

CURRICULUM VITAE

JANUARY 2017

Mehrdad Kazerani

Professor

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EDUCATION:

Degree	Institution	Department	Year
PhD	McGill University, Canada	Electrical Engineering	1995
M.Eng. (thesis)	Concordia University, Canada	Electrical & Computer Engineering	1990
B.Sc.	Shiraz University, Iran	Electrical Engineering	1980

EMPLOYMENT HISTORY:

Dates	Position	Department	Institution
July 2009-Present	Professor	Electrical & Computer Engineering	University of Waterloo
July 2003- June2009	Associate Professor	Electrical & Computer Engineering	University of Waterloo
May 1997- June 2003	Assistant Professor	Electrical & Computer Engineering	University of Waterloo
July 1995-June 1996	Post-Doctoral Fellow	Electrical Engineering	McGill University
Sept. 1990-June 1995	Teaching & Research Assistant	Electrical Engineering	McGill University
Aug. 1988-Aug. 1990	Teaching & Research Assistant	Electrical & Computer Engineering	Concordia University
June 1982-January 1987	Director & Lecturer	Ray Gas Turbine Training Center	Energy Ministry, Iran

TEACHING:

A. COURSES TAUGHT

Course Number	Term and Year	No. of Students-response	Rating /100 Graduate Q9: Overall Course Undergraduate Q10: Quality of Teaching	Rating /100 Graduate Q5: Instructor Quality Undergraduate Q17: Course Appraisal	Rating /100 Graduate Average of Q1-4,6-8 Undergraduate Average Q11-16, Q18	Rating /100 Undergraduate Average Q1-9
ECE 663	Spring 2016	17-15	83.33	85	84.05	NA
ECE 463	Spring 2016	39-25	82.29	71	62.92	84.59
Course Number	Term and Year	No. of Students	Critique Rating Average/100 Undergraduate: Average of Q1-Q9 Graduate: Average of Q1-Q8		Critique Rating Overall/100 Undergraduate: Teaching Quality Graduate: Overall, Course Rating	
ECE6610PD	Fall 2015	7	Not Available		Not Available	
MTE 420	Fall 2015	62	89		87	
ECE 663	Spring 2015	21	74.75		76	
ECE 463	Spring 2015	61	87.33		87	
MTE 420	Fall 2014	40	87.56		91	
ECE6611PD	Fall 2014	25	82.13		80	
ECE 663	Spring 2014	29	81.63		88	
ECE 463	Spring 2014	58	87.33		87	
ECE6615PD	Winter 2014	9	Not Available		Not Available	
ECE6610PD	Fall 2013	15	Not Available		Not Available	
MTE 420	Fall 2013	25	87.89		88	
ECE 663	Spring 2013	36	78.5 (Q1-8)		81 (Q9)	
ECE 463	Spring 2013	57	89.44		91	
ECE6611PD	Fall 2012	27	Not Available		Not Available	
May 2012-April 2013: Sabbatical Leave						
ECE6615PD	Winter 2012	24	Not Available		Not Available	

MTE420	Fall 2011	11	90.11	89
ECE6610PD	Fall 2011	31	Not Available	Not Available
ME269	Fall 2011	99	78.22	76
ECE463	Spring 2011	75	83.89	80
ECE663	Spring 2011	40	83.38 (Q1-8)	86 (Q9)
ECE6611PD	Winter 2011	48	Not Available	Not Available
MTE420	Fall 2010	13	96.56	98
ECE663	Spring 2010	42	79.25 (Q1-8)	80 (Q9)
ECE463	Spring 2010	77	87.22	89
ECE6615PD ¹⁰	Winter 2010	11	Not Available	Not Available
ECE6610PD	Fall 2009	19	Not Available	Not Available
MTE420	Fall 2009	18	94.78	97
ECE463	Spring 2009	60	90.11	88
ECE663	Spring 2009	29	83.38	92
ECE6611PD ⁵	Winter 2009	17	Not Available	Not Available
MTE420	Fall 2008	9	92.89	92
ME269	Fall 2008	88	80.67	75
ECE6610PD ¹	Spring 2008	17	Not Available	Not Available
ECE463 ²	Spring 2008	39	93.67	95
ECE663 ³	Spring 2008	18	87	86
ME269 ⁴	Fall 2007	89	77.11	77
MTE 420 ¹¹	Fall 2007	8	93.89	90
ECE6610PD	Winter 2007	11	Not Available	Not Available
ECE463	Spring 2007	46	92.67	95
ECE663	Spring 2007	14	87.25	93
ME269	Fall 2006	99	82.56	83
ECE663	Spring 2006	8	91.67	97
ECE463	Spring 2006	25	92.44	93
ECE6611PD ⁵	Winter 2006	15	88.33	90
ME269	Fall 2005	85	57.44	43
September 2004-August 2005: Sabbatical Leave				

