

SHORT RESUME

M. Ehsani



M. Ehsani received the B.S. and M.S. degrees from the University of Texas at Austin in 1973 and 1974, respectively, and the Ph.D. degree from the University of Wisconsin-Madison in 1981, all in electrical engineering.

From 1974 to 1977 he was with the Fusion Research Center, University of Texas, as a Research Engineer. From 1977 to 1981 he was with Argonne National Laboratory, Argonne, Illinois, as a Resident Research Associate, while simultaneously doing the doctoral work at the University of Wisconsin-Madison in energy systems and control systems. Since 1981 he has been at Texas A&M University, College Station, Texas where he is now a Professor of electrical engineering and Director of Advanced Vehicle Systems Research Program and the Power Electronics and Motor Drives Laboratory. He is the author of over 300 publications in pulsed-power supplies, high-voltage engineering, power electronics, motor drives, and advanced vehicle systems and is the recipient of the Prize Paper Awards in Static Power Converters and motor drives at the IEEE-Industry Applications Society 1985, 1987, and 1992 Annual Meetings, as well as numerous other honors and recognitions. In 1984 he was named the Outstanding Young Engineer of the Year by the Brazos chapter of Texas Society of Professional Engineers. In 1992, he was named the Halliburton Professor in the College of Engineering at A&M. In 1994, he was also named the Dresser Industries Professor in the same college. In 2001 he was selected for Ruth & William Neely/ Dow Chemical Faculty Fellow of the College of Engineering for 2001-2002, for “contributions to the Engineering Program at Texas A&M, including classroom instruction, scholarly activities, and professional service”. In 2003 he was selected for BP Amoco Faculty Award for Teaching Excellence in the College of Engineering. He was also selected for the IEEE Vehicular Society 2001 Avant Garde Award for “Contributions to the theory and design of hybrid electric vehicles”. In 2003 he was selected for IEEE Undergraduate Teaching Award “For outstanding contributions to advanced curriculum development and teaching of power electronics and drives.” In 2004 he was elected to the Robert M. Kennedy endowed Chair in Electrical Engineering at Texas A&M University. In 2005 he was elected as the Fellow of Society of Automotive Engineers (SAE). He is the co-author of twelve books on power electronics, motor drives and advanced vehicle systems, including Vehicular Electric Power Systems, Marcel Dekker, Inc. 2003 and “Modern Electric Hybrid Vehicles and Fuel Cell Vehicles – Fundamentals, Theory, and Design”, CRC Press, 2004. He has over 23 granted or pending US and EC patents. His current research work is in power electronics, motor drives, hybrid vehicles and their control systems.

Dr. Ehsani has been a member of IEEE Power Electronics Society (PELS) AdCom, past Chairman of PELS Educational Affairs Committee, past Chairman of IEEE-IAS Industrial Power Converter Committee and past chairman of the IEEE Myron Zucker Student-Faculty Grant program. He was the General Chair of IEEE Power Electronics Specialist Conference for 1990. He is the founder of IEEE Power and Propulsion Conference, the founding chairman of the IEEE VTS Vehicle Power and Propulsion and chairman of Convergence Fellowship Committees. In 2002 he was elected to the Board of Governors of VTS. He also serves on the editorial board of several technical journals and is the associate editor of IEEE Transactions on Industrial Electronics and IEEE Transactions on Vehicular Technology. He is a Fellow of IEEE, an IEEE Industrial Electronics Society and Vehicular Technology Society Distinguished Speaker, IEEE Industry Applications Society and Power Engineering Society Distinguished Lecturer. He is also a registered professional engineer in the State of Texas.

BIOGRAPHICAL DATA

- Ehsani, Mehrdad (Mark)
- Professor, Electrical Engineering
- Birth date: 10/9/50
- Citizenship: U. S.
- Marital Status: Married
- Number of Children: Two
- Last Security Clearance: Secret

ADDRESS

Home: 2105 Fawn Court
College Station, Texas 77845

Work: Texas A&M University
Department of Electrical Engineering
College Station, Texas 77843

PROFESSIONAL INTERESTS

- Sustainable Power and Energy Systems
- Solid State Power Systems
- Power Electronics
- Motor Drives
- Specialized Power Systems
- Control Systems
- Energy Storage Systems
- High Voltage Direct Current (HVDC) Power Transmission
- Applications of Microcomputers to Power Control
- Pulsed Power Systems
- Electric Hybrid Vehicles
- High Voltage Engineering
- Electrical Failures and Hazards
- Advanced Vehicle Power and Propulsion Systems
- Novel Electromagnetic Machines

EDUCATION

- Ph. D., Electrical Engineering, University of Wisconsin, Madison, 1981
- M. S., Electrical Engineering, University of Texas, Austin, 1974
- B. S., Electrical Engineering, University of Texas, Austin, 1973

EXPERIENCE

- **Educational**

1. Assistant Professor, Electrical Engineering, Texas A&M University, August 1981-1987

2. Associate Professor of Electrical Engineering, Texas A&M University, September 1987-1992
3. Professor, Electrical Engineering, Texas A&M University, 1992-present
4. Director, Texas Applied Power Electronics Center, Department of Electrical Engineering, Texas A&M University, 1982-present
5. Director of Sustainable Energy and Advanced Vehicle Systems Research Program, College of Engineering, Texas A&M University, 1992-present

- **Industrial**

1. Research Engineer, Fusion Research Center, Austin, Texas, 1974-1977
2. Research Engineer, Argonne National Laboratory, 1977-1981
3. Consultant to over 60 US and international companies and agencies

PROFESSIONAL SOCIETY MEMBERSHIPS

- Institute of Electrical and Electronics Engineers (IEEE), since 1970
- IEEE Industry Applications Society (IAS)
- IEEE Industrial Electronics Society (IES)
- IEEE Power Electronics Society (PELS)
- IEEE Vehicular Technology Society (VTS)
- Society of Automotive Engineers (SAE)
- Registered Professional Engineer, Texas No. 57178

HONORS/AWARDS

1. Fellow of IEEE
2. Fellow of SAE
2. Outstanding Young Engineer of the year, 1984, Brazos Chapter, Texas Society of Professional Engineers.
3. Prize Paper First Place Award in Power Electronics, IEEE Industry Applications Society, 1985 and 1987 Annual Meetings.
4. Engineering Excellence Award (\$24,000), College of Engineering, Texas A&M University, 1986 and 1987.
5. Chief Editor for Power Systems Series, CRC Press, 1989.
6. General Chair, IEEE-PELS Power Electronics Specialists Conference, 1990.
7. Member of Editorial Board of Electric Machines and Power Systems Journal.
8. IEEE-Industrial Electronics Society Distinguished Speaker.
9. Plenary Session Author in IEEE Power Electronics Specialists Conference for 1990 and 1991.

10. Invited Author at IEEE Applied Power Electronics Conference and Exposition, Boston, February 1992.
11. Invited Author at 1992 International Symposium on Power Electronics, Seoul, Korea, April 1992.
12. Invited Author at International Aegean Conference on Electrical Machines and Power Electronics, Kusadasi, Turkey, May 1992.
13. Prize Paper Third Place Award in Motor Drives, IEEE Industry Applications Society 1992 Annual Meeting.
14. Invited Author and Panelist at 2nd International Power Electronics Congress, Cuernavaca, Mexico, August 1993.
15. IEEE Industry Application Society Distinguished Speaker and Invited Author at II Brazilian Power Electronics Conference, UBERLANDIA, Brazil, December 1993.
16. Plenary Session Author in IEEE Power Electronics Specialists Conference for 1993.
17. Winner of IEEE IAS 1993 Annual Meeting Prize Paper Award from the Motor Drives Committee.
18. Invited Author at Southcon Technical Conference, Orlando Florida, March 1994.
19. Member of the Scientific Committee of the 1st International Power Electronics and Motion Control Conference, Beijing, China, June 1994.
20. Invited Author in 1st International Power Electronics and Motion Control Conference, Beijing, China, June 1994.
21. Member of the Advisory Committee of Second International Workshop on "The Future of Electronic Power Processing and Conversion," Berg-en-dal, South Africa, August 1994.
22. General Chairman of 3rd International Power Electronics Congress, Puebla, Mexico, August 1994.
23. Listed in Who's Who in America, 49th through current Editions.
24. Listed in American Men and Women of Science.
25. Listed in Who is Who in the South and Southwest.
26. Invited Short Course in Tel Aviv University, Israel, May 1995.
27. Invited Paper in International Aegean Conference on Electrical Machines and Power Electronics, Kusadasi, Turkey, June 1995.
28. Member of Steering Committee, World Congress of Industry Leaders and Educators, Fair of Engineering Innovations and UNESCO-UNISPAR Seminar, sponsored by Jozef Zych, Speaker of Polish Parliament, October 1996.
29. Invited Short Course on "Sensorless variable reluctance machines," IEEE Industry Applications society 1996 Annual Meetings, October 1996.

