

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 380 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 17 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 30 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: Three
- Last Security Clearance: Secret

ADDRESS

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

PROFESSIONAL INTERESTS

- Electronics
- 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
- Sustainable Energy and Transportation

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 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 65 U.S. and International Companies and Government Agencies

PROFESSIONAL SOCIETY MEMBERSHIPS

1. Institute of Electrical and Electronics Engineers (IEEE), since 1970
2. IEEE Industry Applications Society (IAS)
3. IEEE Industrial Electronics Society (IES)
4. IEEE Power Electronics Society (PELS)
5. IEEE Vehicular Technology Society (VTS)
6. Society of Automotive Engineers (SAE)
7. Member, American Energy Society
8. Registered Professional Engineer, Texas No. 57178

HONORS/AWARDS

1. Life 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. Listed in Covington Who's Who
97. Member of international steering committee, 5th International Power Electronics and Motion Control Conference (IPEMC2006), shanghai,China , August of 2006.
98. 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.
99. Member of National Research Council Panel for Decadal Survey of Civil Aeronautics, 2005-2006.
100. Key Note Speaker, ELECO 2005, "A Vision of Sustainable Vehicles and Fuel Technologies," Istanbul, Turkey.
101. Key Note Presentation, IEEE Vehicle Power and Propulsion Conference, VPPC, " A Vision of Renewable Energy and Sustainable Transportation,' Windsor, England, September, 2006.

102. 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.
103. Member of Italian Ministry for University and Research International Review Panel.
104. Member of Hong Kong Scientific and Engineering Review Panel.
105. Recipient of International Biographical Center, Cambridge, England, 21st Century Award for Achievement.
106. Listed in Who's Who in America, 61st Edition, 2007.
107. Member of Advisory Board of Automotive X Prize Foundation, Inc.
108. Member of the Steering Committee of International Conference on Electrical and Electronics Engineering, ELECO'2006 & ELECO'2007.
109. 2007 Innovation Award, Texas A&M Technology Lisencieng Office.
110. Key Note Speaker, MIT Automotive Consortium meeting, Seattle, WA, April, 2007.
111. 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.
112. Key Note Speaker, IEEE Vehicle Power and Propulsion Conference, VPPC 08, "Issues on Sustainable Energy and Transportation," Harbin, China, September 3, 2008.
113. Member of Steering Committee, 6th IEEE International Power Electronics and Motion Control Conference (IPEMC 2009), Wuhan, China, during May 17-20, 2009.
114. Listed in Who's Who in Finance and Business.
115. IEEE Vehicular Technology Society 2008 VTS Outstanding Service Award.
116. Member, Automotive X PRIZE Development Advisory Board.
117. Key Note Speaker at IEEE Vehicle Power and Propulsion Conference, VPPC 09 "Sustainable Energy Engineering," Dearborn, Michigan, September 2009.
118. Invited short Course, Technological University of Panama, "Sustainable energy engineering," June, 2010.
119. Winner of 2011 Texas A&M University System Patent and Innovation Award.
120. Inaugural ABB Distinguished Lecturer, North Carolina State University, March 2012.
121. Member of the organizing committee, Power Train Modeling and Control Conference, PMC2012, September 4-6, 2012.
122. Winner of Texas A&M University Office of Technology Commercialization Patent and Innovation 2012 Award.
123. Technical Advisor to the government panel on National Integrated Sustainable Power System of Pananam-2050.

124. Panelist: Aspen Clean Energy Round Table, June 4-6, 2012.
125. Member of Organizing Committee, TMC 2012 (Testing, Mapping and Calibration Conference) 4th to 6th of September 2012, University of Bradford, West Yorkshire, UK.
126. Key note speaker and Program Co-Chair, 2012 International Conference on Connected Vehicles & Expo (ICCVE 2012), December 2012, Beijing, China.
127. Key Note speaker at IEEE Green Technologies Conference, Denver, Colorado, April 4-5, 2013.
128. Invited Distinguished Lecture, "Sustainable Energy Engineering," University of Colorado, Boulder, September 19, 2013.
129. Listed in "Who's Who in North American Education (2014-2015 Edition)."
130. Key note on "Sustainable Energy and Transportation Engineering" at IEEE Green Tech'14, Corpus Christi, Texas, April, 2014.
131. Keynote on "Sustainable Energy Engineering" at 3rd International Conference in Renewable Energy Research and Applications, Milwaukee, October 2014.
132. IEEE Vehicular Technology Distinguished Lecture " Evolution of Electric Drivetrain," McGill-IEEE Symposium on Advanced Electric Vehicle Drivetrains, November 14, 2014, Montreal, Canada.
133. Invited seminar at University of Texas at Austin, Energy Institute, "Engineering and Socio-economic aspects of sustainable energy," January 22, 2015.
134. M. Ehsani, "Confluence of Fossil and Sustainable Energy Sources," keynote at IEEE Green Tech'15, New Orleans, April, 2015.
135. Elected to IEEE Life Fellow, 2015.
136. IEEE Power Engineering Society Distinguished Lecture on sustainable energy, Austin, Texas chapter, February 23, 2016.

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. M. Ehsani, “Short Course on Sustainable Energy Engineering,” University of Tel Aviv, December 2010, invited short course.
24. M. Ehsani “Short Course on Sustainable Energy and Transportation,” Technical University of Panama, June 2010, invited short course.

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
- Chair of IEEE Vehicular Technology Society, Vehicles 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.
25. Member Departmental Tenure and Promotion Committee, 2000-2002.
26. Member Departmental Distinguished Lecturer Selection Committee, 2003- 2005.
27. Member Departmental Tenure and Promotion Committee, 2008-present.
28. Chair of Department Awards commit 2011-Present.
29. Departmental Representative at the Engineering Faculty Advisory Committee, EFAC, College of Engineering.

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., Klear 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.
14. “Modern Electric, Hybrid Electric, and Fuel Cell Vehicles – Fundamentals, Theory, and Design”, M. Ehsani, Y. Gao, A. Emadi, CRC Press, Second Edition, 2010.
15. “Encyclopedia of Sustainability Science and Engineering” ISBN 978-0-387-89469-0, Springer, 2012.
16. “Transportation Technologies for Sustainability: Selected Entries from the Encyclopedia of Sustainability Science and Technology”, ISBN 978-1-4614-5843-2, Springer, 2013.
17. “Alternative Fuels and Advanced Vehicle Technologies for Improved Environmental Performance: Towards Zero Carbon Transportation,” ISBN: 978-0-85709-522-0 Woodhead Publishing, March, 2014.

- **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.
35. M. Ehsani, et. al., “Electric Machine Having A High-Torque Switched Reluctance Motor,” US patent No. 7,663,283,B2, February 2010.
36. M. Ehsani, et. al., “Electric Machine Having Rotor and Stator Configurations,” US patent No. 8,022,586 B2, September 2011.

(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.

2. M. Ehsani, R. L. Kustom, and R. E. Fuja, "Microcomputer Control of a Current Source DC-DC Converter," *IEEE Trans. on Industry Applications*, Vol. IA-19, No. 5, September/October 1983, pp. 690-698.
3. M. Ehsani, R. L. Kustom, and R. W. Boom, "A One-Phase Dual Converter for Two Quadrant Power Control of Superconducting Magnets," *IEEE Trans. on Magnetics*, Vol. MAG-21, No. 2, March 1985, pp. 1115-1118.
4. M. Ehsani, et al., "High MVA Interrupters Using the GTO," *Bulletin of American Physical Society*, Abstract, May 1985.
5. M. Ehsani, et al., "Converter Networks for Superconducting Magnetic Systems," *Bulletin of American Physical Society*, May 1985.
6. M. Ehsani and R. L. Kustom, "A Bilateral Power Supply with Energy Storage Buffer for the Superconductive Coils of Large Particle Accelerators," *IEEE Trans. on Nuclear Science*, Vol. NS-32, No. 5, October 1985, pp. 3781-3783.
7. M. Ehsani and W. H. Kernaghan, "Evaluation of the GTO for 270 MVA Interrupter Applications," *IEEE Trans. on Nuclear Science*, Vol. NS-32, No. 5, October 1985, pp. 3784-3786.
8. J. T. Bass, M. Ehsani, and T. J. E. Miller, "Robust Torque Control of Switched-Reluctance Motors without a Shaft Position Sensor," *IEEE Trans. on Industrial Electronics*, Vol. IE-33, No. 3, August 1986, pp. 212-216.
9. M. Ehsani, A. Hozhabri, and R. L. Kustom, "Decoupled Control Techniques for Dual Flying Capacitor Bridge Power Supplies of Large Superconductive Magnets," *IEEE Trans. on Magnetics*, Vol. MAG-23, No. 2, March 1987, pp. 591-594.
10. J. T. Bass, M. Ehsani, and T. J. E. Miller, "Simplified Electronics for Torque Control of Sensorless Switched-Reluctance Motor," *IEEE Trans. on Industrial Electronics*, Vol. IE-34, No. 2, May 1987, pp. 234-239.
11. M. Ehsani, J. T. Bass, T. J. E. Miller, and R. L. Steigerwald, "Development of a Unipolar Converter for Variable Reluctance Motor Drives," *IEEE Trans. on Industry Applications*, Vol. IA-23, No. 3, May/June 1987, pp. 545-553.
12. Y. H. Kim and M. Ehsani, "An Algebraic Algorithm for Microcomputer Based (Direct) Inverter Pulse-Width Modulation," *IEEE Trans. on Industry Applications*, Vol. IA-23, No. 4, pp. 653-660, July/August 1987; For a detailed discussion of this article, see - Bowes, Sidney, Y. H. Kim and M. Ehsani, "Discussion on an Algebraic Algorithm for Microcomputer Based (Direct) Inverter Pulse-Width Modulation." *IEEE Trans. on Industry Applications*, Vol. IA-24, No. 6, November/December 1988, pp. 998-1004.
13. M. Ehsani, J. T. Bass, and T. J. E. Miller, "High Speed Torque Control of Permanent Magnet Brushless DC Motors," *IEEE Trans. on Industrial Electronics*, Vol. IE-37, No. 3, August 1988, pp. 402-406.
14. M. O. Bilgic and M. Ehsani, "Time Averaged Behavior of Single and Dual Flying Capacitor Converter of Superconductive Magnets," *International Journal of Electronics*, Vol. 66, No. 4, 1989, pp. 655-663.
15. T. M. Jahns, R. C. Becerra, and M. Ehsani, "Integrated Current Regulation for a Brushless ECM Drive," *IEEE Trans. on Power Electronics*, Vol. 6, No. 1, January 1991, pp. 118-126.