ECE463	Spring 2004	51	92.67	93
ME269	Fall 2003	106	71.77	66
ECE663	Fall 2003	10	Not Available	Not Available
ECE463	Spring 2003	59	91.22	96
ME269	Fall 2002	95	65.11	54
ECE661 ⁶	Fall 2002	10	Not Available	Not Available
ECE463	Spring 2002	17	92	98
ECE663	Fall 2001	8	Not Available	Not Available
ECE261 ⁷	Fall 2001	101	86.22	83
ECE463	Spring 2001	13	91	92
ME123 ⁸	Winter 2001	87	84	84
ECE661	Fall 2000	9	Not Available	Not Available
ECE261	Fall 2000	100	83	79
ECE663	Winter 2000	6	Not Available	Not Available
GenE123 ⁸	Winter 2000	53	78	66
ECE463	Fall 1999	11	91	84
ECE362 ⁹	Fall 1999	97	74	62
ECE261	Fall 1999	101	75	65
ECE661	Spring 1999	7	Not Available	Not Available
ME269	Fall 1998	90	78	75
ECE261	Fall 1998	75	67	56
ECE463	Spring 1998	17	97	98
ECE261	Fall 1997	68	64	40
ECE463 ²	Spring 1997	8	91	94

¹ECE6610PD: “POWER ELECTRONIC CONVERTERS: DESIGN & APPLICATIONS”, ON-LINE M.ENG. PROGRAM IN POWER ENGINEERING

²ECE463: “DESIGN AND APPLICATIONS OF POWER ELECTRONIC CONVERTERS”

³ECE663: “ENERGY PROCESSING”, GRADUATE COURSE ON POWER ELECTRONICS

⁴ME269: “ELECTROMECHANICAL DEVICES & POWER PROCESSING”

⁵ECE6611PD: “ELECTRIC MACHINES AND MOTOR DRIVES”, ON-LINE M.ENG. PROGRAM IN POWER ENGINEERING

⁶ECE661: “HVDC & FLEXIBLE AC TRANSMISSION”, GRADUATE COURSE

- ⁷ECE261: “ENERGY SYSTEMS”
- ⁸GENE/ME123: “ELECTRICAL ENGINEERING” FOR NON-ELECTRICAL ENGINEERING STUDENTS
- ⁹ECE362: “MODELING & CONTROL OF ELECTRIC DRIVES”
- ¹⁰ECE6615PD “DESIGN AND APPLICATIONS OF DC/DC CONVERTERS”, ON-LINE M.ENG. PROGRAM IN POWER ENGINEERING
- ¹¹MTE 420 “POWER ELECTRONICS AND MOTOR DRIVES”

B. COURSES DEVELOPED AND REVISED:

- ECE463/MTE420: I developed two new syllabuses for the technical elective course ECE463 for Electrical Engineering and Mechatronics Engineering students. I also developed detailed course notes/slides, new assignment problems and new lab experiments.
- ECE261: I revised the syllabus for the course ECE261 for Electrical Engineering students. I also developed detailed course notes and new assignment problems.
- ECE6610PD (Power Electronic Converters: Design and Applications): I developed a new syllabus and detailed course notes for the on-line course ECE6610PD (M.Eng. program in power engineering).
- ECE6611PD (Electric Machines and Motor Drives): I developed a new syllabus and detailed course notes for the on-line course ECE6611PD (M.Eng. program in power engineering).
- ECE6615PD (Design and Applications of DC/DC Converters): I developed a new syllabus and detailed course notes for the on-line course of ECE6615PD (M.Eng. program in power engineering)