30. Member of Steering Committee of the 1st International Congress in Israel on Energy, Power & Motion Control, Tel-Aviv, Israel, November 1996.
31. Honorary Professor of Electrical Engineering, The University of Hong Kong, 1996.
32. Blue Ribbon University Lecture at US Department of Transportation, Research and Special Programs Administration, "Electrically Peaking Hybrid (ELPH) Vehicles: A Sustainable Technology for the 21st Century," Washington, DC, April 25, 1997.
33. Mahdavi, A. Emadi, M. D. Bellar and M. Ehsani, "Analysis of Power Electronic Converters Using the Generalized State Space Averaging Approach," Invited Paper for Special Issue of IEEE Transactions on Circuits and Systems on Simulation, Theory and Design of Switched Analog Networks, IEEE Trans. on Circuits and Systems, vol. 44, no. 8, August 1997.
34. Invited Paper on "Soft Switching Motor Drive Inverters for Electric and Hybrid Vehicles," in IEEE Industrial Electronics Annual Meeting, IECON'97, New Orleans, Louisiana, November 1997.
35. Invited Panelist on "Trends in Power Electronics and Motor Drives," Invited Paper in IEEE Industrial Electronics Annual Meeting, IECON'97, New Orleans, Louisiana, November 1997.
36. Elected IEEE Industry Applications Society Distinguished Lecturer, 1998-99.
37. Invited Lecture, entitled "Modern Motor Drives for Industrial and Product Applications," IEEE Chapter Meeting, Little Rock Arkansas, January 22, 1998.
38. National Science Foundation Site Reviewer for NSF Center Proposal, Blacksburg, Virginia, Jan. 19-22, 1998.
39. Invited Speaker, IEEE Power Engineering Society Section Meeting, Columbus, Ohio, March 31, 1998.
40. Key Note Speaker, Southeast Michigan Section Spring Meeting, April 2, 1998, Dearborn, Michigan.
41. Invited Key Note Speaker on "State of The Art in Power Electronics and Motor Drives," Vicenza Trade Fair and Workshop, Vicenza, Italy, May 15, 1998.
42. Invited Seminar at Toshiba Small Motor Development Center, "Advanced Switched Reluctance Motor Drives for Industrial and Traction Applications," July 14, 1998.
43. M. Ehsani, R. Velayutham, S. Gopalakrishnan, and B. Fahimi, "Sensorless Control of Switched Reluctance Motor: a Technology Ready for Applications," Invited Paper, International Conference on Electrical Machines, Istanbul, Turkey, September 2-4, 1998.
44. Member of Program Committee, International Conference on Electronics, October 1998, Oran, Algeria.
45. Invited Paper, entitled "Switched Reluctance Motor Drives: State of the Art and Applications," 1998 Special Issue of Indian Academy of Sciences.

46. Member International Steering Committee, The IEEE International Symposium on Diagnostics for Electrical Machines, Power Electronics and Drives, Gijon, Spain, September, 1999.
47. Organizer and Plenary Paper Presenter for Invited Session at 1999 International Federation of Automatic Control (IFAC) World Congress in Beijing, China: Advances in Real-Time DSP Control of Stiff Systems.
48. Organizer Presenter for Tutorial Session at 1999 American Control Conference (ACC) in San Diego, California: Advances in Real-Time Control of Motor Drive Systems.
49. Listed in Dictionary of International Biography, Cambridge, England, 27th Edition, 1999.
50. Member of International Steering Committee of IEEE International Power Electronics Congress, Acapulco, Mexico, 2000.
51. Member of Technical Program Committee of Forth International Power Electronics Conference (IPEC-Tokyo 2000).
52. Member of Technical Program Committee of 3rd International Power Electronics and Motion Control Conference (IPEMC, 2000).
53. Appointed as the Distinguished Lecturer of IEEE Power Engineering Society, 1999-2000.
54. Member of International Steering Committee of the 1999 IEEE International Symposium on Diagnostics for Electrical Machines, Power Electronics and Drives, September 1-3, Spain.
55. Invited Seminar to the Local Chapter of IEEE in Istanbul, Turkey on "State of the Art in Power Electronics and Motor Drives," August 27, 1998.
56. Invited Seminar to the Local Chapter of IEEE in Paris, France on "An Over View and State of the Art in Hybrid Electric Vehicles," September 23, 1999.
57. Invited Seminar to the Local Chapter of IEEE in Heidelberg, Germany on "State of the Art and Recent Applications of Switched Reluctance Motor Drives," November 19, 1999.
58. Invited Seminar at the Swiss Federal Institute of Technology on "State of the Art on Sensorless Switched Reluctance Motors," Zurich, Switzerland, May 9, 2000.
59. Invited Short Course at Tel Aviv University on "Hybrid Electric Vehicles," Tel Aviv, Israel, May 23-25, 2000.
60. Invited Seminar at Technion University on "State of the Art on Electric and Hybrid Vehicles," Haifa, Israel, May 29, 2000.
61. Invited Presentation in First Sned Research Institute Workshop on Fuel Cell Hybrid Track Vehicles, August 1-3, 2000, Georgetown, Texas.
62. Advisor to the Board of Directors of Sned Research Institute.
63. Listed in International Who's Who of Professionals, 2001.

64. Member of International Steering Committee of VII IEEE Power Electronics Congress, Acapulco, Mexico, October 2000.
65. Reference Publications Listed in Infography Publishers' Fields Of Knowledge.com, in Switched Reluctance Motor Drives, Solid State Power Systems, Brushless DC Motor Drives, Hybrid Electric Vehicles, and Synchronous Reluctance Motor Drives.
66. Appointed as a Member of Committee on Next Generation Materials and Processes for Advanced Hybrid Power Systems, National Materials Advisory Board, National Research Council, National Academy of Engineering, September 2000.
67. Member of International Steering Committee of CIEP'02, Guadalajara, Mexico.
68. Panelist on hybrid electric vehicles, National Academy of Engineering Mini-Symposium, March 19, 2001, College Station, Texas.
69. Selected for Ruth & William Neely/ Dow Chemical Faculty Fellow of the College of Engineering for 2001-2002, for "contributions to the Engineering Program at Texas A&M, including classroom instruction, scholarly activities, and professional service".
70. Member of Steering Committee of International Aegean Conference on Electrical Machines and Power Electronics, Kusadasi, Turkey, June 2001.
71. Invited paper at the SAE 2001 *Future Transportation Technology Conference*, Costa Mesa, CA, August 2001, "42V Automotive Power Systems".
72. Winner of 2001 Avant Garde Award from IEEE Vehicular Technology Conference for "Contributions to the Theory and Design of Hybrid Electric Vehicles."
73. Listed in Cambridge International Biographical Center, Who's Who in the 21st Century.
74. Invited external Ph. D. examiner on hybrid vehicle technology at the University of Valenciennes, France, Jan. 4, 2002.
75. Guest Editor, Special Issue on Switched Reluctance Motor Drives, IEEE Transactions on Industrial Electronics, Vol. 49, No. 1, Feb. 2002.
76. Winner of 2003 IEEE Undergraduate Teaching Award, with the following citation: "For outstanding contributions to advanced curriculum development and teaching of power electronics and drives."
77. Member of International Steering Committee of 2003 International Power Electronics and Motion Control Conference, Xi'an, China.
78. Elected Distinguished Speaker of IEEE Vehicular Technology Society, 2003-2004.
79. Winner of Texas A&M Technology Licensing Office "Spirit of Innovation Award for the 2000th Disclosure", 2003.
80. Listed in the International Biographical Center of Cambridge, England Outstanding People of 20th Century.
81. Selected as an International Educator of the Year for 2003 by International Biographical Center of Cambridge, England.