16. M. Ehsani, I. Husain, and A. B. Kulkarni, "Elimination of Discrete Position Sensor and Current Sensor in Switched Reluctance Motor Drives," *IEEE Trans. on Industry Applications*, Vol. IA-28, No. 1, January/February 1992, pp. 128-135; also cited in K. Rajashekara, et al., eds. *Sensorless Control of AC Motor Drives: Speed and Position Sensorless Operation*, IEEE Press, 1996, pp. 463-470.
17. A. B. Kulkarni and M. Ehsani, "A Novel Position Sensor Elimination Technique for the Interior-Permanent Magnet Synchronous Motor Drive," *IEEE Trans. on Industry Applications*, Vol. 28, No. 1, January/February 1992, pp. 144-150; also cited in K. Rajashekara, et al., *Sensorless Control of AC Motor Drive: Speed and Position Sensorless Operation*, IEEE Press, 1996, pp. 366-372.
18. R. C. Becerra, M. Ehsani, and T. M. Jahns, "Four-Quadrant Brushless ECM Drive with Integrated Current Regulation," *IEEE Trans. on Industry Applications*, Vol. IA-28, No. 4, July/August 1992, pp. 833-841.
19. M. Ehsani, I. Husain, K. R. Ramani, and J. H. Galloway, "Dual Decay Converter for Switched Reluctance Motor Drives in Low Voltage Applications," *IEEE Trans. on Power Electronics*, Vol. 8, No. 2, April 1993, pp. 224-230.
20. M. Ehsani, O. H. Stielau, J. D. Van Wyk, and I. J. Pitel, "Integrated Reactive Components for Power Electronic Circuits," *IEEE Trans. on Power Electronics*, Vol. 8, No. 2, April 1993, pp. 208-215.
21. M. Ehsani, I. Husain, and M. O. Bilgic, "Inverse Dual Converter (IDC) for High Power DC-DC Applications," *IEEE Trans. on Power Electronics*, Vol. 8, No. 2, April 1993, pp. 216-223.
22. R. C. Becerra, M. Ehsani, and T. J. E. Miller, "Commutation of SR Motors," *IEEE Trans. on Power Electronics*, Vol. 8, No. 3, July 1993, pp. 257-263.
23. M. Ehsani and M. O. Bilgic, "Power Converters as Natural Gytrators," *IEEE Trans. on Circuits and Systems*, Vol. 40, No. 12, December 1993, pp. 946-949.
24. M. Ehsani, I. Husain, S. Mahajan, and K. R. Ramani, "New Modulation Encoding Techniques for Indirect Rotor Position Sensing in Switched Reluctance Motors," *IEEE Trans. on Industry Applications*, Vol. 30, No. 1, January/February 1994, pp. 85-91.
25. I. Husain and M. Ehsani, "Error Analysis in Indirect Rotor Position Sensing of Switched Reluctance Motors," *IEEE Trans. on Industrial Electronics*, Vol. 41, No. 3, June 1994, pp. 301-307.
26. M. Ehsani and I. Husain, "Rotor Position Sensing in Switched Reluctance Motor Drive by Measuring Mutually Induced Voltages," *IEEE Trans. on Industry Applications*, Vol. 30, No. 3, May/June 1994, pp. 665-672.
27. M. S. Arefeen, M. Ehsani, and T. A. Lipo, "An Analysis of the Accuracy of Indirect Shaft Sensor for Synchronous Reluctance Motor," *IEEE Trans. on Industry Applications*, Vol. 30, No. 5, September/October 1994, pp. 1202-1209.
28. M. S. Arefeen, M. Ehsani and T. A. Lipo, "Sensorless Position Measurement in Synchronous Reluctance Motor," *IEEE Trans. on Power Electronics*, Vol. 9, No. 6, November 1994, pp. 624-630.

29. T. S. Wu, I. Husain, and M. Ehsani, "Switched-Mode Converters for High-Power DC-DC Applications," *International Journal of Electronics*, Vol. 77, No. 5, November 1994, pp. 583-599.
30. M. C. Smit, J. A. Ferreira, J. D. Van Wyk, and M. Ehsani, "An Ultrasonic Series Resonant Converter with Integrated LCT," *IEEE Trans. on Power Electronics*, Vol. 10, No. 1, January 1995, pp. 25-31.
31. A. Ludbrook and M. Ehsani, "Burndown Prevention in Static Power Converter Equipment," *IEEE Industry Applications Magazine*, Vol. 1, No. 2, March/April 1995, pp. 46-53.
32. D. H. Jang, G. H. Choe, and M. Ehsani, "Asymmetrical PWM Technique with Harmonic Elimination and Power Factor Control in AC Choppers," *IEEE Trans. on Power Electronics*, Vol. 10, No. 2, March 1995, pp. 175-184.
33. M. Ehsani, M. O. Bilgic, S. Khan, L. Laskai, and S. G. Jeong, "Capacitor Coupled converter (C³) for High Power DC Conversion," *IEEE Trans. on Power Electronics*, Vol. 10, No. 4, July 1995, pp. 511-518.
34. M. Ehsani, M. O. Bilgic, A. D. Patton, and J. Mitra, "New Architectures for Space Power Systems," *IEEE Aerospace and Electronics Systems Magazine*, Vol. 10, No. 8, August 1995, pp. 3-8.
35. M. Ehsani, M. O. Bilgic, A. D. Patton, and J. Mitra, "Magnetically Inflatable SPS with Energy Storage Capability," *IEEE Aerospace and Electronics Systems Magazine*, Vol. 10, No. 8, August 1995, pp. 9-14.
36. M. Ehsani, P. Le Polles, M. S. Arefeen, I. Pitel, and J. D. Van Wyk, "Computer Aided Design and Application of Integrated LC Filters," *IEEE Trans. on Power Electronics*, Vol. 11, No. 1, January 1996, pp. 182-190.
37. M. Ehsani, and K. R. Ramani, "Direct Control Strategies Based on Sensing Inductance in Switched Reluctance Motors," *IEEE Trans. on Power Electronics*, Vol. 11, No. 1, January 1996, pp. 74-82.
38. I. Husain, K. R. Ramani, and M. Ehsani, "Torque Ripple Minimization in Switched Reluctance Motor Drives by PWM Current Control," *IEEE Trans. on Power Electronics*, Vol. 11, No. 1, January, 1996, pp. 83-88.
39. S. Moore and M. Ehsani, "An Empirically Based Electrosource Horizon Lead-Acid Battery Model," *SAE Journal SP-1156*, No. 960448, February 1996.
40. R. C. Becerra, T. M. Jahns, and M. Ehsani, "Four-Quadrant Sensorless Brushless ECM Drives," cited by K. Rajashekara, et al., eds. *Sensorless Control of AC Motor Drives: Speed and Position Sensorless Operation*, IEEE Press, 1996, pp. 283-290.
41. M. Ehsani, K. Rahman, and H. A. Toliyat, "Propulsion System Design of Electric and Hybrid Vehicles," Invited Paper for a Special Issue of *IEEE Trans. on Industrial Electronics*, Vol. 44, No. 1, February 1997, pp. 19-27.
42. K. Butler, K. Stevens, and M. Ehsani, "A Versatile Computer Simulation Tool for Design and Analysis of Electric and Hybrid Drive Trains," *SAE Proceedings Electric and Hybrid Vehicle Design Studies*, Book # SP 1243, Paper # 970199, February 1997, pp. 19-25, Detroit, MI.

43. Y. Gao, K. Rahman, and M. Ehsani, "Parametric Design of the Drive Train of Electrically Peaking Hybrid (ELPH) Vehicle," *SAE Journal Publication*, No. 970294, February 1997, pp. 145-150.
44. Y. Gao, K. Rahman, and M. Ehsani, "The Energy Flow Management and Battery Energy Capacity Determination of the Drive train of the Electrically Peaking Hybrid Vehicle," *SAE Journal Publication*, No. SP 1284, No. 972647, August 1997, pp. 43-48.
45. Tandon, A. V. Rajarathnam, and M. Ehsani, "Self-Tuning Control of a Switched Reluctance Motor Drive with Shaft Position Sensor," *IEEE Trans. on Industry Applications*, Vol. 33, No. 4, July/ August 1997, pp. 1002-1010.
46. J. 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 Circuit s and Systems*, Vol. 44, No. 8, August 1997.
47. M. Ehsani, "Switched Reluctance Motor Drives-Recent Advances," *Proceedings in Engineering and Sciences of Indian Academy of Sciences*, Vol. 22, Part 6, December, 1997, pp. 821- 836.
48. M. Ehsani, J. Mahdavi, I. Pitel, J. E. Brandenburg, and F. E. Little, "Development of an Efficient Power Supply for the Microwave Electrothermal Thruster," *IEEE Aerospace and Electronic System Magazine*, Vol. 13, No. 5, May 1998, pp. 37-42.
49. M. D. Bellar, T. S. Wu, A. Tchamdjou, J. Mahdavi, and M. Ehsani, "A Review of Soft-Switched DC-AC Converters," *IEEE Trans. on Industry Applications*, Vol. 34, No. 4, July/August 1998, pp. 847-861.
50. K. M. Rahman, A. V. Rajarathnam, and M. Ehsani, "Optimized Instantaneous Torque Control Scheme of a Switched Reluctance Motor by Neural Network," accepted for *IEEE Trans. on Industry Applications*, 1998.
51. M. Ehsani, M. D. Bellar, K. M. Khwaja, and A. Severinsky, "Evaluation of Soft Switching Inverters for EV and HEV Motor Drives," *IEEE Trans. on Industrial Electronics*, Vol. 48, No. 1, Feb. 2001.
52. Z. Rahman, K. Butler, and M. Ehsani, "A Study of Design Issues on Electrically Peaking Hybrid Electric Vehicles for Diverse Urban Driving Patterns," *Advances in Electric Vehicle Technologies*, SP-1417, Paper #: 1999-01-1151, Society of Automotive Engineers, March 1999, pp. 1-9.
53. S. W. Moore, K. M. Rahman, and M. Ehsani, "Effect on Vehicle Performance of Extending the Constant Power Region of Electric Drive Motors," *SAE Journal*, Paper No. 1999-01-1152, March 1999.
54. S. W. Moore and M. Ehsani, "Energy and Power Storage and Production in HEV Architectures," *SAE Journal*, March 1999.
55. S. W. Moore and M. Ehsani, "Analysis of Electric Vehicle Utilization on Global CO₂ Emission Levels," *SAE Journal*, Paper No. 1999-01-1146, March 1999.
56. S. W. Moore and M. Ehsani, "A Charge Sustaining Parallel HEV Application of the Transmotor," *SAE Journal*, Paper No. 1999-01-0919, March 1999.