C. GRADUATE SUPERVISIONS:

Name & Degree	Duration	Co-Supervisor	Research Topic	Current Status
Talal Alharbi PhD	2016-	K. Bhattacharya	Energy Storage System Integration in the Grid	In Progress
Marten Pape PhD	2016-	None	New Advances in Microgrid Control	In Progress
Haoduo Wang MAsc	2015- 2016	None	Design and Performance Evaluation of a Battery Simulator	Completed
Ahmad Abuaish MAsc	2014- 2016	None	Assessment of Battery- Supercapacitor Hybrid Energy Storage System Topologies for Electric Vehicles from Battery Capacity Fading Viewpoint	Completed

Mahmoud Ahmed Allam Sayed Alsanbawy PhD	2014-	None	Novel Control Methods for Hybrid AC/DC Microgrids	In Progress
Martin Robert Kardasz MAsc	2013-	None	Design and Implementation of an Electric Vehicle Test Bed	In Progress Hardware Design Engineer, Nytric Ltd. Mississauga, ON
Marten Pape MAsc	2013-2015	None	Design of a Flexible and Modular Test Bed for Studies on Islanded Microgrids	Completed PhD Student at University of Waterloo
Jordan Morris MAsc	2012-2014	C. Canizares	Design and Testing of a Bidirectional Smart Charger Prototype	Test Engineer, Tesla, CA, USA
Elham Karimi PhD	2013-	None	Optimal Planning of Renewable Energy-Based Microgrids for Remote Communities Considering the Operation Constraints	In Progress
Mauricio Restrepo PhD	2012-	C. Canizares	Smart Charging and Discharging of Electric Vehicles in Distribution Grids	In Progress
Zuher Al-Nasir PhD (on scholarship from KSA)	2011-2016	None	A Small-Scale Standalone Wind Energy Conversion System Featuring SCIG, CSI and a Novel Storage Integration Scheme	Lecturer, Department of Electrical and Electronic Technology, Jubail Industrial College, Saudi Arabia
Kun Zhuge MAsc	2011-2013	None	Development of an Efficient Hybrid Energy Storage System (HESS) for Electric and Hybrid Electric Vehicles	Power Electronic Engineer, Faraday Future (China) – Le Supercar Shanghai, China
Kurtis Unger	2011-	None	Organically Grown	Principal

MASc	2012		Microgrids: The Development and Simulation of a Solar Home System-Based Microgrid	Hardware Engineer, BRCK, Nairobi, Kenya
Amir Ostadi PhD	2011-2015	None	Optimal Sizing of Battery/Ultracapacitor-Based Energy Storage Systems in Electric Vehicles	Firmware Control Engineer, Rockwell Automation, Cambridge, ON
Mariano Arriaga PhD	2011-2015	C. Canizares	Long-Term Renewable Energy Generation Planning for Off-Grid Remote Communities	Post-Doctoral Fellow, University of Waterloo
Daniel Olivares PhD	2010-2014	C. Canizares	An Energy Management System for Isolated Microgrids Considering Uncertainty	Assistant Professor, Pontificia Universidad Católica de Chile
Noreen Wong MASc	2010-2012	None	Design of a Two-Stage Level-Two Bidirectional On-Board Battery Charger for Plugin Vehicles	Algorithm Design Development Engineer - High Voltage Charging Diagnostics, GM, ON
Mehdi Vafaei, MASc	2009-2011	None	Optimally-Sized Design of a Wind/Diesel/Fuel Cell Hybrid System for a Remote Community	Junior Engineer/Scientist, Kinectrics, Toronto, ON
Mohammad Shams El-Dein, PhD	2008-2012	M.M.A. Salama	Novel Designs for Photovoltaic Arrays to Reduce Mismatch Losses and to Ease Series Arc Fault Detection	Assistant Professor, Department of Electrical Power and Machines, Ain Shams University, Cairo, Egypt; Founder of startup company S3 Solar