82. Appointed to Research Visionary Board, Chief Technology Office, Motorola Corporation, 2003.
83. Invited for Distinguished Lecture in the Department of and Computer Engineering Illinois Institute of Technology, Chicago, Ill. August 29, 2003.
84. Selected for Texas A&M College of Engineering BP Amoco Faculty Award for Teaching Excellence, 2003.
85. Associate Editor of International Journal of Electrical Engineering in Transportation
86. “Integrated Biofuel-Vehicle System”, Key Note address given at the opening of the 2004 IEEE-VTS Vehicle Power and Propulsion Symposium in Paris, France, October 4th, 2004
87. Elected to the Robert M. Kennedy endowed Chair of Electrical Engineering in 2004.
88. Served on the National Research Council Review Committee for NASA LEAP Program proposals, 2005.
89. Elected as Fellow of Society of Automotive Engineers (SAE).
90. Served on Motorola Corporation Research Visionary Board, 2005.
91. Listed in Who’s Who in American Education.
92. Listed in Who’s Who in Science and Engineering.
93. Listed in Who’s Who in Finance and Business
94. Listed in Who’s Who in South and Southwest
95. Listed in Who’s Who in America
96. Member of international steering committee, 5th International Power Electronics and Motion Control Conference (IPEMC2006), shanghai,China , August of 2006.
97. Key Note Speech Presenter, IEEE Vehicle Power and Propulsion Conference/ SAE Future Transportation Technology Conference Joint session, “Integrated Biofuel Vehicle Systems,” September 7, 2005, Chicago, Illinois.
98. Member of National Research Council Panel for Decadal Survey of Civil Aeronautics, 2005-2006.
99. Key Note Speaker, ELECO 2005, “A Vision of Sustainable Vehicles and Fuel Technologies,” Istanbul, Turkey.
100. Key Note Presentation, IEEE Vehicle Power and Propulsion Conference, VPPC, “ A Vision of Renewable Energy and Sustainable Transportation,’ Windsor, England, September, 2006.
101. Member of the Advisory Committee and Key Note Speaker of Automotive Research Association of India Electric and Hybrid Electric Vehicles Conference, December 18-20, 2006, Pune, India.

102. Member of Italian Ministry for University and Research International Review Panel.
103. Member of Hong Kong Scientific and Engineering Review Panel.
104. Recipient of International Biographical Center, Cambridge, England, 21st Century Award for Achievement.
105. Listed in Who's Who in America, 61st Edition, 2007.
106. Member of Advisory Board of Automotive X Prize Foundation, Inc.
107. Member of the Steering Committee of International Conference on Electrical and Electronics Engineering, ELECO'2006 & ELECO'2007.
108. 2007 Innovation Award, Texas A&M Technology Lisencieng Office.
109. Key Note Speaker, MIT Automotive Consortium meeting, Seatle, WA, April, 2007.
110. Key Note Speaker, IEEE Vehicle Power and Propulsion Conference, VPPC07, "Sustainable Fuel and Vehicle Technologies: Update on Progress & Problems," Arlington, Texas, September 10-12, 2007.
111. Key Note Speaker, IEEE Vehicle Power and Propulsion Conference, VPPC 08, "Issues on Sustainable Energy and Transportation," Harbin, China, September 3, 2008.
112. Member of Steering Committee, 6th IEEE International Power Electronics and Motion Control Conference (IPEMC 2009), Wuhan, China, during May 17-20, 2009.
113. Listed in Who's Who in Finance and Business.
114. IEEE Vehicular Technology Society 2008 VTS Outstanding Service Award.
115. Member, Automotive X PRIZE Development Advisory Board.
116. Key Note Speaker at IEEE Vehicle Power and Propulsion Conference, VPPC 09 "Sustainable Energy Engineering," Dearborn, Michigan, September 2009.
117. Invited short Course, Technological University of Panama, "Sustainable energy engineering," June, 2010.

ACADEMIC CHAIRS

- Halliburton Professorship-1992.
- Dresser Industries Professorship-1994.
- Robert M. Kennedy endowed Chair of Electrical Engineering, since 2004.

SAMPLE SHORT COURSES

1. Invited Short Course offered by Electric Power Research Institute (EPRI), Power Electronic Applications Center (PEAC), June 1989.
2. Invited Short Course in IEEE Applied Power Electronics Conference Exposition, Dallas, March 1991: "Pulse Width Modulation: Fundamentals and Implementation."

3. Invited Short Course in IEEE Applied Power Electronics Conference Exposition, San Diego, March 1993: "Technology Simplification in Switched Reluctance Motor Drives."
4. Invited Short Course at Tel Aviv University, November 1993: "Super Conductive Magnet Power Supplies."
5. Invited Short Course in IEEE Applied Power Electronics Conference and Exposition, Orlando, Florida, February 1994: "High Power Soft Switched Converters."
6. Invited Short Course in IEEE Applied Power Electronics Conference and Exposition, Dallas, Texas, March 1995: "Electric Drives in Electric and Hybrid Vehicles."
7. Invited Short Course at GM Proving Grounds in Milford, MI and Mesa, AZ, September/October, 1995: "Electric Drives in Electric and Hybrid Vehicles."
8. Invited Short Course at LeTourneau, Longview, Texas and Texas Instruments, Dallas Texas, January 12 & 26, 1996: "Design and Control of Switched Reluctance Motor Drives."
9. Invited Short Course at IEEE Industry Applications Society 1996 Annual Meeting, San Diego, California, October 6, 1996: "Sensorless Variable Reluctance Motors."
10. Invited Short Course at Tel Aviv University, May 22-25, 2000: "Design and Simulation of Electric and Hybrid Electric Vehicles."
11. Invited Short Course at Hanyang University, Seoul, Korea, June 26, 2000: "State of the Art of Brushless DC Motor and Switched Reluctance Motor Drives."
12. Invited Short Course at LG Electronics Company, Seoul, Korea, June 27, 2000: "Sensorless Controls and Reduced Parts Converters for the Advanced BLDC and SRM Drives."
13. Invited Short Course at Hyundai Motor Company, Suwon, Korea, June 28, 2000: "Design and Control of Electric and Hybrid Electric Vehicles."
14. Invited Short Course at Korean Electromagnetic Research Institute (KERI), Changwon, Korea, June 29, 2000: "Design and Control of Switched Reluctance Motors and Electric and Hybrid Electric Vehicle"
15. Sensorless Brushless DC Motor Drives for Integrated in-line automotive Pump Applications, Short course given at EMP Corp. Escenaba, Michigan, August, 2004.
16. "Control of BLDC Machines with Improved Performance", U.S. Army Vetronics Institute 3rd Annual Winter Workshop, Jan 13, 2004, U.S. Army Tank-Automotive RD&E Center Warren, MI
17. "Control of the BLDC machine with improved performance", Short Course, June 2004, Tel Aviv University, Israel.
18. "Advanced Mobile Integrated Power System (AMPS)", Short Course, January 2005, US Army Tank Automotive Command (TACOM), Warren, Michigan.
19. "Vehicle Power systems", Short Course, January 2006, US Army Tank Automotive Command (TACOM), Warren, Michigan.
20. "Short Course on Hybrid Electric Vehicle", **TUBITAK Marmara Research Center, TURKE**, Dec. 2005.

21. IEEE Vehicular Technology Distinguished Lecture, Isreal Chapter, Tel Aviv, Dec. 2005.
22. “ Short Cours on Advanced Controls for Brushless DC Motor Drivres,” IEEE Applied Power Electroncis Conference, Dallas, Texas, March, 2006.
23. Technological University of Panama, “Sustainable energy engineering,’ June, 2010.

