot for UAVS," Jose Gomez, 2009
46. "Analysis, design and implementation of UAV's and ground stations," Aldo Jaimes, 2009
47. "Swarm robotics via Network Control," Peyman Ghazi, 2009

#### **Doctor of Philosophy Dissertations (\*\* minority Student)**

1. "On the extensions of Aoki's aggregation conditions to large-scale stochastic systems" - R. E. Salters\*\*, 1984. (Last known employer: University of Denver, USA)
2. "Modeling and multivariable control of multi-link robot manipulators" - Young-Tae Kim (Co-advisor: M. Shahinpoor), 1986. (Last known employer: Donggu University, S. Korea)
3. "On Lyapunov stability of bilinear large-scale systems" F. Asamoah\*\*, 1985. (Last known employer: West Indies University, Caribbean Islands)
4. "On the extensions of the balanced approach of model reduction with applications to large flexible space structures" - John M. Santiago, 1985. (Last known employer: US Air Force, Full Colonel, USA)
5. "On decentralized pole placement problem with application to robotics" – M. Tarokh, 1987. (Last known employer: San Diego State University, USA)
6. "On adaptive control of robot manipulators" – B. -J. Oh, 1988. (Last known employer: Hannam University, S. Korea)
7. "Control and stability of two-dimensional systems" - Z. Geng (Co-advisor R. L. Carroll, George Washington University), 1988. (Last known employer: President of his Own Business, USA)
8. "On the Lyapunov stability of large-scale nonlinear systems with time delay" - S.-R. Lee, 1990. (Last known employer: Korean Army Academy, S. Korea)
9. "On adaptive robust force control of robot manipulators" – J.-N. Lieu, 1991. (Deceased)
10. "On a Programmable fuzzy logic array based on a new soft fuzzy reasoning paradigm" – N. H. Vadiee (Co-advisor: T. J. Ross), (Last known employers: University of New Mexico and Southwest Indian Polytechnic Institute, USA)

11. "Strong stabilization using fixed-order dynamic compensators," – M. Jacobus, 1991. (Last known employer: Sandia National Laboratories, USA)
12. "Advance control architectures for nuclear reactors" – J. B.-Read, 1992. (Last known employer: Mexican Nuclear Energy Agency, Mexico)
13. "Image restoration using nonlinear optimization techniques on an imaging system." – R. A. Carreras\*\*, 1994. (Last known employer: US Air Force Research Laboratory, USA)
14. "A neural network for Phase Diversity: Simulation and Experiment" – N. Miller, 1992. (Last known employer: National University of Malaysia, Malaysia)
15. "A neural-network fuzzy logic controller for fault-tolerant robot manipulators" – K. Kumbala, 1997. (Last known employer: Hitachi Corporation, USA)
16. "Fuzzy control and Evolutionary optimization of Complex Systems" – M. Akbarzadeh – Totoonchi, 1998. (Last known employer: Ferdowsi University at Mashad, Iran)
17. "Monitoring and control of nuclear reactors via a parameter estimation tuning fuzzy controller" – N. Alang-Rashid (Co-advisor S. Heger), 1993. (Last known employer: Malaysian Atomic Energy Agency, Malaysia)
18. "Adaptive hierarchy of distributed fuzzy control: Application to behavior control of Rovers." - Eddie Tunstel\*\* (JPL Minority Fellow), 1996. (Last known employer: NASA Jet Propulsion Laboratory, Cal Tech., USA)
19. "An Intelligent Approach to Image Enhancement" – A. Asgharzadeh, 1999. (Last known employer: Boeing Corporation, USA)
20. "Intelligent modeling and control of Flexor-Tendon Repairs via Soft Computing" – M. Johnson\*\*, 2002. (Last known employer: Aerospace Corporation, USA)
21. "Hierarchical intelligent control of multi-agent systems" – M. de Oliveira, 2001). (Last known employer: Brazilian National University, Brazil)
22. "Modeling, simulation, design and control of a two-stage desalination pilot plant" – P. Sarkar (Mechanical Engineering, 2002) (Last known employer: Tyco Healthcare / Valleylab Corp., USA)
23. "Optimal Control for the Autonomous Deployment of a Remote Sensing Spacecraft Array" - Paul De Rego\*\*, 2003. (Last known employer: Honeywell Corporation, USA)
24. "Optimal Power Control of CDMA Based Cellular Systems" – A. El-Osery, 2002. (Last known employer: New Mexico Institute of Technology, USA)
25. "Intelligent control of industrial autonomous systems" - W. G. Parkinson, 2002. (Last known employer: Los Alamos national Laboratory, USA, Retired in 2004.)
26. "Intelligent Navigation of Automatic Guided Vehicles for Flexible Manufacturing." – S. Berman (Co-advisor Y. Edan, Ben-Gurion University, Beer-Sheva, Israel), 20023. (Last known employer: Weizmann Institute, Israel)
27. "Antenna Baseline Estimation Coherent Interferometric Synthetic Aperture Radar Image Registration - Ana Martinez\*\*, 2003. (Last known employer: Sandia National Laboratories)
28. "Intelligent enhancement and recognition in magnetic resonance imaging," Tao Song\*, 2004. (Last known employer: University of New Mexico, USA)
29. "Fuzzy logic solutions of structural engineering systems," Jonathan Lucero\*\*, 2004 (Co-advisor T. J. Ross, 2004). (Last known employer: Los Alamos National Laboratory, USA)
30. "Intelligent pattern recognition and remote sensing," Yan Wang, 2004. (Last known employer: Searching employment).