Prajna Dash, PhD	2009-2013	None	A High-Performance Three-Phase Grid-Connected PV System Based on Multilevel Current Source Inverter	Energy Modeling Engineer, Energent Inc. (owned by Rodan Energy, Toronto), Waterloo, ON
Ameena Alsumaiti, MAsC	2008-2010	Hatem Zeinedin (UAE)	Sizing and Allocation of PV Units in Distribution Systems	Assistant Professor, Masdar Institute of Science and Technology
Brian Fan, PhD	2007-2011	A. Khajepour	Multidisciplinary Optimization of Hybrid Electric Vehicles: Component Sizing and Power management Logic	Senior Vehicle Engineer, Gaius Automotive, Paris, France
Walid Omran, PhD	2006-2010	M.M.A. Salama	Performance Analysis of Grid-Connected Photovoltaic Systems	Assistant Professor, Ain-Shams University, Cairo, Egypt
Masoud Barakati, PhD	2003-2008	D. Aplevich	Modeling and Controller Design of a Wind Energy Conversion System Including a Matrix Converter	Assistant Professor, University of Sistan & Baloochesten, Iran
Michelle Thorne, MAsC	2006-2008	None	A Fuel-Cell Vehicle Test Station	Teacher (AP Calculus & Physics, Physics, Geometry, Digital Electronics), Concordia High School, Round Rock, Texas
Jennifer Bauman, PhD	2004-2008	None	Advances in Fuel Cell Vehicle Design	Director of Vehicle Modeling, CrossChasm Technologies Waterloo, ON
Nathan Stretch, MAsC	2005-2007	None	Advancements in Current-Sourced Inverter Methodologies for Use in Small-Scale Power Generation	President, Searchtempest Online / Tempest Systems, B.C.
Brian Fan, MAsC Mech.Eng., part-	2002-	A. Khajepour	Modeling and Simulation of a Hybrid Electric Vehicle Using	Senior Vehicle Engineer,

time	2007		MATLAB/SIMULINK and ADAMS	Gaius Automotive, Paris, France
Ali Tatari, MASc	2004-2006	None	Flicker Mitigation of Electric Arc Furnace Using Dynamic Voltage Restorer	Manager, Engineering & consulting services, Power System Services, S&C Electric, Toronto, ON
Jason Grenier, MASc	2003-2006	S.K. Jayaram	Design of a MOSFET-Based Pulsed Power Supply for Electroporation	PhD student, University of Toronto, ON
Tiantian Pan, MASc	2002-2004	None	Stand-Alone Fuel Cell Inverter Systems for Residential Applications	Engineer, MEMCO, USA
Afshin Majd, PhD	2000-2004	None	Development and Performance Analysis of a Distributed Generation Scheme Composed of Microturbine and Induction Generator	Model Developer, OTI, USA
Xuanyuan Wang, MASc	2001-2003	None	A High-Performance Modular Photovoltaic Grid-Connected Inverter	Vice Director Power Trading and Market Operations at Jibei Electric Power Co. (JEPC), SGCC, China
Ghodratollah Esmaceli, MASc	1999-2001	None	Development of a High-Performance Photovoltaic Grid-Connected Inverter	Product Support Engineer, Rockwell Automation, BC
Yang Ye, PhD	1998-2001	V.H. Quintana	Advances in Modeling and Applications of Three-Phase Power Converters	Co-Founder, General Manager & Chief engineer, Wuxi Invertech Power Technology Ltd., China
Ramadan El-Shatshat, PhD	1997-2001	M.M.A. Salama	A Novel Modular Approach to Active Power-Line Harmonic Filtering in Distribution Systems	Lecturer, Department of Electrical & Computer Engineering,

				University of Waterloo, ON
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D. UNDERGRADUATE SUPERVISION:

Name	Duration	Project Topic
Felipe Darcie Pereira	September-December 2016	Design and Simulation of an Electric Vehicle Powertrain Based on Brushless DC Motor Intern, Canada-Brazil Ciecica Sem Fronteiras (CsF) Research Placement
Yeon Park	May 2016-	Construction and Testing of Power Electronic Converters URA
Ali Shah Sharif	January 2016-April 2016	Firmware design of a wind enrgy conversion system module for a microgrid test bed URA
Ali Shah Sharif, Yuming Rong, Hsiang Yu Tsai, Zehao Qin and Tsun Yin Lip	May 2015-March 2016	Nurhachi intelligent power management and backup system (4 th -year desin project)
Danni Luo	September 2014-December 2014	Building an Inverter Module for the Microgrid Simulator URA
Wenbo Zhu and 4 others	May 2014-March 2015	Bike + Battery Charger (4 th -year design project)
Michael Baioff, Devin Bliefert, Jeff Dancy, David Cox, Goran Vukancic	May 2014-March 2015	Energy harvesting from keyboard strokes (4 th -year design project)
Kai Jiang	May 2014-August 2014	Battery Simulator URA
Neda Shams and 4 others	May 2013-March 2014	Exercise Bike + Battery Charger (4 th -year design project)
John Townsend, AJ Rosewarne, David Waenink, Eric	May 2013-March 2014	Integrated battery and battery management system for the NASA SRRC robot (in association with the UW robotics team), (4 th -year design project)