PROFESSIONAL COMMITTEE MEMBERSHIPS (past or present)

- IEEE Power Electronics Society (PELS) Administrative Committee
- IEEE Industry Applications Society (IAS) Executive Committee.
- IEEE Myron Zucker Faculty-Student Grant Program Chairman.
- IEEE IAS Industrial Power Converter Committee (IPCC), Chairman.
- IEEE-PELS Meetings Committee Member.
- IEEE-IAS Industrial Drives Committee Member.
- IEEE IAS Education Committee Member.
- IEEE-PELS Power Electronics Specialists Conference Program Committee Member.
- IEEE 1994 Power Electronics Specialists Conference Topic Chairman in “Motor Drives”
- IEEE Power Electronics Society Energy Committee Chairman
- Editorial Board of Electric Machines and Power Systems Journal Member
- IEEE Power Electronics Society Chairman of Education Committee
- IEEE Power Electronics Society Intersociety Liaison
- IEEE Transactions on Industrial Electronics, Associate Editor
- IEEE Transactions on Vehicular Technology, past Associate Editor
- IEEE Vehicular Technology Society Chairman of Vehicle Power and Propulsion Committee
- IEEE Vehicular Technology Society Chairman of Convergence Fellowship Committee
- Member of IEEE Vehicular Technology Society Board of Governors
- Member of IEEE Vehicular Society Fellows Nominations Committee

UNIVERSITY SERVICE

1. Member, Graduate Studies Committee, since 1982.
2. Member, Electrical Engineering Administrative Council, Hiring Committee, 1986.
3. Member, Doctor of Engineering Program Committee, Electrical Engineering Department, 1989.
4. Founding Member, Deans Committee on Engineering Scholars Program, College of Engineering, 1988, 1989, 1990, 1991.
5. Electric Power Institute (EPI) member.
6. Texas A&M Metermens School Lecturer, 1982-present.
7. Member, Department Awards Committee, 1992-present.
8. Chairman of the University Council of Principle Investigators, 1994-1995.
9. Member of Interdisciplinary Research Task Force, 1994.

10. Member of University Research Council Subcommittee on Conflict of Interest, 1994-1995.
11. Member of Departmental Awards Committee, 1995.
12. Member of Departmental Tenure and Promotion Committee, 1996- 1997.
13. Faculty Advisor to IEEE Student Chapter of Power and Power Electronics at Texas A&M University.
14. Member of Departmental Advisory Committee, 1999-2005.
24. Member Departmental Tenure and Promotion Committee, 2000-2002.
25. Member Departmental Distinguished Lecturer Selection Committee, 2003- 2005.
26. Member Departmental Tenure and Promotion Committee, 2008-present

PUBLICATIONS

- **Books**

1. Co-author: IEEE Guide for Self-Commutated Converters, ANSI/IEEE Std. 936, 1987.
2. Converter Circuits for Superconductive Magnetic Energy Storage, Co-Author: R. L. Kustom, Texas A&M University Press, 1988.
3. Contributor of Chapter on “Switched Reluctance Motor Drives” to Encyclopedia of Electrical and Electronics Engineering, John Wiley & Sons.
4. Contributor of Chapter on “Harmonic and Power Factor Control” to Encyclopedia of Electrical and Electronics Engineering, John Wiley & Sons.
5. Modern Electrical Drives, Co-Author: H. B. Ertan, et al., Kluwer Academic Publishers, 2000, printed in the Netherlands.
6. Contributor of a chapter on “ More Electric Vehicles” to CRC Handbook of Power Electronics, 2002.
7. Contributor of a chapter on “More Electric Aircraft” to CRC Handbook of Power Electronics, 2002.
8. Contributor to SAE book “Hybrid Electric Vehicles,” SAE SP-1633, published in 2001.
9. Co-author, “Combat Hybrid Power Systems Technologies, Technical Challenges and Research Priorities,” a report of National Research Council of the National Academies, 2003.
10. Vehicular Electric Power Systems, my Co-Authors: A. Emadi & JM Miller, Marcel Dekker, Inc. 2004.
11. Chapters contributor, “The 42-Volt Electrical System,” Book, Society of Automotive Engineers, Inc. PT-99, ISBN 0-7680-1297-X, 2003.

12. “Modern Electric, Hybrid Electric, and Fuel Cell Vehicles – Fundamentals, Theory, and Design”, M. Ehsani, Y. Gao, S. E. Gay, A. Emadi, CRC Press, 2005.
13. Contributor of chapter on “Hybrid Drive Trains” to “Handbook of Automotive Power Electronics and Motor Drives” CRC Press, 2005.

- **Patents**

1. “Position Sensor Elimination Technique for the Switched Reluctance Motor Drive,” Inventor: M. Ehsani, US Patent No. 5,072,166, December 1991.
2. “Inverse Dual Converter for High-Power Applications,” Inventor: M. Ehsani, US Patent No. 5,208,740, May 1993.
3. “Power Conversion Using Zero Current Soft Switching,” Inventor: M. Ehsani, US Patent No. 5,287,261, February 1994.
4. “Phase and Amplitude Modulation Techniques for Rotor Position Sensing in Switched Reluctance Motors,” Inventor: M. Ehsani, US Patent No. 5,291,115, March 1994.
5. “Method and Apparatus for Sensing the Rotor Position of a Switched Reluctance Motor,” Inventor: M. Ehsani, US Patent No. 5,410,235, April 1995.
6. “Indirect Rotor Position Sensor for A Sinusoidal Synchronous Reluctance Machine,” Inventors: M. Ehsani, M. S. Arefeen, and T. A. Lipo, U. S. Patent No. 5,448,149, September 1995.
7. “The Electrically Peaking Hybrid System and Method,” Inventor: M. Ehsani, US Patent No. 5,586,613, December 24, 1996.
8. “Capacitive Power Circuit,” M. Ehsani, US Patent No. 5,852,358, December 22, 1998.
9. “Switched Reluctance Motor Drive System,” M. Ehsani, US Patent Pending, Filing Date: January 1997, Serial Number 60/061,087.
10. “Method and Apparatus for Sensing the Rotor Position of a Switched Reluctance Motor without a Shaft Position Sensor,” M. Ehsani, European Patent No. 93923117.1, April 1997.
11. “Self-Tuning Control of Switched Reluctance Motor Drives System,” US Patent No. 6,472,842, October 29, 2002.
12. “Method and Apparatus of Indirect Torque Estimation in Switched Reluctance Motor Drives,” US Patent Pending.
13. “An Efficient Power Circuit for Capacitor Charging and Discharging,” US Patent Pending.
14. “Sensing of Rotor Position of a Switched Reluctance Motor without a Shaft Position Sensor,” European Patent No. EP0662265, August 1998.
15. “Self-Tuning Control of Switched Reluctance Motor Drive System,” Patent Pending.

16. "Inductance Model based Indirect Rotor Position Sensing Scheme for Switched Reluctance Motor (SRM) Drive," Patent Pending.
17. "Method and Apparatus for Reducing Noise and Vibration in Switched Reluctance Motor Drives," US patent pending.
18. "Application of Active Composite Wheels to All Terrain Vehicle," US patent pending.
19. "The Series-Parallel HEV with a Transmotor," US patent pending.
20. "Fuel Cell Powered Hybrid Drive Train and its Control Strategy," US patent pending.
21. "A New type of Transmission for Hybrid Vehicle with Speed and Torque Summation," US patent pending.
22. "Method and Apparatus for Self Tuning Control of Switched Reluctance Motor Drives," US Patent No. is 6,472,842, Oct 29, 2002.
23. "Virtual-Actual Laboratory for Power Electronics and Motor Drives with Remote Access", patent pending, 2/25/04.
24. M. Ehsani and Taehyung Kim, "Advanced Sensorless Drive Technique for Brushless DC Motors," US patent pending, 60/438,949, Jan. 2004
25. M. Ehsani, et al, "High Torque Switched Reluctance Motor," U.S. Patent Application Serial No. 11/379,174.
26. M. Ehsani, et al, "Generator Apparatus for a Quasi-Isothermal, Brayton Cycle Engine, U.S. Patent No. 7,008,200, March 7, 2006.
27. M. Ehsani, "System and Method for Inductance Based Position Encoding Sensorless SRM Drive," U.S. Patent No. 7,095,205, Aug. 22, 2006.
28. M. Ehsani, "Methods and Apparatus for Operating Hydrogen Enriched Spark Ignition Internal Combustion Engine Vehicle Propulsion System with On Board Plasma Reformer," patent disclosure to University Office of Technology Licensing.
29. M. Ehsani, "Method and Apparatus for Hybrid Vehicle Drive Train Using Cold Plasma Reformer and Spark Ignition Internal Combustion Engine Fueled Partial Hydrogen Enriched Natural Gas, Ethanol, E85, or other Hydrocarbon fuels," patent disclosure to University Office of Technology Licensing.
30. M. Ehsani, "Method and Apparatus for a Cold Plasma Reformer-Compression Internal Combustion Engine Vehicle Propulsion System," patent disclosure to University Office of Technology Licensing.
31. M. Ehsani, "Methods and Apparatus for Generating Hydrogen Rich Gas From Hydrocarbon Fuels by Cold Microwave Plasma Reforming," patent disclosure to University Office of Technology Licensing.
32. M. Ehsani, "Plug-In Hydraulic-Electric Hybrid Vehicles," patent disclosure to University Office of Technology Licensing.