31. "Cardiac output modeling and simulation using soft computing," Jingyu Liu, 2004. (Last known employer: Mine Institute, University of New Mexico, Albuquerque, NM, USA)
32. "Hierarchical Aggregation and Intelligent Monitoring and Control in Fault-Tolerant Wireless Sensor Networks," Prasanna Sridhar, 2007 (Last known employer: Microsoft Corporation, Seattle, WA, USA)
33. "Haptic control of a rover in a system of robots framework," Ben Horan, (Co-advisor, S. Nahavandi, Deakin University, Australia), Completed, 2009 (Last known employer: Deakin University, Australia)
34. "On image processing using quanteron," Ted Shaynefelt, 2007 (Co-advisor: SoS Agaian), in progress.
35. "Sensing and control of a marine rovers in a system of robots framework," Matthew Joordans, (Co-advisor, S. Nahavandi, Deakin University, Australia), in progress, 2009.
36. "Design of Virtual environments for Simulation of Wireless Networks," Aleksander Panchul, (Co-advisor, D. Akopian, University of Texas, San Antonio), in progress, 2009.
37. "Navigation and control of robotic swarms in unstructured environments," Anjan Kumar Ray, (Co-advisor: Laxmidhar Behera, Indian Institute of Technology, Kanpur, India), Completed, 2009.
38. "Image processing Advances for Underwater," Somayeh Bakhtiari, in Progress, (Co-advisor: SoS Agaian)
39. "Cloud Computing as a System of Systems," J. Jeff Prevost, in Progress, 2009.
40. "Topic to be determined," Dariush Shahgoshtasbi, in Progress, 2009

## **SPECTRUM OF FOMER STUDENT ADVISEES CARREERS**

Academics 14 (9 are full professors in US and overseas universities, e.g. San Diego State University, University of Denver, University of New Mexico, University of West Indies, New Mexico Institute of Technology, University of Texas at El Paso, National University of Brazil, University of Pennsylvania, Dongku University, Korea, Korean Army Academy, Deakin University, etc.)

Industry 23 (all in US companies such as Boeing, IBM, Lockheed Martin, Aerospace Corporation, Allied Signals, Honeywell, XLINK, Microsoft, United Technologies, Woodward Industrial Controls, etc.)