Evenchick		
Marten Pape	May-August 2011	Design and Implementation of a Battery SOC Measurement System (Exchange Student from Karlsruhe, Germany)
Brian Le	January-April 2011	Measurement of State-of-Charge (SOC) of Li-I Batteries using TI Fuel Gauge (Undergraduate Research Assistant, URA)
Neda Sadat Shams (Co-op Student)	May-August 2010	Design and Simulation of a 500-W Photovoltaic Array Simulator
Noreen Wong	January-April 2010	Controllable Load Setup for Li-Ion Battery Characterization (Undergraduate Research Assistant, RA)
Samir Kala	January-April 2010	Controllable Load Setup for Li-Ion Battery Characterization (Undergraduate Research Assistant, RA)
Manoj R. Manjunath, Mamoon Rashid, Samir Kala	January-July 2009	A Bidirectional DC/DC Converter for Connecting a Battery Bank to the DC Bus of a Fuel Cell Vehicle (4 th -year design project)
Gilbert Chan, Haosen Cai, Benjamin Kings, Wensheng Zhang, Yiheng Zhang	January-July 2009	Transformation Vehicle (4 th -year design project)
Adam Yusuf Sean Holt Quyên Tran Shaief Wares John Wu	January-July 2009	Stage-2 Induction Water Heater (4 th -year design project)
Vincent Muller	January-April 2009	Experimental Study of Lead-Acid Battery Characteristics (Exchange Student from UPFL, Switzerland)
J. Peterson, R. Marchand, H. Manougian	January-July 2007	Uninterruptible Power Supply (4 th -year design project)
Allen Chan	January-April 2007	A 3-kW Wind Turbine Emulator
Kenneth Cheng	January-April 2007	Integration of a solar panel and a wind turbine to efficiently satisfy a load profile
M. Memarian, A. Akhtar, H. Sipra,	January-July 2006	An Electronically Controllable AC Load (4 th -year design project)

David, X. Kant		
Marie-Helene Dube	January-April 2006	A Fuel Cell-Powered Sea Scooter
M.N. Guissi	January-April 2005	Development of a PEM fuel Cell emulator
P. Vaidyanathan, N. Khera, F. Shahrokhi, L. Mulamootil	January-July 2005	Solar Maximum Power Tracker (Sunflower) (4 th -year design project)
R. Sigamani, M. Budzis, B. Lipson and D. Gaudette	January-July 2004	A Pulse Power Generator (4 th -year design project)
N.M. Khan (Co-op student)	January-April 2004	Implementation of a controllable dc load for fuel cell
X. Li (Co-op student)	May-August 2003	Simulink Modeling of Fuel Cell/Solar Power Systems
C. Koo, C. Georgescu, G. Wong, C. Hodgkinson	January-July 2003	Active Power Filter (4 th -year design project)
H.M. Lee, P. Lam, V. Chen, C. Ng	January-July 2003	Solar Array Simulator (4 th -year design project)
B. Cameron, J. Marshall , A. Ogle , A. Thompson	January-July 2003	Solar Array Characteristics Curve Tracer (4 th -year design project)
S. Balasubramaniam, R. Basur, Tai-Lun Fung, A. Matan	January-July 2002	WattCar (a human-electric hybrid vehicle) (4 th -year design project)
A. Pringle, A. LeRoi, J. Grenier, S. Wong	January-July 2002	Active Power Filter for Non-Linear Loads (4 th -year design project)
A. Celli, J. Mocha, J. Kopytek, and O. Romaniuk	January-July 2001	Residential DC-to-AC Inverter (4 th -year design project)
Rob McCann	Fall 2001	The Kazerani's Photo-Voltaic Grid-Connected Power Inverter (SCI 323 course project, economical and marketing analyses on a developed technology)