33. M. Ehsani, "Power Stage and Control Algorithm Design for Balance of Plant Operation in Fuel Cell-Battery Off-Line UPS System," patent disclosure to University Office of Technology Licensing.
34. M. Ehsani, "Plug in Hybrid Drive Train with Partial Hydrogen Boosted Natural Gas Engine and Full Recovery of Potential Energy in Highly Compressed Natural Gas," patent disclosure to University Office of Technology Licensing.

(Other new patent disclosures in progress)

□ **Journal Papers**

1. R. E. Fuja, R. L. Kustom, and M. Ehsani, "Three-Phase Energy Transfer Circuit with Superconducting Energy Storage Coils," *IEEE Trans. on Industry Applications*, Vol. IA-16, No. 3, May/June 1980, pp. 438-444.
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126. H. Gao, F. R. Salmasi, and M. Ehsani, "A Novel Method for Sensorless Control of SRM at Standstill," *IEEE-APEC'2001*, pp. 850-856, Anaheim, CA, March 2001.
127. B. K. Lee and M. Ehsani, "Advanced BLDC Motor Drive for Low Cost and High Performance Propulsion System in Electric and Hybrid Vehicles," *IEEE-IEMDC'2001*, pp. 246-251, Cambridge, MA, June 2001.
128. Y. Gao, H. Gao, and M. Ehsani, "A Neural Network Based SRM Drive Control Strategy for Regenerative Braking in EV and HEV," *IEEE-IEMDC'2001*, Cambridge, MA, June 2001.
129. M. Ehsani and B. Fahimi, "Switched Reluctance Motor Drives: New Solutions to High Performance Adjustable Speed Applications," *International Aegean Conference on Electrical Machines and Power Electronics*, Kusadasi, Turkey, June 2001.

130. M. Ehsani, A. Emadi, and H. Gao "42V Automotive Power Systems," Invited paper at the *SAE Future Transportation Technology Conference'2001*, Costa Mesa, CA, August 2001.
131. H. Gao, Y. Gao, and M. Ehsani, "Design Issues of the Switched Reluctance Motor Drive for Propulsion and Regenerative Braking in EV and HEV," *SAE Future Transportation Technology Conference'2001*, Costa Mesa, CA, August 2001
132. Y. Gao, and M. Ehsani, "Electronic Braking System of EV and HEV---Integration of Regenerative Braking, Automatic Braking Force Control and ABS", *SAE Future Transportation Technology Conference'2001*, Costa Mesa, CA, August 2001.
133. Y. Gao and M. Ehsani, "Systematic Design of Fuel cell Powered Hybrid Vehicle Drive Train," *SAE Future Transportation Technology Conference'2001*, Costa Mesa, CA, August 2001.
134. S. Gay, J. Y. Routex, and M. Ehsani, "Investigation of Hybrid Drive Trains for Railway Vehicles," *SAE Future Transportation Technology Conference'2001*, Costa Mesa, CA, August 2001
135. B. K. Lee, B. Fahimi, and M. Ehsani, "Dynamic Modeling of Brushless DC Motor Drives," *9th EPE'2001*, Graz, Austria, September 2001.
136. B. K. Lee, B. Fahimi, and M. Ehsani, "Overview of Reduced Parts Converter Topologies for AC Motor Drives," *IEEE-PESC'2001*, pp. 2019-2024, Vancouver, Canada, October 2001.
137. A. Emadi and M. Ehsani, "Multi-Converter Power Electronic Systems: Definition and Applications," *IEEE-PESC'2001*, Vancouver, Canada, October 2001.
138. A. Emadi and M. Ehsani, "Dynamics and Control of Multi-Converter DC Power Electronic Systems," *IEEE-PESC'2001*, Vancouver, Canada, October 2001.
139. F. R. Salmasi, B. Fahimi, H. Gao, M. Ehsani, "Robust Sensorless Rotor Position Detection in Switched Reluctance Motors for Low Speed Applications," *IEEE-PESC'2001*, Vancouver, Canada, October 2001.
140. B. K. Lee and M. Ehsani, "An Advanced Simulation Model for Brushless DC Motor Drives," *International Conference on Power Electronics (ICPE'2001)*, pp. 390-394, Seoul, Korea, October 2001.
141. B. K. Lee and M. Ehsani, "Overview and State of the Art of Reduced Parts Converter Topologies for Adjustable Speed Drives," *ICPE'2001*, pp. 395-399, Seoul, Korea, October 2001.
142. H. Gao, B. Fahimi, F. R. Salmasi, M. Ehsani, "Sensorless Control of the Switched Reluctance Motor Drive Based on the Stiff System Control Concept and Signature Detection," *IEEE-IAS'2001*, pp. 490-495, Chicago, IL, October 2001.
143. B. Fahimi, Y. Gao, and M. Ehsani, "On the Suitability of Switched Reluctance Motor Drives for 42V Super High Speed Operation: Application to Automotive Fuel Cells," *IEEE-IECON'2001*, pp. 1947-1952, Denver, CO, November 2001.
144. R. Salmasi, B. Fahimi, H. Gao, M. Ehsani, "Sensorless Control of Switched Reluctance Motors for Constant Torque Applications based on Back EMF Calculation," *IEEE-APEC'2002*, pp. 293-298, Dallas, TX, March 2002.