US Government 12 (in US Government agencies such as NASA, JPL, Sandia National Laboratories, Los Alamos National Laboratory, US Air Force Research Laboratory, NORAD, etc. One advisee is a Full Colonel in USAF)

Overseas 22 (Australia, France, Germany, Brazil, Iran, Korea, Taiwan, Norway, Netherlands, Egypt, India, Malaysia. One former advisee is the Deputy Director of Atomic Energy Commission of Malaysia)

Own Business 3 (Own their own companies in the US)

## **PUBLICATIONS**

(\* Denotes graduate students, \*\* Minority Graduate students)

### **Publication activities at a glance:**

Total Number of published works = 606 - CD ROMS = 9, Books = 62 (Textbooks = 12), book chapters = 28, Reviewed Conference papers = 296 Reviewed Journal papers = 162, Special issues of journals = 31 and Technical reports = 18

Known languages in which Jamshidi's books have been translated: Chinese (2), Russian (1), Romanian (1), French (1), Persian (2)

The publication is grouped into seven categories of CD ROMS, books and book chapters, technical reports, conference papers, journal papers, and special issues of journals.

### **CD ROMS**

1. M. JAMSHIDI, R. Lumia, E. Tunstel, Jr., B. White, J. Malone, and P. Sakimoto, *Proceedings NASA URC Conference on Education, Earth, Environment and Space*, Vol. 1, ACE Center Series, Albuquerque, NM: ACE Center, 1997.
2. M. JAMSHIDI, C. W. de Silva, F. Pierrot, M. Fathi and M. Kamel, *Proceedings World 3<sup>rd</sup> Automation Congress* - Anchorage, AK, TSI Press, Albuquerque, NM, May 1998
3. M. JAMSHIDI, P. Borne, A. A. Macijewski, M. Fathi, S. Nahavandi, R. Lumia, and T. Furuhashi, *Proceedings 4<sup>th</sup> World Automation Congress* - Maui, HI, USA, TSI Press, Albuquerque, NM, June, 2000
4. M. JAMSHIDI, Y. Hata, F. Proctor, J. Fedemma, B. Shafai and A. Homaifar, *Proceedings 5<sup>th</sup> World Automation Congress* - Orlando, FL, USA, TSI Press, Albuquerque, NM, June, 2002
5. M. JAMSHIDI, A. Ollero, L. Foulloy, M. Reuter, A. Kamrani and Y. Hata, *Proceedings 5<sup>th</sup> World Automation Congress* - Seville, Spain, TSI Press, Albuquerque, NM, USA, June, 2004
6. M. JAMSHIDI, Y. Hata, M. Reuter, D. Cox, S. Nahavandi, J. S. Jamshidi, *Proceedings 6<sup>th</sup> World Automation Congress* - Budapest, Hungary, TSI Press, San Antonio, TX, USA, July 2006.
7. M. JAMSHIDI, W. Pedrycz, K. W. Bonfig, R. Aliev and R. Lewerenz, *Proceedings 7<sup>th</sup> International Conference on Application of Fuzzy Systems and Soft Computing* - Siegen, Germany, September 2006.
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#### A CHRONOLOGICAL LIST OF MO JAMSHIDI'S CAREER - 1967-2008

Year	Achievement	Comments
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1962	High School Diploma, Hadaf No. 1 Campus	Tehran, Iran
1963	English Language Proficiency, Queens College	New Your, NY
1967	BS EE degree from Oregon State University	Cum Laude, full 4-years scholarship
1969	MS from the University of Illinois, utilizing multi-time scale nature of hybrid physical nature of many systems, proposed a new approach to nonlinear control of nonlinear systems via parameter sensitivity.	Cum Laude, Research assistantship.  Examples of such systems were all electro-mechanical systems, from a DC motor to steel mills, to radars, to robots, etc.
1971	PhD from the University of Illinois, he built upon his MS work to provide a new approach to modeling, model reduction and control and optimization of nonlinear systems with very high dimensions. By 1978, his work reached a degree of maturity, being called “large-scale systems” (LSS) within systems and controls communities.	Cum Laude, Fellowship, research assistantships.
1973	He extended most of his design techniques to time-delay systems	Results were published in <i>Int. Journal of Control (UK)</i> and <i>Proc IEE (UK)</i>
1974	<i>Proc. IEE Journal (UK)</i> published his main results based on doctoral work.	Foundation of design approach to large-scale systems
1975-77	As an IBM World Trade Fellow, at the IBM Corporate Research Center in NY, he extended the LSS theory to environmental systems – water resources, air quality and electric power generation	The approach for environmental-economic power dispatch is now a division for research at the Electric Power Research Institute (EPRI)
1976	<i>Information and Control Journal (USA)</i> published his results based on	This was one of