57. B. Fahimi, J. P. Johnson, G. Suresh, and M. Ehsani, "Self-Tuning Control of Switched Reluctance Motors for Optimized Torque per Ampere at All Operating Points," submitted to the *IEEE Trans. on Industrial Electronics*, 1999.
58. B. Fahimi, G. Suresh, J. Mahdavi, and M. Ehsani, "A New Approach to Model Switched Reluctance Motor Drive: Application to Dynamic Performance Prediction, Control and Design," submitted to the *IEEE Trans. on Power Electronics*, 1999.
59. Rahman, K. M., G. Suresh, B. Fahimi, and M. Ehsani, "Optimized Torque Control of Switched Reluctance Motor at All Operational Regimes Using Neural Network," *IEEE Trans. on Industry Applications*, Vol. 37, No. 3, May/June 2001, pp 904-914.
60. K. M. Rahman, B. Fahimi, G. Suresh, and M. Ehsani, "Advantages of Switched Reluctance Motor Applications to EV and HEV: Design and Control Issues," *IEEE Trans. on Industry Applications*, Vol. 36, No. 1, January/February 2000, pp. 111-121.
61. G. Suresh, K. M. Rahman, B. Fahimi, and M. Ehsani, "Self-tuning Sensorless SRM Drives for Mass Production," submitted to the *IEEE Trans. on Industry Applications*, 1999.
62. B. Fahimi, G. Suresh, K. M. Rahman, and M. Ehsani, "Mitigation of Acoustic Noise and Vibration Cancellation in Switched Reluctance Motor Drive Using Neural Network Based Current Profiling," submitted to the *IEEE Trans. on Industrial Electronics*.
63. A. Emadi, J. P. Johnson, and M. Ehsani, "Stability Analysis of Large DC Solid State Power Systems for Space," *IEEE Aerospace and Electronic Systems Magazine*, Vol. 15, No. 2, February 2000, pp. 25-30.
64. A. Emadi and M. Ehsani, "Aircraft Power Systems: Technology, State of the Art, and Future Trends," *IEEE Aerospace and Electronic Systems Magazine*, Vol. 15, No. 1, January 2000, pp. 28-32.
65. Y. Gao, L. Chen, and M. Ehsani, "Investigation of the Effectiveness of Regenerative Braking in EV and HEV," *SAE Journal*, SP-1466, No. 1999-01-2910, 1999.
66. B. Fahimi, G. Suresh, and M. Ehsani, "Design Considerations of Switched Reluctance Motors: Vibration and Control Issues," submitted to the *IEEE Trans. on Industry Applications*.
67. A. Emadi, B. Fahimi, and M. Ehsani, "On the Concept of Negative Impedance Instability in the More Electric Aircraft Power Systems with Constant Power Loads," *SAE Journal*, paper No. 1999-01-2545, 1999.
68. A. Emadi and M. Ehsani, "Electrical System Architectures for Future Aircraft," *SAE Journal*, Paper No. 1999-01-2645, 1999.
69. B. Fahimi and M. Ehsani, "On the Eccentricity in Switched Reluctance Motor Drives," submitted to the *Journal of Electric Power Components and Systems*
70. B. Fahimi and M. Ehsani, "Large Switched Reluctance Motors: A 1MW Case Study," submitted to the *Journal of Electric Power Components and Systems*.
71. M. Ehsani, Y. Gao, and K. Butler, "Application of Electrically Peaking Hybrid (ELPH) Propulsion System to a Full Size Passenger Car with Simulation Design Verification," Invited Paper for the Special Issue of *IEEE Trans. on Vehicular Technology*, Vol. 48, No. 6, November 1999, pp. 1779-1787.

72. K. Butler, M. Ehsani, and P. Kamath, "A Matlab-Based Modeling and Simulation Package for Electric and Hybrid Electric Vehicle Design," Invited Paper for the Special Issue of *IEEE Trans. on Vehicular Technology*, Vol. 48, No. 6, Nov. 1999, pp. 1770-1778.
73. Z. Rahman, K. L. Butler, and M. Ehsani, "A Comparison Study Between Two Parallel Hybrid Control Concepts," *SAE Journal*, Paper No. 2000-01-0994, 2000.
74. Z. Rahman, K. L. Butler and M. Ehsani, "Effect of Extended Speed, Constant Power Operation of Electric Drives on the Design and Performance of EV Propulsion System," *SAE Journal*, 2000.
75. Z. Rahman, K. L. Butler, and M. Ehsani, "Motor Short Circuit Effects in EV and HEV," *SAE Journal*, 2000.
76. Z. Rahman, K. L. Butler, and M. Ehsani, "An Investigation of Traction Motor Characteristics for EV and HEV Applications," *SAE Journal*, 2000.
77. A. Emadi, B. Fahimi, M. Ehsani, and J. M. Miller, "On the Suitability of Low-Voltage (42V) Electrical Power System for Traction Applications in the Parallel Hybrid Electric Vehicles," *SAE Journal*, Paper No. 2000-01-1558, April 2000.
78. B. K. Lee and M. Ehsani, "A Simplified Functional Model for 3-Phase Voltage-Source Inverter Using Switching Function Concept," *IEEE Trans. on Industrial Electronics*, Vol. 48, No. 2, pp.309-321, April 2001.
79. Y. Gao and M. Ehsani, "Electronic Braking System of EV and HEV – Integration of Regenerative Braking, Automatic Braking Force Control and ABS", *SAE Journal*, Paper No. 2001-01-2478, August 2001.
80. Y. Gao and M. Ehsani, "Systematic Design of Fuel Cell Powered Hybrid Vehicle Drive Train", *SAE Journal*, Paper No. 2001-01-2532, August 2001.
81. S.E. Gay-Desharnais, J.Y. Routex and M. Ehsani, "Investigation of Hybrid Drive Trains for Railway Vehicles", *SAE Journal*, Paper No. 2001-01-2525, August 2001.
82. Y. Gao and M. Ehsani, "42V Automotive Power Systems", *SAE Journal*, Paper No. 2001-01-2465, August 2001.
83. 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 Journal*, Paper No. 2001-01-2526, August 2001.
84. M. Ehsani and A. Emadi, "Multi-Converter Power Systems and Their Applications," *Journal of Electric Power Component and Systems*, vol. 29, no. 10, pp. 949-963, October 2001.
85. M. Ehsani and B. Fahimi, "Elimination of Position Sensors in Switched Reluctance Motor Drives: State of the Art and Future Trends," *IEEE Trans. On Industrial Electronics*, vol. 49, no. 1, pp. 40-47, Feb. 2002.
86. B. K. Lee, T. H. Kim, and M. Ehsani, "On the Feasibility of Four-Switch Three-Phase BLDC Motor Drives for Low Cost Commercial Applications: Topology and Control," *IEEE Transactions on Power Electronics*, Vol. 18, No. 1, January 2003, pp 164-173.

87. H. Gao, F. R. Salmasi, and M. Ehsani, "Sensorless Control of the Switched Reluctance Motor Drive at Standstill," submitted to the *IEEE Transactions on Industry Applications*, February 2002.
88. Y. Gao and M. Ehsani, "A Mild Hybrid Drive Train for 42V Automotive Power Systems – Design, Control and Simulation", *SAE Journal*, Paper No. 2002-01-1082, March 2002.
89. S.E. Gay-Desharnais, J.Y. Routex, M. Holtzapple, and M. Ehsani, "Investigation of Hydrogen Carriers for Fuel Cell Based Transportation", *SAE Journal*, Paper No. 2002-01-0097, March 2002.
90. S.E. Gay-Desharnais, J.Y. Routex, and M. Ehsani, "Study of Hybrid Electric Vehicle Drive Train Dynamics Using Gyator-Based Equivalent Circuit Modeling", *SAE Journal*, Paper No. 2002-01-1083, March 2002.
91. S.E. Gay-Desharnais, J.Y. Routex, and M. Ehsani, "Impact Study of Field-Weakening Operation of Electric Motors on Drive Train Oscillations", *SAE Journal*, Paper No. 2002-01-1089, March 2002.
92. Y. Gao and M. Ehsani, "A Mild Hybrid Drive Train with a Floating Stator Motor— Configuration Control Strategy, Design, and Simulation Verification", *SAE Journal*, Paper No. 2002-01-1878, June 2002.
93. B. K. Lee and M. Ehsani, "Advanced Simulation Model for BLDC Motor Drives," *Electric Power Components and Systems*, Vol. 31, No. 9, September, 2003.
94. B. K. Lee, B. Fahimi, and M. Ehsani, "Review of Reduced Parts Converter Topologies for AC Motor Drives," submitted to the *IEEE Transactions on Industrial Electronics*, October 2002.
95. S. E. Gay and M. Ehsani, "Fuel Cell Warm Up Influence on Vehicle Fuel Consumption," *Society of Automotive Engineers (SAE) 2003 Future Transportation Technology Conference*, Costa Mesa, CA, June 2003, SAE #2003-01-2269.
96. S. E. Gay and M. Ehsani, "Ammonia Hydrogen Carrier for Fuel Cell Based Transportation," *Society of Automotive Engineers (SAE) 2003 Future Transportation Technology Conference*, Costa Mesa, CA, June 2003, SAE #2003-01-2251.
97. 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 Society of Automotive Engineers.
98. 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 Society of Automotive Engineers.
99. 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 Society of Automotive Engineers.
100. 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", *SAE Transactions Volume on Journal of Engines*, paper # 2003-01-2298.

- 101.H. Moghbelli, K. Ganapavarapu, R. Langari, and M. Ehsani, "A Comparative Review of Fuel Cell Vehicles (FCVs) and Hybrid Electric Vehicles (HEVs) Part I: Control Strategies, Power Train, Total Cost, Infrastructure, New Developments, Manufacturing and Commercialization," SAE Transactions Volume on Journal of Engines, paper # 2003-01-2299.
- 102.S. Gay and M. Ehsani, "Design of Fuel Cell Hybrid Tramway," IEEE Vehicular Technology Society News, February 2003.
- 103.Salmasi, F.R. and M. Ehsani, " A Novel Approach to Model Switched Reluctance Machines Based on Decomposition of Double Magnetic Saliencies," Submitted to IEEE Trans. on magnetics.
- 104.**S.E. Abdollahi, M. Mirzayee, M. Mirsalim, M. Ehsani, and S. Gay, " 2D-FEM and Analytical Modeling of a Solid Rotor Disk Induction Motor," 'ELECTROMOTION' (ISSN 1223 - 057X), Vol. 10 (2003), Nos. 3 and 4 .
- 105.H. Gao F. Salmasi, and M. Ehsani, "Inductance Model Based Sensorless Control of the Switched Reluctance Motor Drive at the Near Zero Speed", IEEE Trans. on Power Electronics, Vol. 19, No. 6, Nov. 2004.
- 106.T. H. Kim, B. K. Lee, and M. Ehsani, "Sensorless Control of the BLDC Motors from Near Zero to High Speed", IEEE Trans. on Power Electronics, Vol. 19, No. 6, Nov. 2004.
- 107.S. E. Gay and M. Ehsani, "Ammonia Hydrogen Carrier for Fuel Cell Based Transportation," *Journal of Engines, Society of Automotive Engineers (SAE)* SAE #2003-01-2251.
- 108.S. E. Gay, M. Ehsani, Y. Gao, R. Thelen and R. E. Hebner, "Flywheel Electric Drive Characterization for Hybrid Vehicles," submitted to *International Journal of Electrical Engineering in Transportation*, November 2004
- 109.J. S. Won, R. Langari, and M. Ehsani, "An Energy Management and Charge Sustaining Strategy for a Parallel Hybrid Vehicle with CVT," IEEE Trans. on Control Systems Technology, Vol. 13, No. 2, March 2005.
- 110.S. Gay and M. Ehsani " Integration of Eddy-Current and Friction Brakes in Conventional and Hybrid Vehicles," SAE Transactions, 2005, paper #2005-01-3455.
- 111.S. Gay, J.Y. Routex, and M. Ehsani " Impact Study of Field weakening Operation of Electric Motors on Drive Train Oscillations," SAE Transactions, 2003.
- 112.S. Gay and M. Ehsani, "Parametric Analysis of Eddy-Current Brake Performance with a 2D Analytical Model," submitted to IEEE Transactions on Magnetism.
- 113.M. Krishnamurthy, S.C. Edrington, A. Emadi, P. Asadi, M. Ehsani, and B. Fahimi, " Making the Case for Applications of Switched Reluctance Machines in Automotive Products," IEEE Transactions in Power Electronics, Vol. 21, No. 3, May 2006.
- 114.B.K. Lee, T. Kim, and M. Ehsani, "On the Feasibility of Four-Switch Three-Phase BLDC Motor Drives for Low Cost Commercial Applications: Topology and Control,' IEEE Transactions on Power Electronics, Vol. 18, No. 1 pp 164-172, Jan. 2003.
- 115.T. Kim and M. Ehsani, "Sensorless Control of the BLDC Motors From Near Zero to High Speed", *IEEE Trans. on Power Electron.*, vol. 19, No. 6, pp. 1635-1645, Nov. 2004.