145. S. Gay, J. Y. Routex, M. Holtzapple, and M. Ehsani, "Investigation of Hydrogen Carriers for Fuel-cell Based Transportation," *SAE World Congress '2002*, Detroit, MI, March 2002.
146. S. Gay, J. Y. Routex, and M. Ehsani, "Impact Study of Field-Weakening Operation of Electric Motors on Drive Train Oscillations," *SAE World Congress '2002*, Detroit, MI, March 2002.
147. S. Gay, J. Y. Routex, and M. Ehsani, "Study of Hybrid Electric Vehicle Drive Train Dynamics Using Gyrator Equivalent Circuit Modeling," *SAE World Congress '2002*, Detroit, MI, March 2002.
148. Y. Gao and M. Ehsani, "A Mild Hybrid Drive Train for 42V Power System-Design, Control and Simulation," *SAE World Congress '2002*, Detroit, MI, March 2002.
149. Y. Gao and M. Ehsani, "A Mild Hybrid Drive Train with a Floating Stator Motor-Configuration, Control Strategy, Design and Simulation Verification," *SAE Future Car Congress '2002*, Arlington, VA, June 2002.
150. J. S. Won, R. Langari, and M. Ehsani, "Energy Management Strategy for a Parallel Hybrid Vehicle," submitted to ASME International Mechanical Engineering Congress and Exposition, New Orleans, Louisiana, November 2002.
151. S. Gay and M. Ehsani, "On-Board Electrically Peaking Drive Train for Electric Railway Vehicles," *IEEE Vehicular Technology Conference*, Vancouver, B. C., September 2002.
152. S. Gay and M. Ehsani, "Design of a Fuel Cell Hybrid Tramway," *IEEE Vehicular Technology Conference*, Vancouver, B. C., September 2002.
153. Y. Gao and M. Ehsani, "Investigation of Battery Technologies for the Army's Hybrid Vehicle Application," *IEEE Vehicular Technology Conference*, Vancouver, B. C., September 2002.
154. S. Gay, H. Gao, and M. Ehsani, "Fuel Cell Hybrid Drive Train Configurations and Motor Drive Selection," *IEEE Vehicular Technology Conference*, Vancouver, B. C., September 2002.
155. T. H. Kim, B. K. Lee, and M. Ehsani, "Sensorless Control of the BLDC Motors from Near Zero to High Speed", *IEEE-APEC'2003*, Miami Beach, Florida, February 2003.
156. B. K. Lee J. P. Hong, and M. Ehsani, "Generalized design methodology of reduced parts converters for low cost BLDC motor drives", *IEEE-APEC'2003*, Miami Beach, Florida, February 2003.
157. H. Gao F. Salmasi, and M. Ehsani, "Inductance Model Based Sensorless Control of the Switched Reluctance Motor Drive at the Near Zero Speed", *IEEE-APEC'2003*, Miami Beach, Florida, February 2003.
158. M. D. Bellar, B. K. Lee, B. Fahimi, and M. Ehsani, "An Investigation of the six-switch single-phase to three-phase converter for ac motor drive applications," *5th Industrial Applications Conference*, Savador, Brazil, July 2002.
159. M. D. Bellar, B. K. Lee, B. Fahimi, and M. Ehsani, "A DSP control implementation of a simple single phase to three phase converter with PFC for ac motor drive

- applications,” *14th Brazilian Automatic Control Conference (CBA 2002)*, Rio Grande do Norte, Brazil, September 2002.
160. T.H. Kim and M. Ehsani, “An error analysis of the sensorless position estimation for BLDC motors”, submitted to the IEEE IAS 2003 conference.
 161. H.W. Lee, T.H. Kim and M. Ehsani, “Advanced control for power maximization of the BLDC generator”, submitted to the IEEE IAS 2003 conference.
 162. S.E. Gay and M. Ehsani, “Fuel cell warm up influence on vehicle fuel consumption”, submitted to the SAE FTT 2003 conference, Costa Mesa, CA.
 163. S.E. Gay and M. Ehsani, “Ammonia hydrogen carrier for fuel cell based transportation”, submitted to the SAE FTT 2003 conference, Costa Mesa, CA.
 164. Students of the graduate Hybrid-Electric Vehicles course at Texas A&M University and M. Ehsani, “Impact of hybrid electric vehicles on the world’s petroleum consumption and supply”, submitted to the SAE FTT 2003 conference, Costa Mesa, CA.
 165. Y. Gao, H. Moghbelli, George Frazier, John Kajs, Stephen Bayne, and M. Ehsani, “Investigation of proper motor drive characteristics for military vehicle propulsion”, submitted to the SAE FTT 2003 conference, Costa Mesa, CA.
 166. Y. Gao, H. Moghbelli, George Frazier, John Kajs, Stephen Bayne, and M. Ehsani, “Investigation of high-energy and high-power hybrid energy storage systems for military vehicular applications”, submitted to the SAE FTT 2003 conference, Costa Mesa, CA.
 167. H. Moghbelli, K. Ganapavarapu, R. Langari, and M. Ehsani, "A Comparative Review of Fuel Cell Vehicles (FCVs) and Hybrid Electric Vehicles (HEVs) Part I: Performance and Parameter Characteristics, Emissions, Well-to-Wheels Efficiency and Fuel Economy, Alternative Fuels, Hybridization of FCV, and Batteries for Hybrid Vehicles", submitted to the SAE FTT 2003 conference, Costa Mesa, CA.
 168. M. Ehsani, S. Welch, and S. Gay, “Comparison of the Impact of Hybrid Electric and Fuel Cell Vehicles on the World Oil Supply,” *Global Power Train Conference*, An Arbor, Michigan, September 2003,
 169. S.E. Abdollahi, M. Mirzayee, M. Mirsalim, M. Ehsani, and S. Gay, “2D-FEM and Analytical Modeling of a Solid Rotor Disk Induction Motor,” *5th International Symposium on Advanced Electromechanical Motion Systems, ELECTROMOTION 2003*, Nov. 26-28, 2003, Marrakesh, Morocco.
 170. Tae-Hyung Kim and Mehrdad Ehsani, “Advanced Sensorless Drive Technique for Multiphase BLDC Motors”, *2004 IEEE-IECON (Conference of the IEEE Industrial Electronics Society)*, Nov. 2004.
 171. Hyung-Woo Lee, Tae-Hyung Kim and M. Ehsani, “Maximum Power Throughput in the Multiphase BLDC Generator,” *2004 IEEE-IECON (Conference of the IEEE Industrial Electronics Society)*, Nov. 2004.
 172. Hyung-Woo Lee, Tae-Hyung Kim, and M. Ehsani, “Performance Improvement of the Linear BLDC Generator in a Deep Space Explorer,” *2004 IEEE-IECON (Conference of the IEEE Industrial Electronics Society)*, Nov. 2004.

173. B. Akin, U. Orguner, A. Ersak, and M. Ehsani, "A comparative study of non-linear state estimators applied to sensorless AC drives: MRAS and Kalman filter," *2004 IEEE-IECON (Conference of the IEEE Industrial Electronics Society)*, Nov. 2004.
174. M. Ehsani, N. Shidore, and Y. Gao, "On Board Power Management," in Proc. Of 2004 Workshop on Power Electronics in Transportation.
175. M. Ehsani, and Y. Gao, "Parametric Design of the Traction Motor and Energy Storage for Off-road and Military vehicles," 2004 IEEE-VTS Vehicle Power and Propulsion Symposium, Paris, October 6-8th, 2004
176. M. Ehsani, Y. Gao, P. Asadi, and S. Welch, "The application of Switched Reluctance Motor drive to Vehicle application," 2004 Aegean Conference on Electrical Machines and Power Electronics, Istanbul, May 26-28th, 2004
177. M. Ehsani and M.A. Masrur, "Vehicle Electrical Power System Modeling," 1st Annual US Army Ground-Automotive Power & Energy Symposium, July 22, 2005, Troy, Michigan.
178. S. Gay and M. Ehsani, "Analysis and Experimental Testing of a Permanent Magnet Eddy-Current Brake," IEEE Vehicle Power and Propulsion Conference, September 2005, Chicago, IL.
179. S. Gay and M. Ehsani, " Integration of Eddy-Current and Friction Brakes in Conventional and Hybrid Vehicles," SAE Future Transportation Technology Conference, September 2005, Chicago, IL.
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183. T. Kim and M. Ehsani, "Advanced Sensorless Drive Technique for Multiphase BLDC Motors", *2004 IEEE-IECON (Conference of the IEEE Industrial Electronics Society)*, vol. 1, pp. 926-931, Nov. 2004.
184. H. Lee, T. Kim, and M. Ehsani, "Performance Improvement of the Linear BLDC Generator in a Deep Space Explorer," *2004 IEEE-IECON (Conference of the IEEE Industrial Electronics Society)*, Nov. 2004.
185. B. Akin, U. Orguner, A. Ersak, and M. Ehsani, "A Comparative Study on Non-Linear state Estimator Applied to Sensorless AC Drives: MRAS and Kalman Filter," the 30th Annual Conference of the IEEE Industrial Electronics Society, Nov.2-6, 2004, Bursa, Korea.
186. T. Kim, H. Lee, and M. Ehsani, "State of the Art and Future Trends in Position Sensorless Brushless DC Motor/Generator Drives," *2005 IEEE-IECON (Conference of the IEEE Industrial Electronics Society)*, vol. 1, pp. 1718-1725, Nov. 2005.