	masters work in nonlinear control	the earliest works on design of nonlinear systems via parameter embedding approach.
1975-79	Needing to solve very large-scale optimal control problems, he developed computational algorithms to solve algebraic and differential matrix Riccati equations.	In 1980, he published a very detailed journal paper on solutions of matrix Riccati and Lyapunov equations, referring to over 300 references.
1980	He established the, as its founding editor-in-chief, <i>IEEE Control Systems Magazine</i> now one of the strongest magazines in the IEEE family.	IEEE CSM is now one of the most popular of all IEEE magazines
1980-84	Member, IEEE Control Systems Society Executive Committee and Board of Governors As founding	Editor-in-Chief, <i>IEEE Control Systems Magazine</i> .
1983	He published his book, <i>Large-Scale Systems – Modeling and Control</i> (North Holland, NY), cementing all of his contributions and many others up to that date. The book received an overwhelming success, being reviewed by many and was reportedly adopted in 55 countries.	This book turned out to be the <i>first text</i> in the area and was subsequently translated into Chinese, Russian, French, Romanian, among others.
1984-present	He extended the theory and techniques of large-scale systems to other electro-mechanical systems, <i>robots</i> , including open-chain robots, mobile robots and Stewart platforms.	He has published over 20 volumes in the general areas of robotics and manufacturing
1983-84	At IBM Boulder, he developed large-scale systems stability and control approaches for pint head electronics of then IBM Copiers line of products.	His techniques provided stability analysis of such systems

1984	<p>He received the IEEE Centennial Medal from the Control Systems Society.</p> <p>A summer at GM Technology Center (Warren, MI), he developed large-scale systems approach model and</p>	<p>design techniques for a future GM engine, which turned out to be the “Saturn” engine later on. He co-edited an IEEE Centennial issue of the <i>IEEE CSM</i> with late Nat Nichols and George Axelby.</p>
1984-1990	<p>At US Air Force weapons laboratory, he extended his large-scale systems approaches to electro-optic systems for phased array telescopes and multi-mirror space systems.</p>	<p>A USAF patent resulted for adaptive optics. Some of his techniques were considered in the operational phases of the Hubble telescope.</p>
1985	<p>He was elected as a “Distinguished member” of the IEEE Control Systems Society.</p>	
1986	<p>He published two of the first books (one text and one edited) on computer-aided control systems design utilizing algorithms to model, optimize and design large and small-scale systems.</p>	<p>These books were translated into Chinese and Russian. Russian edition sold 20,000 copies in former Soviet Union.</p>
1986-1992	<p>He served as the editor for ASME Press series on robotic and manufacturing systems</p>	<p>10 volumes were printed in this series.</p>
1986-present	<p>Honorary Chaired Professor, Nanjing Aeronautical University Nanjing, P. R. China  Honorary Chaired Professor, Xia'n Institute of Technology Xia'n. P. R. China</p>	<p>Honorary Chaired Professor, East China Industrial Institute, Nanjing, P. R. China</p>
1987	<p>He co-authored a book covering all his extensions of large-scale systems to time-delay systems in a research monograph by Elsevier publishers,</p>	<p>This book was considered the</p>

	as one of the most readable books on the subject.	most readable one in the field.
1987-88	Spent a sabbatical leave at George Washington University as well as consulting work at National Institute of Standards and Technology (NIST).	He was also a visiting professor at the University of Virginia – Charlottesville for Spring 1988.
1988	He was selected as the AT&T Professor of manufacturing for his key role in establishing the UNM's manufacturing engineering's graduate program.	UNM's Manufacturing Engineering Program is now a multi-million dollar per year research and educational endeavor.
1988-92	He was hired as an advisor to Oak Ridge National Laboratories breeder reactor control program.	He applied many large-scale systems approaches in modeling and design for these reactors.
1988-1996	He served as the editor for Prentice Hall book series on environmental manufacturing systems	12 volumes were printed in this series.
1989	He was elected as an IEEE Fellow.	For "contributions to theory and applications of large-scale systems"
1993	He won the top engineering researcher award of the University of New Mexico.	
1993-1997	He was one of the 10 US professors acting as advisors to the NASA JPL's Pathfinder Mars mission.	Mission landed on Mars on July 4 <sup>th</sup> , 1997.
1994	He established the World Automation Congress (WAC), now as a premier technical meeting held every 2 years around the world, covering	As WAC's official journal,