- 116.H. Lee, T. Kim, and M. Ehsani, "Practical Control for Improving Power Density and Efficiency of the BLDC Generator," *IEEE Trans. on Power Electron.*, vol. 20, No. 1, pp. 192-199, Jan. 2005.
- 117.H. Lee, T. Kim, and M. Ehsani, "Maximum Power Throughput in the Multiphase BLDC Generator," *IEE Proceedings, Electric Power Applications*, vol. 152, issue 3, May 2005.
- 118.T. Kim, H. Lee, and M. Ehsani, "State of the Art and Future Trends in Position Sensorless Brushless DC Motor/Generator Drives," Submitted to the *IEEE Trans. on Industrial Electronics* (pending).
- 119.Y.Gao and M. Ehsani, "Parametric Design of the Traction Motor and Energy Storage for Series Hybrid Off-Road and Military Vehicles", *IEEE Trans. on Power Electronics*, Vol.21,No.3, May 2006.
- 120.Y. Gao and M. Ehsani, "A Torque and Speed Coupling Hybrid Drivetrain- Architecture, Control, and Simulation," *IEEE Trans. on Power Electronics*, Vol. 21, No. 3, May 2006.
- 121.B. Akin, U. Orguner, A. Ersak, and M. Ehsani, "A Simple Derivative-Free Non-Linear State Observer for Sensorless AC Drives" *IEEE/ASME Transactions on Mechatronics*, Vol. 11, No. 5, October, 2006.
122. Mehrdad Ehsani, Yimin Gao, and John M. Miller, "Hybrid Electric Vehicles: Architecture and Motor Drives," *Proceedings of IEEE*, Vol. 95, No. 4, April, 2007.
123. T. Kim, H. Lee, and M. Ehsani, "Position Sensorless Brushless DC Motor/Generator Drives: Review and Future Trends," accepted for *IEE Proceedings, Electric Power Applications*, 2007.
124. T. Kim, H. Lee, and M. Ehsani, " Position Sensorless Brushless DC Motor/Generator Drives: Review and Future Trends," *IEE Proceedings (changed to IET), Electric Power Applications*, vol. 1, issue 4, July 2007.
125. Y. Gao and M. Ehsani "Design and Control Methodology of Plug-in Hybrid Electric Vehicles," *IEEE Trans. In Industrial Electronics*, Vol. 57, No. 2, February, 2010.
126. Ronald Y. Barazarte, Guadalupe G. Gonzales, and M. Ehsani, "Generalized Gyrator Theory," *IEEE Trans. on Power Electronics*, Vol. 25, No. 7, July 2010.
127. Le Xe, M. Ehsani, et.al., "Fast MPC-Based Coordination of Wind Power and Battery Energy Storage System," accepted for publication in *IEEE Trans. on Industrial Electronics*.
- 128.Y. Gao and M. Ehsani "Design and Control Methodology of Plug-in Hybrid Electric Vehicles," *IEEE Trans. In Industrial Electronics*, Vol. 57, No. 2, February, 2010.
- 129.Ronald Y. Barazarte, Guadalupe G. Gonzales, and M. Ehsani, "Generalized Gyrator Theory," *IEEE Trans. on Power Electronics*, Vol. 25, No. 7, July 2010.
130. M. Ehsani, et. al., "PHEV Energy Management Strategies at Cold Temperatures with Battery Temperature Rise and Engine Efficiency Improvement Considerations" *SAE International Journal of Engines*, June 2011.

131. Milad Falahi, Karen Butler, and M. Ehsani, "Dynamic Voltage and Reactive Power Control of the Islanded AC/DC MicroGrid," submitted by to the IEEE Transactions on Power Systems.
132. Neeraj Shidore, Erik Rasc, Ram Vijayagopal, Forrest Jehlik, Jason Kwon, Mehrdad Ehsani, " PHEV Energy Management Strategies at Cold Temperatures with Battery Temperature Rise and Engine Efficiency Improvement Considerations", SAE International Journal of Engines, ISSN 1946-3936, February 2012, SAE Paper # 2011-01-0872.
133. Z. Xu, and M. Ehsani, "Estimation of Effective Wind Speed for Fixed-Speed Wind Turbines Based on Frequency Domain Data Fusion," IEEE Trans. On Sustainable Energy, Vol. 3, No. 1, Jan. 2012, P. 57.
134. Le Xie; Yingzhong Gu; Ali Eskandari; Mehrdad Ehsani, "Fast MPC-based Coordination of Wind Power and Battery Energy Storage Systems," accepted for publication in ASCE's Journal of Energy Engineering, 2012.
135. Guadalupe G. González and Mehrdad Ehsani, "Power-Invariant Magnetic System Modeling," submitted to Journal of Applied Physics.
136. Soo-Hong Kim, Yoon-Ho Kim and Mehrdad Ehsani, "A PWM Converter Type Capacitor Charging Power Supply using Leg-Rotation Method," submitted to IEEE Transactions on Power Electronics.
137. Soo-Hong Kim and Mehrdad Ehsani, "Control Method of Magnetic Switch to Improve Efficiency of High-Voltage Power Supply," accepted for publication in IEEE Transaction on Power Electronics.
138. Le Xie; Yingzhong Gu; Ali Eskandari; and Mehrdad Ehsani, "Fast MPC-Based Coordination of Wind Power and Battery Energy Storage Systems," Journal of Energy Engineering, Volume 138, Issue 2 (June 2012).
139. M. Falahi, K. Butler-Purry, M. Ehsani, "Dynamic voltage control of balanced islanded MicroGrids integrating wind and solar generators," Submitted to IEEE Trans. Power Del.
140. M. Falahi, K. Butler-Purry, M. Ehsani, "Dynamic reactive power control of islanded microgrids," IEEE Transactions on Power Systems, Vol. 28, No. 4, November 2013, pp. 3649-3657.
141. M. Falahi, M. Ehsani, "An adaptive self-tuning recursive least square grid synchronization method," Submitted to IEEE Trans. Power elec.
142. M. Falahi, K. Butler-Purry, M. Ehsani, "Induction motor starting in islanded microgrids," IEEE Transactions on Smart Grid, Vol. 4, No. 3, September 2013, pp. 1323-1331.
143. M. Falahi, K. Butler-Purry, M. Ehsani, "reactive power coordination of shipboard power systems in presence of pulsed loads," IEEE Transactions on Power Systems, Vol. 28, No. 4, November 2013, pp. 3675-3682.
144. M. Falahi, S. Lotfifard, M. Ehsani, K. Butler-Purry, "Dynamic model predictive-based energy management of DG integrated distribution systems," IEEE Transactions on Power Delivery, Vol. 28, No. 4, October 2013, pp. 2217-2227.
145. M. Falahi, H.M. Chou, M. Ehsani, L. Xie, K. L. Butler-Purry, "Potential Power Quality Benefits of Electric Vehicles," IEEE Transactions on Sustainable Energy, Vol. 4, No. 4, October 2013, pp. 1016-1023.
146. M. Ehsani, M. Falahi, S. Lotfifard, "Vehicle to Grid Services: Potentials and Applications," accepted for publication in the special issue of Energies Journal for vehicle to grid technologies, 2012.

144. S.H. Kim, J.B. Park, S.D. Choi, Y.H. Kim, M. Ehsani, "Control method of magnetic switch to improve the efficiency for high-voltage power supply," Accepted by IEEE Transactions on Power Electronics
145. S.H. Kim, M. Ehsani, Y.H. Kim, "Leg-rotation control method for capacitor charging power supply used in pulsed power system," Accepted by IEEE Transactions on Dielectrics and Electrical Insulation
146. S.H. Kim, M. Ehsani, T.H. Kim, Y.H. Kim, "A Design method of LCL filter using parameter approximation and space vector plot," submitted to IEEE Transactions on Industrial Electronics
147. S.H. Kim, M. Ehsani, Y.H. Kim, C.H. Choi, "Design and Implementation for Improving an Energy Density of the Plasma Reactor," under preparation.
148. N. Farokhnia, and M. Ehsani, "Fast Closed Form Solution of Line to Line Voltage THD for 3-level Inverters," IEEE Journal of IET Power Electronics, Volume:6, Issue: 3, March 2013.
149. Farokhnia, N.; Fathi, S.H.; Salehi, R.; Gharehpetian, G.B.; Ehsani, M. "Improved selective harmonic elimination pulse-width modulation strategy in multilevel inverters" IET Power Electronics, Volume: 5, Issue: 9, 2012, Page(s): 1904 – 1911.
150. S.H. Kim, J.B. Park, S.D. Choi, Y.H. Kim, M. Ehsani, "Optimal control method of magnetic switch used in high-voltage power supply," IEEE Transactions on Power Electronics, vol. 28, Issue. 2, pp. 1065–1071, Mar. 2013.
151. S. H. Kim, M. Ehsani, Y.H. Kim, "Leg-rotation control method for capacitor charging power supply used in pulsed power system," IEEE Transactions on Dielectrics and Electrical Insulation, Vol. 20, Issue 4, pp. 1012-1019, August 2013.
152. S.H. Kim, M. Ehasni, T.H. Kim, Y.H. Kim, "A design method of LCL filter using parameter approximation and space vector plot," under preparation for IEEE Trans. PES, Mar~Apr. 2013.
153. S.H. Kim, M. Ehsani, Y.H. Kim, C.H. Choi, "Design and Implementation of the plasma reactor for pulsed power system," IEEE Transactions on Dielectrics and Electrical Insulation, Vol. 20, Issue 4, pp. 1117-1122, August 2013.
154. S.H. Kim, M. Ehsani, "Control Method and Analysis of Magnetic Switch using Reset Current in Pulsed Power System," Under review, IEEE Transactions on Power Electronics, Feb. 2013.
155. S.H. Kim, M. Ehsani, "Design of Series-connected DC-to-DC Converter for High Power Application," in preparation, IEEE Transactions on Power Electronics, May. 2013.
156. William Bradley, Kambiz Ebrahimi, Mehrdad Ehsani, "A General Approach for Current Based Condition Monitoring of Induction Motors, Part I: Introduction and General Theory," submitted to IEEE Systems Journal.
157. Lin Lai and M. Ehsani, "Dynamic Programming Optimized Parallel HEV Control Strategy with Low Sensitivity to Driving Conditions," submitted to the IEEE Transactions on Vehicular Technology.
158. Naeem Farokhnia, Muneer Mohammad and Mehrdad Ehsani, "Closed Form Line to Line Voltage THD of the Cascade Multilevel Inverter Including Device Voltage Drops," 2013 IEEE Energy Conversion Congress and Exposition.
159. A. E. Havaii, B. F. Yancey, M. Mohammad and M. Ehsani "Computer Aided Design Tool for Electric, Hybrid Electric and Plug-in Hybrid Electric Vehicles" (VT-2013-01279), submitted to the IEEE Transactions on Vehicular Technology.