E. POST-DOCTORAL FELLOW AND VISITING SCHOLAR SUPERVISION

Name	Duration	Project Topic
Dr. K. Liu (PDF)	1999-2000	Development of a High-Voltage Power Supply for Aerospace Applications
Dr. Khaled Nigim, Visiting Scholar, US	2001-2003	Study of steady-state behavior of stand-alone wound-rotor induction generator for wind-energy recovery systems
Karim Shaarbafi Visiting Scholar (PhD student), Iran	2004-2005	New topologies and controllers for HVDC and FACTS

Dr. Xiyou Chen Visiting Scholar, China	2004-2005	Applications of Matrix Converters in Motor Drives
Yong Li Visiting Scholar (PhD student), China	2011-2013	Design and Simulation of a Test Bench for Evaluation of a Hybrid Energy Storage System of EVs and HEVs Completed
Claudio Bergus	May-July, 2013	Implementation of an Experimental System for the Modeling of Maximum Power versus State-of- Charge (SOC) of Lithium ion Batteries
Daniel Pola	May-July, 2014	Experiment-Based Modeling of Maximum Power versus State-of- Charge (SOC) of Lithium ion Batteries
Carlos Javier Hernández Carimán	February-April, 2016	Design, simulation and implementation of a 4-leg inverter module for the microgrid test bed

RESEARCH:

A. RESEARCH FUNDING:

- CURRENT AND COMPLETED:

Year	Source of Funds/Title of Project	Total Amount	PI and Share
2016	NSERC, Engage Grant “A Connected, Flexible and Green Public Electric Bicycle (E-Bike) Battery Charging/Swapping Station System for on-grid and off-grid Deployment”, with Envisionmatrix Renewable Energy Inc.	\$24,180	Mehrdad Kazerani
2013-2018	NSERC, Discovery Grant “Research on Enabling Technologies for Electrification of Transportation and Integration of Renewables in Remote Communities' Microgrids”	\$145,000	Mehrdad Kazerani
2013-2018	CFI/ORF, Leading Edge Fund (LEF) “Green and Intelligent Automotive (GAIA) Laboratory”, with Toyota	\$6,400,000	J. McPhee (5%)
2013-2016	NRCAN ecoEnergy II “R&D of Control Platform for Integration of Renewable Energy in Remote Communities”	\$3,694,500	Claudio Canizares (3%)

2013-2016	NSERC CRD "Impact of electric vehicles on the grid"	\$752,310 NSERC: \$376,155, Industrial cash: \$226,155, Industrial In- kind: \$150,000	Catherine Rosenberg (25%)
2010-2014	Ontario Research Fund (ORF/RE), "Green Intelligent Transportation Systems"	\$8,000,000	Amir Khajepour (5%)
2010-2014	Automotive Partnership Canada, Research Grant "Next Generation Electric Vehicles: Development of Key Technologies and Full Vehicle Testing" with General Motors of Canada Ltd., Maplesoft, and Ministry of Research and Innovation	\$3.5M (APC), \$200K (industry cash), \$4.0M (industry in- kind)	Amir Khajepour (and 13 others) (2.5%)
2008-2013	NSERC, Discovery Grant "Research on Clean Energy and Green Vehicular Systems"	\$150,000	Mehrdad Kazerani
2008-2011	OCE Energy, Research Grant "Connecting Solar Farms to the Grid"	\$6,000,000	Rajiv Varma & Magdy Salama (2%)
2009-2012	CFI, Leading Edge Fund (LEF) "WindTech R&D: Expansion of the Laboratory for Electric Drive Application and Research (LEDAR) to Advance Wind Technology"	\$1,824,425 (total) CFI: 40% ORF: 40% Partners: 20%	Bin Wu (Ryerson) (5%)
2009-2010	OCE-OPG-HydroOne-OPA-NRCAN, Research Contract "Development of Advanced Smart Grid Systems for integration of PHEVs"	\$54,000	C. Cañizares and J. Nathwani (12.5%)
Sept. 2008- March 2009	Hydro One, Research Contract "Study of Impacts of Commonly-Used Interfacing Techniques for Grid-Integration of PV Systems on Operation & Performance of Distribution Networks"	\$35,000	Amir Yazdani (50%)
March- July 2008	Magna Advanced Technologies, Research Contract "Electric Vehicle Drive System Modeling"	\$43,810	John McPhee (33%)
2007-2008	NSERC, Research Tools and Instruments "Programmable Load for Test-Bench Research on Fuel Cell-Based Stationary Power Generation and Vehicular Systems"	\$22,442	Kazerani (90%)