187. T. Kim, H. Lee, and M. Ehsani, "High Performance Brushless Permanent Magnet Motor/Generator Drives in Electric and Hybrid Electric Vehicles," submitted to the *2006 IEEE-PESC Conference* (pending).
188. P. Asadi, M. Ehsani and B. Fahimi, "Design and Control Characterization of Switched Reluctance Generator for Maximum Output Power", APEC 2006, Dallas, March. 19th–23rd.
189. T. Kim, H. Lee, L. Parsa and M. Ehsani, "Optimal Power and Torque Control of a Brushless DC (BLDC) Motor/Generator Drive in Electric and Hybrid Electric Vehicles," IEEE Industry Applications Conference, IEEE-IAS 2006 Annual Meeting, Oct. 8-12, 2006.
190. Taehyung Kim¹, Hyung-Woo Lee², Member, IEEE, Mehrdad Ehsani³, Ph.D. P.E., F. IEEE, F. SAE, "Position Sensorless BLDC Motor/Generator Drives: Review and Future Trends," submitted to IEE Proceedings.
191. David Hoelscher, Alex Skorz, Yimin Gao, and Mehrdad Ehsani, "Hybridized Electric Energy Storage Systems for Hybrid Electric Vehicles," IEEE Vehicular Power and Propulsion Conference, VPPC, September, 2006, Windsor, England.
192. Yimin Gao, Liang Chu and M. Ehsani, "Design and Control Principles of Hybrid Braking System for EV, HEV and FCV," IEEE Vehicle Power and Propulsion Conference, VPPC07, Arlington, Texas, September 10-12, 2007.
193. Liang Chu, Jiayun Gu, Minghui Liu, Jun Li, Yimin Gao and M. Ehsani, "Study on CAN communication of EBS and Braking Performance Test for Commercial vehicles," IEEE Vehicle Power and Propulsion Conference, VPPC07, Arlington, Texas, September 10-12, 2007.
194. Liang Chu, Lanli Hou, Minghui Liu, Jun Li, Yimin Gao and M. Ehsani, "Study on the Dynamic Characteristics of Pneumatic ABS Solenoid valve for Commercial Vehicles," IEEE Vehicle Power and Propulsion Conference, VPPC07, Arlington, Texas, September 10-12, 2007.
195. Liang Chu, Lanli Hou, Minghui Liu, Jun Li, Yimin Gao and M. Ehsani, "Development of Air-ABS-HIL-Simulation Test Bench," IEEE Vehicle Power and Propulsion Conference, VPPC07, Arlington, Texas, September 10-12, 2007.
196. Yimin Gao and M. Ehsani, "Design and Control Methodology of Plug-in Hybrid Electric vehicles", IEEE Vehicle Power and Propulsion Conference, VPPC08, Harbin, China, September 3-5, 2008.
197. Xiaoling Yuan, Yimin Gao and M. Ehsani, "Study on The Performance of SR Machine for Vehicle Regenerative Braking", IEEE Vehicle Power and Propulsion Conference, VPPC08, Harbin, China, September 3-5, 2008.
198. Xiaoling Yuan, Yimin Gao and M. Ehsani, "Harmonic Control of Chopping Frequency and Shaft Speed in SRM", IEEE Vehicle Power and Propulsion Conference, VPPC08, Harbin, China, September 3-5, 2008.

SAMPLES OF SIGNIFICANT TECHNICAL REPORTS

1. "Study of a Self Commutated SCR in an Inductive Energy Storage System," Energy Systems Laboratory, University of Texas, Austin, Co-Author: H. H. Woodson, August 1974.

2. "Square Function Analysis of the Inductor-Converter Bridge," Argonne National Laboratory Technical Memorandum, ANL/FPP/ TM-118, 1979.
3. "Development, Analysis, and Control of the Inductor-Converter Bridge," Argonne National Laboratory Technical Memorandum, ANL/FPP/TM-144, August 1981.
4. "Superconductive Magnet Energy Storage for Pulsed Power Applications,"
5. "Theoretical Analysis of the Dynamics of Inductor-Converter Bridge," Wisconsin Superconductive Energy Storage Project Report, Volume IV, September 1983.
6. "Independent Control of Active and Reactive Power in High Voltage DC Power Transmissions," Research Project Report, Center for Energy and Mineral Resources (CEMR), Texas A&M University, May 1983 and May 1984.
7. "A New One-Phase Dual Converter for Superconducting Inductive Energy Storage and Transfer Applications: The One-Phase Inductor-Converter Bridge," Argonne National Laboratory Technical Memorandum, ANL/FPP/TM-182, March 1984.
8. "Advanced Converter Systems Research and Development for High Performance Aircraft," Research Project Annual Report, General Dynamics, Fort Worth Division, December 1985.
9. "Microcomputer Simulation of Electrified Drilling Rig Systems," Research Project Report, Center for Energy and Mineral Resources, Texas A&M University, May 1986.
10. "Power Electronics Research and Development for High Performance Aircraft," Research Project Report, General Dynamics, Fort Worth Division, December 1986.
11. "Force Commutated Cycloconverters for 400 Hz Generator Systems," Research Project Report, Wright Patterson Air Force Base, October 1986.
12. "New Architectures for Aerospace Vehicle Power Systems," General Dynamics, Fort Worth Division, November 1988.
13. "Optimized Power Conditioning Alternatives for Nuclear Spacecraft," General Electric, Valley Forge, November 1988.
14. "Conceptual Design of the Power Conditioning System for Thermoelectric and Dynamic Power Conversion in a Space Nuclear Power System," NASA Center for Space Power, Texas A&M University, December 1988.
15. "New Architectures for Superconductive and Normal Power Systems," US Interagency Advanced Power Group, Systems Working Group Meeting Report, April 1989.
16. "Application of HiTc Superconductor Materials to Small SMES Systems," Research Report to US Army Electronics Technology and Devices Laboratory, Fort Monmouth, NJ, December 1989.
17. "Superconductive Power Systems," Electric Power Research Institute (EPRI) Research Project Report, 1991.
18. "Smooth Walking Technique in the AUGUR Motor," Rocketdyne Division, Rockwell International, February 1993.

19. "Piezoelectric Motor Drive Development," Rocketdyne Division, Rockwell International, October 1994.
20. Co-author, "Combat Hybrid Power Systems Technologies, Technical Challenges and Research Priorities," a report of National Research Council of the National Academies, 2003.
21. Co-author, Motorola Corporation Research Visionary Board Final report, 2003.
22. Co-author, "Failure Modes and Effects Analysis of Series Hybrid Combat Vehicle" reported to US Army Research Lab, April 2004.
23. Co-author, Motorola Corporation Research Visionary Board Final report, 2005 & 2006.

SAMPLE LECTURES

1. "Power Electronics and Motor Drives," One-Week Short Course, Polytechnic Institute of Guayaquil, Equator, November 1986.
2. "A Force-Commutated Direct Frequency Changer for the Aircraft VSCF Systems," Invited Seminar, Wright Patterson Air Force Base, Aeropropulsion Laboratory, November 1986.
3. "A Solid State DC Breaker for the High Performance Aircraft Power System," Invited Seminar, General Dynamics, Fort Worth Division, December 1986.
4. "Application of the Matrix Converter to the Aircraft VSCF System," Invited Seminar, Sundstrand Corporation, Rockford, Illinois, February 1987.
5. "A Short Course in Power Electronics and Motor Drives," Fisher Controls International, Marshalltown, Iowa, July 1988.
6. "New Concepts in High Power DC-DC Converters, Electromechanical Activators and Pulsed Power Systems," Invited Seminar, Wright Patterson Air Force Base, March 1989.
7. "Power Electronics and Drives," A Short Course Offered by Electric Power Research Institute (EPRI) Power Electronics Applications Center, June 1989.
8. "Comparison of Various Energy Storage Schemes for Military Applications," Invited Half a Day Seminar at US Army Electronics Technology and Devices Laboratory, Fort Monmouth, NJ, January 1989.
9. "Pulse width Modulation (PWM) Techniques," Short Course at IEEE Applied Power Electronics Conference and Exposition (APEC'91), Dallas, March 1991.
10. "Technology Simplification in Switched Reluctance Motor Drives," Short Course at IEEE Applied Power Electronics Conference and Exposition (APEC'91), San Diego, March 1993.
11. "Parallel Hybrid Electric Drive Trains for the Next generation of Passenger Cars," Kay Note Speech in Southeast Michigan Section of IEEE, Dearborn Michigan, April 1998.