160. B. Yancey, M. Mohammad, M. Ehsani "Performance Evaluation of a Multi-port DC-DC Current Source Converter for High Power Applications" has been successfully submitted online and is presently being given full consideration for publication in the IEEE Transactions on Power Electronics.
161. M. Mohammad, M. Shadmand, V. Varadharajan, S. Navale, D. Shmilovitz, M. Ehsani "A Quantitative Investigation of CO₂ Sequestration by Mineral Carbonation", submitted to the IEEE Transactions on Sustainable Energy.
162. M. Mohammad, O. Urquidez, D. Shmilovitz, M. Ehsani, "An Investigation of Natural Gas as a Substitute for Diesel in Heavy Duty Trucks and Associated Considerations", submitted to the IEEE Transactions on Sustainable Energy.
163. M. Mohammad, J. Hanus, H. Hdadou, D. Shmilovitz, M. Ehsani, "A Case for the Replacement of Aging Coal Plants with Natural Gas and Wind", submitted to the IEEE Transactions on Sustainable Energy.
164. S.H. Kim and M. Ehsani, "Control and Analysis of Magnetic Switch Reset Current in Pulsed Power Systems," IEEE Transactions in Power Electronics, Vol. 29, No. 2, pp. 529-533, Feb. 2014.
165. Naeem Farokhnia, H. Fathi, M. Ehsani, "Minimization of Line Voltage THD in Cascade Multilevel Inverter Using Formula Method," submitted to Trans. of Power Electronics.
166. Soo-Hong Kim, Mehrdad Mark Ehsani, and Choon-Sam Kim "High-Voltage Power Supply using Series-Connected Full-Bridge PWM Converter for Pulsed Power Applications," IEEE Transaction on Dielectrics and Electrical Insulation, accepted for publication.
167. W. J. Bradley, M. K. Ebrahimi, and M. Ehsani "A General Approach for Current Based Condition Monitoring of Induction Motors," ASME Journal of Dynamic Systems, Measurement and Control, Vol. 136 / 041024-1, JULY 2014.
168. [1] Farokhnia, N. ; Ehsani, M. ; Vadizadeh, H. ; Toodeji, H. ; Mohammad, M. "Fast closed-form solution of line-to-line voltage total harmonic distortion for three-level inverters" IET Power Electronics, Volume: 6, Issue: 3, 2013, Page(s): 581 – 591.
169. Farokhnia, N. ; Mohammad, M. ; Ehsani, M. "Closed form line to line voltage THD of the cascade multilevel inverter including device voltage drops" IEEE Energy Conversion Congress and Exposition (ECCE), 2013, Page(s): 4041 – 4046.
170. Farokhnia, N. ; Fathi, S.H. ; Salehi, R. ; Gharehpetian, G.B. ; Ehsani, M. "Improved selective harmonic elimination pulse-width modulation strategy in multilevel inverters" IET Power Electronics, Volume: 5, Issue: 9, 2012, Page(s): 1904 – 1911.
171. Farokhnia, Naeem ; Mohammad, Muneer ; Gatabi, Iman Rezanezhad ; Ehsani, Mehrdad "Unbalance, flicker, harmonic, voltage and reactive power compensation of the distribution grid using a universal STATCOM" 2014 IEEE 23rd International Symposium on Industrial Electronics (ISIE), 2014 , Page(s): 682 – 687.
172. H. M. Al-Masri and M. Ehsani, "Feasibility Investigation of a Hybrid On-Grid Wind Photovoltaic Retrofitting System," in IEEE Transactions on Industry Applications, vol. 52, no. 3, pp. 1979-1988, May-June 2016.
173. Al-Masri, H.; Ehsani, M., "Feasibility investigation of a hybrid on-grid wind photovoltaic retrofitting system," Proceedings of Industry Applications Society Annual Meeting, 2015 IEEE , vol., no., pp.1-7, 18-22 Oct. 2015

174. Al-Masri, H.; Alhuwaisheh, F.; Alismail, F.; Sabeeh, S.; Kanakri, H.; Ehsani, M., "Application of gyrator concept to control and operation of boost converter," Proceedings of 2015 IEEE 15th International Conference on Environment and Electrical Engineering (EEEIC), vol., no., pp.272-277, 10-13 June 2015

□ **Conference Papers (All of the above papers plus the following)**

1. M. Ehsani, R. L. Kustom, and R. E. Fuja, "Analysis of the Multiphase Inductor-Converter Bridge," *2nd Annual International Pulsed Power Conference*, 1979, pp. 419-424.
2. M. Ehsani, R. L. Kustom, R. E. Fuja, and T. J. Barnard, "General Phase-Frequency Shifting in the Three-Phase Inductor-Converter Bridge," *8th Annual Symposium on Engineering Problems of Fusion Research*, 1979, pp. 1285-1288.
3. R. E. Fuja, R. L. Kustom, and M. Ehsani, "Three Phase Energy Transfer Circuit with Superconducting Energy Storage Coils," *IEEE Industry Application Society Annual Meeting (IAS'79)*, 1979, pp. 472-478.
4. M. Ehsani, R. E. Fuja, and R. L. Kustom, "A 10 kA Pulsed Power Supply for Superconducting Coils," *9th Annual Symposium on Engineering Problems of Fusion Research*, 1981, pp. 460-462.
5. M. Ehsani and R. L. Kustom, "Analysis of the Inductor-Converter Bridge by the Use of Discontinuous Functions," *IEEE-IAS'81*, 1981, pp. 824-827.
6. M. Ehsani, R. L. Kustom, and R. E. Fuja, "Microcomputer Control of a Current Source DC-DC Converter," *IEEE-IAS'82*, 1982, pp. 767-773.
7. Y. H. Kim and M. Ehsani, "An Algebraic Algorithm for Microcomputer Based (Direct) Inverter Pulse-Width Modulation," *IEEE-IAS'86*, 1986, pp. 586-592.
8. A. Hozhabri and M. Ehsani, "Real Time Simulation of Power Electronic Systems on Single and Parallel Processors," *International Association of Science and Technology for Development (IASTED) on Applied Simulation and Modeling*, Santa Barbara, CA, 1987
9. S. Hong and M. Ehsani, "New Two-Quadrant Converter for Complete Decoupled Control of the DC Series Motor," *IEEE Industrial Electronics Conference (IECON'87)*, Boston, MA, 1987, pp. 384-388.
10. A. Hozhabri and M. Ehsani, "A Multiprocessor-Based Algorithm for the Simulation of a Full-Wave Controlled Rectifier Bridge in Real Time," *IEEE-IECON'87*, Boston, MA, 1987, pp. 324-327.
11. Y. H. Kim and M. Ehsani, "Force Commutated Direct Frequency Changers for Aerospace Power Applications," *IEEE Intersociety Energy Conversion Engineering Conference (IECEC'87)*, 1987, pp. 325-330.
12. Kernaghan, William and M. Ehsani, "A Solid State DC Circuit Breaker Based on the Gate Turn Off Thyristor (GTO)," *Particle Accelerator Conference*, 1987, Washington, DC, March 16-19.
13. M. O. Bilgic and M. Ehsani, "Analysis of Single Flying Capacitor Converter by the State-Space Averaging Technique," *IEEE International Symposium on Circuits and Systems (ISCAS'88)*, Finland, pp. 1151-1154.

14. M. O. Bilgic and M. Ehsani, "Analysis of Inductor-Converter Bridge by Means of State-Space Averaging Technique," *IEEE Power Electronics Specialists Conference (PESC'88)*, 1988, pp. 116-121.
15. M. I. Guggari, M. Ehsani, and R. F. Lytle, "Design and Application Considerations for Inverters in Fluid Flow Control," *IEEE-IAS'88*, 1988, pp. 1779-1783.
16. A. Hozhabri and M. Ehsani, "A Systematic Approach to Simulate Power Electronic Circuits on Digital Computers," *IEEE-IAS'88*, 1988, pp. 1040-1044.
17. A. Hozhabri and M. Ehsani, "A Digital Computer-Based Algorithm for the Simulation of a Resonant Inverter," *IEEE-IECEC'88*, Denver, Colorado, August 1988.
18. R. C. Becerra and M. Ehsani, "Four Quadrant Brushless ECM Drive with Integrated Current Regulation," *IEEE-IAS'89*, 1989, pp. 819-828.
19. Y. H. Kim and M. Ehsani, "New Modulation Methods for Force-Commutated Direct Frequency Changers," *IEEE-IAS'89*, 1989, pp. 798-809.
20. A. B. Kulkarni and M. Ehsani, "A Novel Position Sensor Elimination Technique for the Interior Permanent-Magnet Synchronous Motor Drive," *IEEE-IAS'89*, 1989, pp. 773-779.
21. P. Enjeti, P. D. Ziogas, and M. Ehsani, "Unbalanced PWM Converter Analysis and Corrective Measures," *IEEE-IAS'89*, 1989, pp. 861-870.
22. O. H. Stielau, J. D. Van Wyk, M. Ehsani, and I. J. Pitel, "Integrated Reactive Components in Power Electronic Circuits," *IEEE-PESC'90*, San Antonio, TX, June 1990, pp. 831-838.
23. M. Ehsani, I. Husain, and M. O. Bilgic, "Inverse Dual Converter (IDC) for High Power DC-DC Applications," *IEEE-PESC'90*, San Antonio, TX, June 1990, pp. 814-821.
24. M. C. Smit, J. A. Ferreira, J. D. Van Wyk, and M. Ehsani, "A New Ultrasonic Series Resonant Converter with Integrated L-C-T," *IEEE-PESC'90*, San Antonio, TX, June 1990, pp. 729-733.
25. Y. H. Kim and M. Ehsani, "Control of Force-Commutated Direct Frequency Changers," *IEEE-IAS'90*, Seattle, WA, October 1990, pp. 1163-1170.
26. M. Ehsani, M. O. Bilgic, and A. D. Patton, "New Architectures for Space Power Systems," *41st Congress of the International Astronautical Federation*, Dresden, GDR, October 1990.
27. M. Ehsani, I. Husain, and K. R. Ramani, "Low Cost Sensorless Switched Reluctance Motor Drives for Automotive Applications," *IEEE Joint Power Electronics Society and Industry Applications Society Workshop on Electronic Applications in Transportation*, Dearborn, Michigan, 1990, pp. 96-101.
28. M. Ehsani, L. Laskai, and M. O. Bilgic, "Topological Variations of the Inverse Dual Converter for High Power DC-DC Applications," *IEEE-IAS'90*, Seattle, WA, October 1990, pp. 1262-1266.