	robotics, manufacturing, controls, automation, artificial intelligence, multi-media, image processing, biomedical engineering and financial engineering.	<i>International Journal on Intelligent Automation and Soft Computing (AutoSoft)</i> was established in 1994 as well. WAC has a tradition of helping 3 <sup>rd</sup> world scientists attend at very minimal fees.
1994-95	Spent a sabbatical leave as a distinguished professor of French NSF (CNRS) at LAAS Center in Toulouse, France working on autonomous control of mobile robots and applications of AI to large-scale systems.	control of mobile robots and Second edition of Large-Scale Systems was finished and published by Prentice-Hall, Inc., in 1997
1995	He led a team of researchers as Principle Investigator and received \$ 6.4 M contract from NASA HQ to build a Center on Autonomous Control Engineering (ACE).	ACE is now a well-known center around the world. All total, ACE has received \$14 M worth of funding since its inception.
1995	He was inducted into TWAS – Third World Academy of Sciences for his contributions to “control and optimization of complex systems...”	As a member of TWAS, he has donated to 3rd world science & engineering libraries with over 1000 volumes of books, journals and CD ROMs.
1995-2004	ACE has produced over 100 MS and PhD degrees from UNM and our smaller partner ACEIT Center in North Carolina.	Great many of these graduates are among America’s ethnic minorities. ACE graduates are

		now professors, scientist and industry leaders all around the world.
1996	<p>He received a US Patent (# 5,590,246) on intelligent enhancement of analog and digital images with commercial applications in photography, manufacturing inspection, internet images, etc.</p> <p>The technology has produced two commercial products ---- <i>SmartPhotoLab</i>® (<a href="http://ace.unm.edu/spl">http://ace.unm.edu/spl</a>) and <i>SmartPhotoCard</i></p>	for color image printing from the Internet or other sources as well as enhancing the quality of color film printing.
1997	2 <sup>nd</sup> edition of his Large-Scale Systems book was published by Prentice Hall.	This volume was translated into French.
1999	He was elected as Fellow of the ASME	For the applications of large-scale systems to robotics and manufacturing.
1999	He was elected a fellow of the AAAS – American Academy for the Advancement of Science	For modeling, optimization and control of large-scale systems
1999	Awarded NATO Professorship lecturing on intelligent Control in Portugal.	Nominated by researchers in Portuguese Institutions.
1999	Received two honorary doctorate degrees from Azerbaijan –	Former Soviet Republic
2000	He became the Regents Professor, a title for life, at the University of New Mexico	Millennium award from IEEE CSS Society
2001	He was elected as a member of the Russian Academy of Nonlinear Systems and was invited to Moscow for the induction ceremony.	
2001	He was elected to Hungarian Academy of Engineering and was inducted into the Academy by its President Prof. Rubik.	For contributions to “computer-aided large-scale