12. "Recent Advances and State of the Art in Switched Reluctance Motor Drives," Tutorial at IEEE Applied Power Electronics Conference and Exposition (APEC'2000), New Orleans, LA, February 2000.
13. "Automotive Electrical Power Systems: Current Status & Future Trends," Tutorial at IEEE 2000 Vehicular Technology Conference, Boston, MA, September 2000.
14. Numerous other IEEE Distinguished Lectures, for the Industry Applications and Industrial Electronics Societies, all over the US and worldwide.
15. Short Cycle Time Design of Advanced Motor Drives by the Real Time Simulation and Hardware in the Loop technologies, a two day short course offered to the automotive industry in Detroit, Michigan, Nov. 3-4, 2003.
16. "Integrated Biofuel-Vehicle System", Key Note address given at the opening of the 2004 IEEE-VTS Vehicle Power and Propulsion Symposium in Paris, France, October 4th, 2004

SIGNIFICANT ADDITIONAL INFORMATION

1. Founder of power electronics education and research program at Texas A&M University including a curriculum of two undergraduate and six graduate courses and three laboratories for teaching and research: presently the Power Electronics Group at Texas A&M consists of three faculty members and three visiting faculty members. The program enrolls over 100 undergraduate students annually and has had over 40 Ph.D. and 70 M.S. students up to the present.
2. Founder and director, Texas Applied Power Electronics Center TAPC in Electrical Engineering Department, 1982, funded by Texas Engineering Station, Texas A&M Office of University Research, Texas Higher Education Coordinating Board and industrial companies. (A Multidisciplinary center working on the ELPH hybrid vehicle project. Six professors, Texas Transportation Institute and ten industrial companies are collaborating on ELPH, under TAPC, at the present time.)
3. Founder of Advanced Vehicle Systems Research Program, College of Engineering, Texas A&M University, 1992, funded by Texas Engineering Experiment Station, Department of Electrical Engineering, and Texas Transportation Institute.
4. Technical expert for proposal reviews for the US National Science Foundation, Department of Energy, Environmental Protection Agency; Department of Commerce, Canadian National Science and Engineering Council; South African Foundation for Research and Development.
5. World Bank expert for academic program development in Polytechnic Institute of Guayaquil, Equator.
6. Outside expert Ph.D. examiner for Concordia University, Canada and Rand Afrikaans University and the University of Natal, South Africa, and others.
7. Textbook manuscript reviewer for John Wiley & Sons, Inc.; CRC Press; Marcel Dekker, Inc.; Prentice Hall; West Academic Publishing Co. and others.
8. IEEE Standards book reviewer for Power System Harmonics (IEEE Std. 519-199 X) and for the revision of Standards for Practices and Requirements for General Purpose DC Drives.

9. Reviewer for journals and conferences of IEEE Industry Applications Society, Power Electronics Society, Industrial Electronics Society, Control Systems Society, IEEE Proceedings and a few others.

RECENT GRADUATE STUDENTS

1. Chenyang Zhang, M.S, in process
2. Carlos Flores, Ph.D, in process
3. Wang, Yiqi, Ph.D, in process
4. Muneer Mohammad, Ph.D., in process
5. Yang Wang, Ph.D., in process
6. Ricardo Castillo, Ph.D., in process
7. Lin Lai, Ph.D., in process
8. Billy Yancey, Ph.D., in process
9. Neeraj Shidore, DSc., in process
10. Ronald Barazarte, Ph.D., completed 2011
11. Ali Eskandari, Ph.D., completed 2011
12. Guadalupe Gonzalez, completed 2011
13. Yue Gao, M.E., completed May 2010
14. Billy Yancey, M.S., completed May 2010
15. Sriram Sarma Emani, M.S., completed May 2010
16. Bo Chen, M.S., completed 2009
17. Richard Smith, M.S., completed 2009
18. Hung-ming Chou, M.S., completed 2009
19. Randy Doolittle, M.S., completed 2008
20. Alex Skorcz, M.S. completed Dec. 2007
21. Hugo Mena, M.S. completed Dec. 2007
22. Peyman Asadi, Ph. D., 2007.
23. David Hoelscher, M.S., completed May 2006
24. Steven Welch, M.S., completed Dec. 2005
25. Melissa Lipscomb, M.S., completed Aug. 2005
26. Ravish Ailinani, MEN, completed Aug. 2005
27. Sebastien E. Gay, Ph. D., completed May 2005
28. Neeraj Shidore, M.S., completed 2003
29. Hyung-Woo Lee, Ph. D., completed 2003.
30. Tae-Hyung Kim, Ph. D., completed 2003.
31. Farzad Rajaei Salmasi, Ph. D., completed in 2002.
32. Hongwei Gao, Ph. D., completed in 2001.
33. Baojun Si, Ph. D., completed.
34. Byoung-Kuk Lee, Ph. D., completed in 2001.
35. Stephen W. Moore, Ph. D., completed
36. Velayutham Rajarathnam, Ph. D., completed.
37. Tzong-Shiann Wu, Ph. D., completed.
38. Jean Yves Guy Routex, M.S., completed in 2001.
39. Ziaur Rahman, Ph. D., completed in 2001.
40. Ali Emadi, Ph. D., completed in 2000.

41. Liping Chen, MEN, completed in 2000.
42. Maria Dias Bellar, Ph. D., completed in 2000.
43. Suresh Gopalakrishnan, Ph. D., completed in 2000.
44. Babak Fahimi, Ph. D., completed in 1999.
45. James P. Johnson, Ph. D., completed in 1998.
46. Khawja M. Rahman, Ph. D., completed in 1998.
47. Stephen Moore, M.S., completed in 1997.
48. Yilcan Guzelgunler, M.S., completed in 1997.
49. Yingxia Zhang, M.S., completed in 1996.
50. Kenneth Stevens, M.S., completed in 1996.
51. Aristide Tchamdjou, M.S., completed in 1996.
52. Piyush Tandon, M.S., completed in 1996.
53. J. W. Kim, M.S., completed in 1995.
54. Shamsul Arefeen, M.S., and Ph. D.
55. Jayanthi Arvind, M.S.
56. Gerard Joseph Ashok R., MEN
57. Roger Carlos Becarra, Ph. D.
58. Paul Le Roy Brohlin, M.S.
59. Mallappa I. Guggari, M.S.
60. James M. Hansen, M.S.
61. Shahria Khan, M.S.
62. Ashok B. Kulkarni, Ph. D.
63. Alfonso Rafael Ledezma, MEN
64. Pascal Louis Noel Le Polles, M.S.
65. Touzhu, Li, Ph. D.
66. Shailendra Mahajan, M.S.
67. Jorge Carlos Menendez, M.S.
68. Nabil Hussein Qawasmi, M.S.
69. Ranganathan Charath Ram, M.S.
70. David Alan Riesz, MEN
71. Michael Arthur Schoen, M.S.
72. Sameer Sodhi, M.S.
73. Terry Joseph Villarreal, M.S.
74. Yuemin Zhang, M.S.
75. Jim Bass, Ph.D.
76. Yoon Ho Kim, Ph.D., 1985.
77. Ali Hozhabri, Ph.D., 1987.

Ex-Students that are Faculty Members

- | | |
|-----------------|----------------------------------|
| 1- Yoon Ho Kim | Chung Ang University, Korea |
| 2- Ali Hozhabri | University of Arkansas |
| 3- Babak Fahimi | University of Texas at Arlington |

4- Maria Bellar	State University of Rio de Janeiro, Brazil
5- Ali Emadi	Illinois Institute of Technology
6- Byoung-Kuk Lee	Sungkyunkwan University, Korea
7- Hongwei Gao	Montana State University
8- Farzad Rajaei Salmasi	University of Tehran, Iran
9- Tae-Hyung Kim	University of Michigan, Dearborn
10- Rhonda Drayton (undergraduate)	University of Minnesota
11. Ronald Barazarte	Technological University of Panama (UTP)
12. Guadalupe Gonzalez	Technological University of Panama (UTP)