29. M. Ehsani, I. Husain, and A. B. Kulkarni, "Elimination of Discrete Position Sensor and Current Sensor in Switched Reluctance Motor Drives," *IEEE-IAS'90*, Seattle, WA, October 1990, pp. 518-524.
30. R. C. Becerra, T. M. Jahns, and M. Ehsani, "Four-Quadrant Sensorless Brushless ECM Drives," *IEEE Applied Power Electronics Conference and Exposition (APEC'91)*, Dallas, TX, March 1991, pp. 202-209.
31. R. C. Becerra, M. Ehsani, and T. J. E. Miller, "Commutation of SR Motors," *IEEE-APEC'91*, 1991, pp. 181-187.
32. M. Ehsani, M. O. Bilgic, and S. Khan, "Capacitively Coupled Converter (C^3) for High Power DC-DC Conversion," *IEEE-PESC'91*, Cambridge, MA, June 1991, pp. 27-30.
33. M. Ehsani, I. Husain, K. R. Ramani, and J. H. Galloway, "Dual Decay Converter for Switched Reluctance Motor Drives in Low Voltage Applications," *IEEE-PESC'91*, Cambridge, MA, June 1991, pp. 620-624.
34. M. Ehsani, I. Husain, and K. R. Ramani, "An Analysis of the Error in Indirect Rotor Position Sensing of Switched Reluctance Motors," *IEEE-IECON'91*, Kobe, Japan, October 1991, pp. 295-300.
35. M. Ehsani, P. Le Polles, I. Pitel, and J. D. Van Wyk, "Computer Aided Design and Application of Integrated L-C Filters," Invited Paper, *IEEE-APEC'92*, 1992, pp. 352-359.
36. L. Laskai, T. S. Wu, and M. Ehsani, "Inductor Coupled Converter (IC^2) for High Power DC-DC Applications," *IEEE-PESC'92*, Toledo, Spain, June 1992, pp. 1085-1092.
37. M. Ehsani, I. Husain, K. R. Ramani, and S. Mahajan, "Sensor Elimination in Switched Reluctance Motor Drives: An Overview and State of the Art," *International Symposium on Power Electronics (ISPE'92)*, Seoul, Korea, April 1992, pp. 378-386.
38. L. Laskai and M. Ehsani, "The Zero Switching Loss Mechanism in the Capacitor Coupled Converter (C^3) and its Extensions," *IEEE-IAS'92*, 1992, pp. 910-917.
39. M. Ehsani, S. Mahajan, K. R. Ramani, and I. Husain, "New Modulation Encoding Techniques for Indirect Rotor Position Sensing in Switched Reluctance Motors," *IEEE-IAS'92*, 1992, pp. 430-438.
40. M. Ehsani and I. Husain, "Rotor Position Sensing in Switched Reluctance Motor Drives by Measuring Mutually Induced Voltages," *IEEE-IAS'92*, 1992, pp. 422-429.
41. M. C. Smit, J. A. Ferreira, J. D. Van Wyk, and M. Ehsani, "Technology for Manufacture of Integrated Planar LC Structures for Power Electronic Applications," *5th European Conference on Power Electronics and Applications (EPE'93)*, Brighton, UK, September 1993, Vol. 2, pp. 173-178.
42. T. S. Wu and M. Ehsani, "A Versatile DC-DC and DC-AC Converter with Zero Current Soft Switching," *IEEE-IECON'93*, Maui, Hawaii, November 1993, pp. 1269-1274.
43. M. S. Arefeen, M. Ehsani, and T. A. Lipo, "Elimination of Discrete Position Sensor for Synchronous Reluctance Motor," *IEEE-PESC'93*, 1993, pp. 440-445.

44. M. Ehsani and K. R. Ramani, "Direct Control Strategies Based on Sensing Inductance in Switched Reluctance Motors," *IEEE-PESC'93*, 1993, pp. 10-16.
45. M. S. Arefeen, M. Ehsani, and T. A. Lipo, "An Analysis of the Accuracy of Indirect Shaft Sensor for Synchronous Reluctance Motor," *IEEE-IAS'93*, 1993, pp. 695-700.
46. M. Ehsani and T. S. Wu, "Soft Switched Capacitively Coupled DC-AC Converter for High Power," *IEEE-IAS'93*, 1993, pp. 800-804.
47. M. Ehsani and I. Husain, "Zero Current Soft-Switching Converters for High-Power DC-DC Applications," *2nd Annual Brazilian Power Electronics Conference (COBEP'93)*, 1993, pp. 1-6.
48. M. Ehsani and I. Husain, "The State of the Art in Indirect Rotor Position Sensing for Switched Reluctance Motor Drives," *COBEP'93*, 1993, pp. 22-27.
49. I. Husain and M. Ehsani, "Torque Ripple Minimization in Switched Reluctance Motor Drives by PWM Current Control," *IEEE-APEC'94*, 1994, pp. 72-77.
50. M. S. Arefeen, M. Ehsani, and T. A. Lipo, "Indirect Startup Rotor Position Sensor for Synchronous Reluctance Motor," *IEEE-APEC'94*, Orlando, FL, February 1994, pp. 78-82.
51. K. R. Ramani and M. Ehsani, "New Commutation Methods in Switched Reluctance Motors Based on Active Phase Vectors," *IEEE-PESC'94*, 1994, pp. 493-499.
52. I. Husain, S. Sodhi, and M. Ehsani, "A Sliding Mode Observer Based Controller for Switched Reluctance Motor Drives," *IEEE-IAS'94*, Denver, CO, October 1994, pp. 635-643.
53. D. H. Jang, I. Husain, and M. Ehsani, "Efficiency and Performance Analysis of the Dual-Decay Converter for Switched Reluctance Motor Drives," *IEEE-IAS'94*, Denver, CO, October 1994, pp. 658-664.
54. M. Ehsani and K. R. Ramani, "Recent Advances in Power Electronics and Applications," *SouthCon'94*, 1994, pp. 8-13.
55. S. Borlase, S. Choi, N. Hsia, J. Mitra, S. Moore, J. Qian, K. Rahman, J. Rangel, P. Tandon, A. Tchamdjou, A. Von Jouanne, and M. Ehsani, "Combining Textbook Material and Current Research in a Graduate Course in Energy Systems," *American Society of Engineering Education (ASEE) Conference*, 1995, pp. 1845-1851.
56. D. H. Jang, I. Husain, and M. Ehsani, "Modified (n+1) Switch Converter for Switched Reluctance Motor Drives," *IEEE-PESC'95*, 1995, pp. 1302-1306.
57. H. A. Toliyat, M. S. Arefeen, K. M. Rahman, and M. Ehsani, "Rotor Time Constant Updating Scheme for a Rotor Flux Oriented Induction Motor Drive," *IEEE-PESC'95*, Atlanta, GA, June 1995, pp. 1302-1306.
58. J. Qian, I. Batarseh, and M. Ehsani, "Analysis and Design of a Clamp-mode Isolated Zero-Voltage-Switching Boost Converter," *IEEE-PESC'95*, 1995, pp. 1201-1207.
59. J. Qian, I. Batarseh, K. Siri, and M. Ehsani, "A Novel Zero-Voltage-Switching (ZVS) Boost Converter by Using a Nonlinear Magnetizing Inductor of the Transformer," *IEEE-APEC'95*, Dallas, TX, March 1995, pp. 490-495.

60. M. Ehsani and K. R. Ramani, "New Control Strategies for Switched Reluctance Motor Drives," *International Aegean Conference on Electrical Machines and Power Electronics (ACEMP'95)*, Kusadasi, Turkey, 1995, pp. 497-515.
61. M. Ehsani, H. A. Toliyat, and K. M. Rahman, "Electric Machines in Electric and Hybrid Vehicle Applications," *International Conference on Power Electronics (ICPE'95)*, Seoul, Korea, 1995.
62. S. Moore and M. Ehsani, "An Empirically Based Electrosource Horizon Lead-Acid Battery Model," *Society of Automotive Engineers International Congress Conference (SAE'96)*, Detroit, MI, February 1996.
63. P. Tandon, A. V. Rajarathnam, and M. Ehsani, "Self-Tuning Control of a Switched Reluctance Motor Drive with Shaft Position Sensor," *IEEE-IAS'96*, San Diego, CA, October 1996, pp. 101-108.
64. T. S. Wu, M. D. Bellar, A. Tchamdjou, J. Mahdavi, and M. Ehsani, "A Review of Soft-Switched DC-AC Converters," *IEEE-IAS'96*, San Diego, CA, October 1996, pp. 1133-1144.
65. M. Ehsani, K. M. Rahman, and H. A. Toliyat, "Propulsion System Design of Electric and Hybrid Vehicles," Invited Paper, *IEEE-IECON'96*, Taipei, Taiwan, November 1996, pp. 7-13.
66. B. Fahimi, J. P. Johnson, and M. Ehsani, "Application of Artificial Intelligence Methods in Control of Switched Reluctance Motor Drives," *IEEE Industrial Electronics (ETFA '96)*, Kauai, Hawaii, November 1996, pp. 623-628.
67. K. M. Rahman and M. Ehsani, "Performance Analysis of Electric Motor Drives for Electric and Hybrid Vehicle Applications," *IEEE Power Electronics Society Workshop on Power Electronics in Transportation*, Dearborn, Michigan, November 1996.
68. M. Ehsani, J. Mahdavi, I. Pitel, J. E. Brandenburg, and F. E. Little, "Development of an Efficient Power Supply for the Microwave Electrothermal Thruster," *Space Technology & Applications International Forum (STAIR-97), Second Conference on Commercial Development of Space*, Albuquerque, New Mexico, January 1997.
69. Y. Gao, K. M. Rahman, M. Ehsani, "The Energy Flow Management and Battery Energy Capacity Determination for the Drive Train of Electrically Peaking Hybrid Vehicle," *SAE Future Transportation Technology Conference and Exposition'97*, San Diego, CA, August 1997.
70. G. Suresh, B. Fahimi, J. Mahdavi, and M. Ehsani, "Dynamic Modeling of Non-Linear SRM Drive with PSPICE," *IEEE-IAS'97*, New Orleans, LA, October 1997, pp. 661-667.
71. A. V. Rajarathnam, B. Fahimi, and M. Ehsani, "Neural Network Based Self-Tuning of a Switched Reluctance Motor Drive to Maximize Torque per Ampere," *IEEE-IAS'97*, New Orleans, LA, October 1997, pp. 548-555.
72. M. D. Bellar, J. Mahdavi, and M. Ehsani, "Application of the MCT to Soft-Switched DC-AC Converters," *IEEE-IAS'97*, New Orleans, LA, October 1997, pp. 1029-1033.
73. K. M. Rahman, A. V. Rajarathnam, and M. Ehsani, "Optimized Instantaneous Torque Control Scheme of a Switched Reluctance Motor by Neural Network," *IEEE-IAS'97*, New Orleans, LA, October 1997, pp. 556-563.