		systems control...”
2002	Elected into IEEE SMC Board of Governors.	From 2003-2005 he served as VP for Conferences in IEEE SMC Society.
2003	He was the lead author on a book on applications of genetic algorithms to robust control – the first book of its kind.	This book bridged a gap between robust systems and soft computing tools for design.
2003	He was chosen as an honorary professor of Deakin University,	Australia
2004	He was elected as a Fellow of the New York Academy of Science for his work on autonomous control and automation.	His 6 <sup>th</sup> fellow grade membership.
2004	Received an Honorary Degree in Engineering from the University of Waterloo, Canada.	His 2 <sup>nd</sup> honorary doctoral degrees.
1995-present	He has graduated his 35 <sup>th</sup> Ph.D. and 40 <sup>th</sup> MS electrical and mechanical engineering students of his own. In addition, he has supported and overseen the graduation of an additional 82 Ph.D. and MS students. Over 45% of Mo Jamshidi’s MS and Ph.D. students have been members of USA’s ethnic minorities. He initiated an innovative student research/teaching teaming concept, called the VI-P® Model (Vertically Integrated Projects. Currently advising 5 PhD students and 5 MS students at the University of Texas, San Antonio.	<a href="http://ace.unm.edu">http://ace.unm.edu</a> , which is now a nationally recognized and adopted by numerous institutions in the United States. The VI-P® approach has been adopted by many institutions, including in many multi-institutional NSF Center proposals.
2004	Received an Honorary Degree in Engineering from the Technical University of Crete, Greece.	His 3 <sup>rd</sup> honorary doctoral degrees.
2004	He is co-authoring two US Patent disclosures – one on enhanced recognitions of MRI images and one for Remote Sensing of Satellite	Images. These disclosures are subject of commercialization with a venture

		capital company in Northern California
2005	Chaired the IEEE SMC Conference in Big Island of Hawaii	Over 700 attended the meeting.
2005	Received the IEEE SMC Norbert Wiener	Best Researcher Award in Oct. 2005
2005	Elected into IEEE SMC Board of Governors.	For period 2005-2008.
2006	Early retired from UNM and joined the University of Texas, San Antonio	As Lucher Brown Endowed Chaired professor of ECE
2006	Began re-establishing the ACE Center	in San Antonio, Texas.
2006	Accepted Adjunct Professor of Deakin University, Australia and visited Australia	on a lecture series in 4 cites for 3 weeks in August.
2006	He was chosen as the Founding Editor of the <i>IEEE</i>	<i>Systems Journal</i> of the IEEE Systems Council.
2006	Chaired the IEEE SMC Conference on System of systems in Los Angeles	Over 85 attended the meeting, 51 were from industry and Government.
2006	Received the IEEE SMC Outstanding Contribution Award	In Taipei, Taiwan
2006	Awarded Distinguished Alumni in Engineering at Oregon State University ( <a href="http://engr.oregonstate.edu/oregonstater/2006/MohammadJamshidi.html">http://engr.oregonstate.edu/oregonstater/2006/MohammadJamshidi.html</a> )	Honor received in March 2007.
2007	Elected to rank of Senior Member of AIAA	Nominated to be elevated to Associate Fellow
2007	Chaired the IEEE SMC Conference on System of systems in San Antonio	Over 200 attended the meeting, 110 were from industry

		and Government.
2008	Chaired the 2008 IEEE SMC Conference on System of systems in Monterey, CA	Over 100 attended the meeting, 85 were from industry and Government.
2008	Distinguished Professor of Systems Engineering, Universidad Polytechnic de Madrid (UPM), Madrid, Spain	Lectures on system of systems engineering
2008	He published by Wiley (© 2009) in New York (and Canada) and second one by Taylor & Francis CRC (© 2008) in Boca Raton, FL and London.	These are the first books on System of Systems Engineering in the world.
2008	Chaired the WAC 2008 Congress in Waikoloa, HI, USA	Over 150 from 30 nations attended.
2009	Nominated and received a fellowship from UK Royal Academy of Engineering, Lecturing on System of Systems Engineering, throughout UK and Northern Ireland.	Nominated by researchers in British Institutions.
2009	Review Board Member, US-Vietnam Education Foundation	Annual visit to Vietnam and Lecture
2009	Member, Department of Defense SoSE National Committee	Help set policy on SoSE fro national security
2009-2010	Distinguished Fellow, UK Royal Academy of Engineering, Cardiff University, Wales, UK	Tutorials on SoSE and Keynote speeches at 5 UK Institutions
2009	Invited Board Member for Dean Leah Jamieson (Purdue University)	Engineering College's Strategic Plan for SoS Institute
2009-2012	Honorary Professor, Deakin University, Geelong, VIC, Australia	Joint research work and co-advising doctoral students

2009	Invited Board Member for Engineering Dean Leah Jamieson, Purdue University	Engineering College's Strategic Plan for SoS Institute
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