74. M. Ehsani, K. M. Rahman, M. D. Bellar, and A. Severinsky, "Evaluation of Soft Switching Inverters for EV and HEV Motor Drives," *IEEE-IECON'97*, New Orleans, LA, November 1997, pp. 651-657.
75. J. P. Johnson, K. M. Rahman, and M. Ehsani, "Application of a Clustering Adaptive Fuzzy Logic Controller in a Brushless DC Drive," *IEEE-IECON'97*, New Orleans, LA, November 1997, pp. 1001-1005.
76. B. Fahimi, G. Suresh, and M. Ehsani, "Torque Estimation in Switched Reluctance Motor Drives Using Artificial Neural Networks," *IEEE-IECON'97*, New Orleans, LA, November 1997, pp. 21-26.
77. G. Suresh, B. Fahimi, and M. Ehsani, "Improvement in Accuracy and Speed Range in Sensorless Control of Switched Reluctance Motors," *IEEE-APEC'98*, Anaheim, CA, February 1998, pp. 771-777.
78. B. Fahimi, J. P. Johnson, G. Suresh, and M. Ehsani, "Self-Tuning Control of Switched Reluctance Motors for Optimized Torque per Ampere at All Operating Points," *IEEE-APEC'98*, Anaheim, CA, February 1998, pp. 778-783.
79. B. Fahimi, G. Suresh, J. Mahdavi and M. Ehsani, "A New Approach to Model Switched Reluctance Motor Drive: Application to Dynamic Performance Prediction, Control and Design," *IEEE-PESC'98*, Fukuoka, Japan, May 1998.
80. G. Suresh, B. Fahimi, K. M. Rahman, and M. Ehsani, "Analysis of Amplitude Modulation Methods for Sensorless SRM Drives," *IEEE-IECON'98*, Aachen, 1998, pp. 917-922.
81. K. M. Rahman, G. Suresh, B. Fahimi, and M. Ehsani, "Optimized Torque Control of Switched Reluctance Motor at All Operational Regimes Using Neural Network," *IEEE-IAS'98*, St. Louis, 1998, pp. 701-708.
82. K. M. Rahman, B. Fahimi, G. Suresh, and M. Ehsani, "Advantages of Switched Reluctance Motor Applications to EV and HEV: Design and Control Issues," *IEEE-IAS'98*, St. Louis, 1998, pp. 327-334.
83. G. Suresh, K. M. Rahman, B. Fahimi, and M. Ehsani, "Self-tuning Sensorless SRM Drives for Low Cost Mass Production," *IEEE-IAS'98*, St. Louis, 1998, pp. 593-600.
84. B. Fahimi, G. Suresh, K. M. Rahman, and M. Ehsani, "Mitigation of Acoustic Noise and Vibration Cancellation in Switched Reluctance Motor Drive Using Neural Network Based Current Profiling," *IEEE-IAS'98*, St. Louis, 1998, pp. 715-722.
85. M. Ehsani, A. V. Rajarathnam, B. Fahimi, and G. Suresh, "DSP Based Self-Tuning of Switched Reluctance Motors for Commercial Applications," Invited Paper for *Texas Instruments Corporation DSP FEST*, Houston, Texas, July 1998.
86. M. Ehsani, A. V. Rajarathnam, G. Suresh, and B. Fahimi, "Sensorless Control of Switched Reluctance Motor: a Technology Ready for Applications," *IEEE-ICEM'98*, Istanbul, Turkey, September 1998, pp. 673-684.
87. A. V. Rajarathnam, B. Fahimi, G. Suresh, and M. Ehsani, "Self-Tuning Control of Switched Reluctance Motors- the Next Critical Step in Commercial Application," *IEEE-ICEM'98*, Istanbul, Turkey, September 1998, pp. 2143-2148.

88. K. M. Rahman and M. Ehsani, "Design Considerations for EV and HEV Motor Drives," *IEEE-ICEM'98*, Istanbul, Turkey, September 1998, pp. 2065-2076.
89. M. Ehsani, K. L. Butler, Y. Gao, K. M. Rahman, and D. Burke, "Toward a Sustainable Transportation without Sacrifice Range, Performance, or Air Quality: The ELPH Car Concept," *FISITA World Automotive Conference*, Paris, France, September 1998.
90. B. Fahimi, G. Suresh, and M. Ehsani, "Large Switched Reluctance Machines: A 1 MW Case Study," *IEEE International Electric Machines and Drives Conferences (IEMDC'99)*, Seattle WA, May 1999.
91. A. V. Rajarathnam, K. M. Rahman, and M. Ehsani, "Improvement of Hysteresis Control in Switched Reluctance Motor Drives," *IEEE-IEDMC'99*, Seattle, WA, 1999.
92. G. Suresh, B. Fahimi, K. M. Rahman, and M. Ehsani, "Four-quadrant Sensorless SRM Drive with High Accuracy at All Speeds," *IEEE-APEC'99*, Dallas, TX, March 1999.
93. Z. Rahman, K. L. Butler, and M. Ehsani, "A Study of Design Issues on Electrically Peaking Hybrid Electric Vehicles for Diverse Urban Driving Patterns," *SAE Annual Conference '99*, Detroit, MI, March 1999.
94. S. W. Moore, K. M. Rahman, and M. Ehsani, "Effect on Vehicle Performance of Extending the Constant Power Region of Electric Drive Motors," *SAE Annual Conference '99*, March 1999, Detroit, MI.
95. S. W. Moore and M. Ehsani, "Energy and Power Storage and Production in HEV Architectures," *SAE Annual Conference '99*, Detroit, MI, March 1999.
96. S. W. Moore and M. Ehsani, "Analysis of Electric Vehicle Utilization on Global CO² Emission Levels," *SAE Annual Conference '99*, Detroit, MI, March 1999.
97. S. W. Moore and M. Ehsani, "A Charge Sustaining Parallel HEV Application of the Transmotor," *SAE Annual Conference '99*, Detroit, MI, March 1999.
98. J. M. Miller, A. Emadi, A. V. Rajarathnam, and M. Ehsani, "Current Status and Future Trends in More Electric Car Power Systems," *IEEE Vehicular Technology Conference*, Houston, TX, May 1999.
99. A. Emadi and M. Ehsani, "Electrical System Architectures for Future Aircraft," *IECEC'99*, Vancouver, BC, Canada, August 1999.
100. A. Emadi, B. Fahimi, and M. Ehsani, "On the Concept of Negative Impedance Instability in the More Electric Aircraft Power Systems with Constant Power Loads," *IECEC'99*, Vancouver, BC, Canada, August 1999.
101. Z. Rahman, K. L. Butler, and M. Ehsani, "Designing Parallel Hybrid Electric Vehicles using V-ELPH 2.01," *American Control Conference*, San Diego, CA, May 1999.
102. G. Suresh, B. Fahimi, K. M. Rahman, and M. Ehsani, "Inductance Based Position Encoding for Sensorless SRM Drives," *IEEE-PESC'99*, Charleston, SC, July 1999.
103. Y. Gao and M. Ehsani, "Investigation of the Effectiveness of Regenerative Braking in EV and HEV," *SAE Future Transportation Conference '99*, San Diego, CA, 1999.

104. Z. Rahman, K. L. Butler, and M. Ehsani, "Design Studies of a Series Hybrid Heavy-Duty Transit Bus Using V-ELPH 2.01," *IEEE International Vehicular Technology Conference*, Houston, TX, May 1999.
105. A. Emadi, M. Ehsani, and J. M. Miller, "Advanced Silicon Rich Automotive Electrical Power Systems," *18th Digital Avionics Systems Conference*, St. Louis, MI, October 1999.
106. M. Ehsani, A. V. Rajarathnam, B. Fahimi, and G. Suresh, "DSP Based Self-Tuning Control of Switched Reluctance Motors for Commercial Applications," *Texas Instruments DSP Fest*, Houston, TX, August 1998.
107. B. K. Lee and M. Ehsani, "A Simplified Functional Model for 3-Phase Voltage-Source Inverter Using Switching Function Concept," *IEEE-IECON'99*, San Jose, CA, November 1999.
108. M. Ehsani, K. L. Butler, Y. Gao, and K. M. Rahman, "Next Generation Passenger Cars with Better Range, Performance, and Emissions: The ELPH Car Concept," *FISITA Conference*, Paris, Franc, September 1998.
109. M. Ehsani, M. Masten, and I. Panahi, "Stiff System Control: A New Concept in Real Time Control," Invited Paper at *American Control Conference*, San Diego, CA, May 1999.
110. K. L. Butler, M. Ehsani, and P. Kamath, "A Matlab-based Modeling and Simulation Package for Electric and Hybrid Electric Vehicles Design," *SAE Congress Conference '99*, Detroit, MI, March 1999.
111. J. P. Johnson and M. Ehsani, "Sensorless Brushless DC Control Using a Current Waveform Anomaly," *IEEE-IAS'99*, Phoenix, AZ, October 1999.
112. J. P. Johnson and M. Ehsani, "Review of Sensorless Methods for Brushless DC," *IEEE-IAS'99*, Phoenix, AZ, October 1999.
113. B. Fahimi, G. Suresh, and M. Ehsani, "Design Considerations of Switched Reluctance Motors: Vibration and Control Issues," *IEEE-IAS'99*, Phoenix, AZ, October 1999.
114. Z. Rahman, K. L. Butler, and M. Ehsani, "Effect of Extended Speed, Constant Power Operation of Electric Drives on the Design and Performance of EV Propulsion System," *SAE Future Car Congress Conference '2000*, Arlington, VA, April 2000
115. Z. Rahman, K. L. Butler, and M. Ehsani, "A Comparison Study Between Two Parallel Hybrid Control Concepts," *SAE World Congress Conference '2000*, Detroit, MI, February 2000.
116. A. Emadi, B. Fahimi, M. Ehsani, and J. M. Miller, "On the Suitability of Low-Voltage (42V) Electrical Power System for Traction Applications in the Parallel Hybrid Electric Vehicles," *SAE Future Car Congress Conference '2000*, Arlington, VA, April 2000.
117. B. Fahimi, G. Suresh, and M. Ehsani, "Review of Sensorless Control Methods in Switched Reluctance Motor Drives," *IEEE-IAS'2000*, Rome, Italy, October 2000.
118. B. Fahimi and M. Ehsani, "Spatial Distribution of Acoustic Noise Caused by Radial Vibration in Switched Reluctance Motors: Application to Design and Control," *IEEE-IAS'2000*, Rome, Italy, October 2000.

119. M. Ehsani and B. Fahimi, "Recent Advances in Sensorless Switched Reluctance Motor Drives," *International Power Electronics Conference (IPEC'2000)*, Tokyo, Japan, April 2000.
120. J. Y. Routex, S. G. Desharnais, and M. Ehsani, "Modeling of Hybrid Electric Vehicles using Gyator Theory: Application to Design," *IEEE Vehicular Technology Conference*, Boston, MA, September 2000.
121. A. Emadi and M. Ehsani, "Negative Impedance Stabilizing Controls for PWM DC/DC Converters Using Feedback Linearization Techniques," *35th Intersociety Energy Conversion Engineering Conference*, Las Vegas, NV, July 2000.
122. Z. Rahman, K. L. Butler, and M. Ehsani, "Motor Short Circuit Effects in EV and HEV," *SAE Future Transportation Technology Conference'2000*, Costa Mesa, CA, August 2000.
123. Z. Rahman, K. L. Butler, and M. Ehsani, "An Investigation of Traction Motor Characteristics for EV and HEV Applications," *SAE Future Transportation Technology Conference'2000*, Costa Mesa, CA, August 2000.
124. B. K. Lee, T. H. Kim, and M. Ehsani, "On the Feasibility of Four-Switch Three-Phase BLDC Motor Drives for Low Cost Commercial Applications: Topology and Control," *IEEE-APEC'2001*, pp. 428-433, Anaheim, CA, March 2001.
125. M. D. Bellar, B. K. Lee, B. Fahimi, and M. Ehsani, "An AC Motor Drive with Power Factor Control for Low Cost Applications," *IEEE-APEC'2001*, pp. 601-607, Anaheim, CA, March 2001.
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.
180. T. Kim and M. Ehsani, "An Error Analysis of the Sensorless Position Estimation for BLDC Motors", *2003 IEEE-IAS (Industry Applications Society) Conference*, vol. 1, pp. 611-617, Oct. 2003.
181. T. Kim, B. K. Lee, and M. Ehsani, "Sensorless Control of the BLDC Motors From Near Zero to High Speed", *2003 IEEE-APEC (Applied Power Electronics Conference and Exposition) Conference*, vol. 1, pp. 306-312, Feb. 2003.
182. H. Lee, T. Kim and M. Ehsani, "Power Density Maximization of the Brushless DC Generator," *2003 IEEE-IECON (Conference of the IEEE Industrial Electronics Society)*, vol. 3, pp. 2162-2166, Nov. 2003.
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 IEEE Proceedings.
191. David Hoelscher, Alex Skorcz, 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.
199. Bo Chen, Yimin Gao, Mehrdad Ehsani, and John M. Miller, "Ultracapacitor Boosted Hybrid Fuel Cell," VPPC 09, Harbin, China, September 2009
200. Yimin Gao, M. Ehsani, "INVESTIGATION OF BATTERY TECHNOLOGIES FOR THE ARMY'S HYBRID VEHICLE APPLICATION," VPPC 10, Lille, France, September 2010.
201. Zhiqiang Xu and Mehrdad Ehsani, "RECONSTRUCTION OF EFFECTIVE WIND SPEED FOR FIXED-SPEED WIND TURBINES
202. BASED ON FREQUENCY DATA FUSION," Canadian Conference in Electrical and Computer Engineering, Calgary, Canada, September, 2010.
203. Ali Emadi and Mehrdad Ehsani, "An Education Program for Transportation Electrification," VPPC 10, Lille, France, September 2010.
204. Bo Chen, Yimin Gao, Mehrdad Ehsani, and John M. Miller, "Ultracapacitor Boosted Hybrid Fuel Cell," VPPC 09, Harbin, China, September 2009
205. Yimin Gao, M. Ehsani, "INVESTIGATION OF BATTERY TECHNOLOGIES FOR THE ARMY'S HYBRID VEHICLE APPLICATION," VPPC 10, Lille, France, September 2010.
206. Zhiqiang Xu and Mehrdad Ehsani, "RECONSTRUCTION OF EFFECTIVE WIND SPEED FOR FIXED-SPEED WIND TURBINES BASED ON FREQUENCY DATA FUSION," Canadian Conference in Electrical and Computer Engineering, Calgary, Canada, September, 2010.

207. M. Ehsani, et. al., "PHEV Energy Management Strategies at Cold Temperatures with Battery Temperature Rise and Engine Efficiency Improvement Considerations" 2011 SAE International World Congress technical paper, 2011-01-0872, Feb. 2011, Detroit, Michigan.
208. M. Ehsani, et. al., "Evaluation of ethanol blends for plug-in hybrid vehicles using engine in the loop," Submitted to SAE 2012 World Congress.
209. N. Shidore, A. Ickes, T. Wallner, A. Rousseau, M. Ehsani, " Evaluation of ethanol blends for PHEVs using Engine in the Loop", 7th IEEE Vehicle Power and Propulsion Conference, 6th - 9th September 2011, Chicago, IL.
210. Neeraj Shidore, Andrew Ickes, Thomas Wallner, Aymeric Rousseau, James Sevik, Mehrdad Ehsani, " Evaluation of ethanol blends for plug-in hybrid vehicles using Engine in the Loop", submitted for SAE world congress 2012.
211. Chengzong Pan, Mladen Kezunovic, and Mehrdad Ehsani, "Demand Side Management by using Electric Vehicles as Distributed Energy Resources," IEEE 2012 Electric Vehicle Conference, Greenville, South Carolina, March 2012.
212. A. E. Havaii, B. F. Yancey, and M. Ehsani "Computer Aided Design Tool for Electric, Hybrid Electric and Plug-in Hybrid Electric Vehicles," IEEE-VPPC 2011, Chicago, Ill., Oct. 2011.
213. Lin Lai and Mehrdad Ehsani, "Optimal Hybridization Analysis for Parallel HEV Drive Train with Full Size Engine," Power Train Modeling and Control Conference, PMC2012, September 4-6, 2012.
214. Lin Lai and Mehrdad Ehsani, "Dynamic Programming Optimized Constrained Engine On and Off Control Strategy for Parallel HEV," IEEE-ENERGYCON 2012 - Sustainable Transportation Systems, Florence, Italy, September 9-12.
215. Lin Lai and Mehrdad Ehsani, "Design Study of Parallel HEV Drive Train with Full Size Engine," 2013 IEEE Transportation Electrification Conference and Expo (ITEC2013) to be held in Metro Detroit, Michigan from June 16-19, 2013.
216. L. Lai and M. Ehsani, "Dynamic programming optimized constrained engine on and off control strategy for parallel HEV," IEEE Vehicle Power and Propulsion Conference, Beijing, China, 2013.
217. Ronald Barazarte, M. Ehsani, "Frequency Selective Power Transmission," to appear in 2014 IEEE PES Transmission & Distribution Conference & Exposition.
218. M. Ehsani, "Sustainable Energy and Transportation Engineering," keynote at IEEE Green Tech'14, Corpus Christi, Texas, April, 2014.
219. M. Ehsani, "Sustainable Energy Engineering," Keynote at 3rd International Conference in Renewable Energy Research and Applications, Milwaukee, October 2014.
220. M. Ehsani, "Confluence of Fossil and Sustainable Energy Sources," keynote at IEEE Green Tech'15, New Orleans, April, 2015.
221. H. M. Al-Masri, F. Alhuwaishel, F. Alismail, S. Sabeeh, H. Kanakri and M. Ehsani, "Application of Gyrator Concept to Control and Operation of Boost Converter," 15th IEEE International Conference on Environment and Electrical Engineering, Rome (Italy), June, 2015.

222. Shmilovitz, D.; Ozeri, S.; Ehsani, M.M., "A resonant LED driver with capacitive power transfer," in Applied Power Electronics Conference and Exposition (APEC), 2014 Twenty-Ninth Annual IEEE , vol., no., pp.1384-1387, 16-20 March 2014.
223. A. Abramovitz, I. Reichman, M. Ehsani, D. Shmilovitz, "Off line Capacitive Isolated QRLEDD" Power Electronics and Applications (EPE'15-ECCE Europe), 2015.
224. Hussein Al-Masri and Mehrdad Ehsani, "Feasibility Investigation of a Hybrid On-Grid Wind Photovoltaic Retrofitting System," IEEE Industry Applications Society Annual Meeting, Dallas Texas, October, 2015.
225. Jiayuan Zhang, Wei Zhan and Mehrdad Ehsani, "On-line Fault Diagnosis of DC Motor based on the Hidden Markov Model" 2016 IEEE Transportation Electrification Conference and Expo (ITEC2016) Detroit, Michigan, June 27-29, 2016.
226. Hussein Al-Masri; Ahmad Abu-Errub; Mark Ehsani, "On The PV Module Characteristics". Accepted by the 23rd International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM 2016), Capri, Italy, June, 2016.
227. Al-Masri, Hussein; Ehsani, Mehrdad, "Feasibility investigation of a hybrid on-grid wind photovoltaic retrofitting system," in Industry Applications Society Annual Meeting, 2015 IEEE , vol., no., pp.1-7, 18-22 Oct. 2015.

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. Hussein M. K. Al-Masri, Ph.D., in process
2. Ahmad Bashaireh, Ph.D., in process
3. Andre de Moraes, M.S., completed, June, 2016
4. Owen Golden, M.S., in process
5. William Harris, M.S., in process
6. Abdullah Almehezia, Ph.D., in process
7. Nima Erchad, Ph.D., in process
8. Ahmet Yeksan, Ph.D., in process
9. Wang, Yiqi, Ph.D, in process
10. Yang Wang, Ph.D., completed, 2015
11. Billy Yancey, Ph.D., in process
12. Muneer Mohammad, Ph.D., completed, February, 2014
13. Lin Lai, Ph.D., completed November, 2012
14. Milad Falahi, Ph.D.,... Completed September, 2012
15. Neeraj Shidore, DSc., completed May, 2012
16. Ronald Barazarte, Ph.D., completed May 2011
17. Ali Eskandari, Ph.D., completed May 2011

18. Guadalupe Gonzalez, Ph.D., completed May 2011
19. Yue Gao, M.E., completed May 2010
20. Billy Yancey, M.S., completed May 2010
21. Sriram Sarma Emani, M.S., completed May 2010
22. Bo Chen, M.S., completed 2009
23. Richard Smith, M.S., completed 2009
24. Hung-ming Chou, M.S., completed 2009
25. Randy Doolittle, M.S., completed 2008
26. Alex Skorcz, M.S. completed Dec. 2007
27. Hugo Mena, M.S. completed Dec. 2007
28. Peyman Asadi, Ph. D., 2007.
29. David Hoelscher, M.S., completed May 2006
30. Steven Welch, M.S., completed Dec. 2005
31. Melissa Lipscomb, M.S., completed Aug. 2005
32. Ravish Ailinani, MEN, completed Aug. 2005
33. Sebastien E. Gay, Ph. D., completed May 2005
34. Neeraj Shidore, M.S., completed 2003
35. Hyung-Woo Lee, Ph. D., completed 2003.
36. Tae-Hyung Kim, Ph. D., completed 2003.
37. Farzad Rajaei Salmasi, Ph. D., completed in 2002.
38. Hongwei Gao, Ph. D., completed in 2001.
39. Baojun Si, Ph. D., completed.
40. Byoung-Kuk Lee, Ph. D., completed in 2001.
41. Stephen W. Moore, Ph. D., completed
42. Velayutham Rajarathnam, Ph. D., completed.
43. Tzong-Shiann Wu, Ph. D., completed.
44. Jean Yves Guy Routex, M.S., completed in 2001.
45. Ziaur Rahman, Ph. D., completed in 2001.
46. Ali Emadi, Ph. D., completed in 2000.
47. Liping Chen, MEN, completed in 2000.
48. Maria Dias Bellar, Ph. D., completed in 2000.
49. Suresh Gopalakrishnan, Ph. D., completed in 2000.
50. Babak Fahimi, Ph. D., completed in 1999.
51. James P. Johnson, Ph. D., completed in 1998.
52. Khawja M. Rahman, Ph. D., completed in 1998.
53. Stephen Moore, M.S., completed in 1997.
54. Yilcan Guzelgunler, M.S., completed in 1997.
55. Yingxia Zhang, M.S., completed in 1996.
56. Kenneth Stevens, M.S., completed in 1996.
57. Aristide Tchamdjou, M.S., completed in 1996.
58. Piyush Tandon, M.S., completed in 1996.
59. J. W. Kim, M.S., completed in 1995.
60. Shamsul Arefeen, M.S., and Ph. D.
61. Jayanthi Arvind, M.S.
62. Gerard Joseph Ashok R., MEN
63. Roger Carlos Becarra, Ph. D.
64. Paul Le Roy Brohlin, M.S.

65. Mallappa I. Guggari, M.S.
66. James M. Hansen, M.S.
67. Shahria Khan, M.S.
68. Ashok B. Kulkarni, Ph. D.
69. Alfonso Rafael Ledezma, MEN
70. Pascal Louis Noel Le Polles, M.S.
71. Touzhu, Li, Ph. D.
72. Shailendra Mahajan, M.S.
73. Jorge Carlos Menendez, M.S.
74. Nabil Hussein Qawasmi, M.S.
75. Ranganathan Charath Ram, M.S.
76. David Alan Riesz, MEN
77. Michael Arthur Schoen, M.S.
78. Sameer Sodhi, M.S.
79. Terry Joseph Villarreal, M.S.
80. Yuemin Zhang, M.S.
81. Jim Bass, Ph.D.
82. Yoon Ho Kim, Ph.D.
83. Ali Hozhabri, Ph.D.

Ex-Students that are Faculty Members

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|------------------------------------|--|
| 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) |