2005-2006	NSERC, Research Tools and Instruments (RTI) “Equipment for Research on Fuel Cell Power Conditioners for Residential and Vehicular Applications”	\$15,770	Kazerani (80%)
2003-2008	NSERC, Discovery Grant “Reliable, Efficient, and Cost-Effective Distributed Power Generation Based on Microturbines”	\$125,000	Kazerani
2002-2003	NSERC, Research Tools and Instruments (RTI) “Power Quality Measuring Equipment”	\$55,104	M.M.A. Salama (10%)
2000-2001	ESTAC (Environmental Science & Technology Alliance Canada), Research Grant “Development of High-Performance & Low-Cost Grid-Connected Inverters for Efficient & Environmentally-Friendly Electricity Generation from Solar Energy”	\$25,480	Kazerani
1999-2001	Honeywell, Research Contract “Developing a High-Voltage Power Supply for Aerospace Applications”	\$58,998	M.M.A. Salama (50%)
1999-2000	NSERC, Research Tools and Instruments (RTI) “Power Quality Measurements for Modern Distribution Systems”	\$23,864	M.M.A. Salama (10%)
1998-1999	University of Waterloo, RA Support for new faculty “High-Performance Matrix Converter-Based AC Motor Drive”	\$6,227	Kazerani
1999-2000	Canada Foundation for Innovation (CFI), New Opportunities, Infrastructure Support for New Faculty “Computing and Laboratory Infrastructure for the Wireless Telecommunications, Power Electronics, and Software Engineering Laboratories”	\$259,000	K. Kontogiannis (10%)
1998-1999	NSERC, Research Tools and Instruments (RTI) “Multiprocessor Computer Network for Power System Modeling & Simulation”	\$44,564	C.A. Canizares (10%)
1998-2001	NSERC, Discovery Grant “Modular Active Power-Line Conditioning”	\$59,400	Kazerani
1997-1998	University of Waterloo, Starter Grant	\$15,000	Kazerani

- APPLIED FOR:

PI and Sahre	Source of Fund/ Title of Project	Total Amount	Date of Submission
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Roydon Fraser, 6.25%	NSERC RTI “Impact of Level 2 and Level 3 Electric Vehicle (EV) Charging Stations on the Electrical Distribution System, on the Environment, and on Consumer Uptake of Electric Vehicles”	\$134,931	October 21, 2016

B. PATENTS:

Title & Number	Inventors	Year
“System, Method and Computer Program for Reducing Mismatch in a Photovoltaic Structure”, United States Patent Application No. 13/354,622	Mohamed Shams, M. Kazerani, M.M.A. Salama	2012
“Reconfigurable Photovoltaic Structure”, United States Patent Application No. 13/354,876	Mohamed Shams, M.M.A. Salama, M. Kazerani	2012
“System, Method and Computer Program for Reducing Mismatch in a Photovoltaic Structure”, International Patent No. PCT/CA2011/000556	Mohamed Shams, M. Kazerani, M.M.A. Salama	May 2011
“Reconfigurable Photovoltaic Structure”, International Patent No. PCT/CA2011/000809	Mohamed Shams, M.M.A. Salama, M. Kazerani	July 2011
“High Voltage Power Supply” European Patent App. No. EPC 03779380.9-2007. (Europe)	M.M.A. Salama, M. Kazerani and Chun Ho Lam	August 2006
“High Voltage Power Supply for Auto Industry Application” US Patent No. USA 630684. (USA)	M.M.A. Salama, M. Kazerani and Chun Ho Lam	July 2003
“High Voltage Power Supply Application” US Patent No. USA 10/630,684. (USA)	M.M.A. Salama, M. Kazerani and Chun Ho Lam	July 2003
“High Voltage Power Supply for Aerospace Applications” US Patent No. USP 422845. (Taiwan)	M.M.A. Salama, M. Kazerani and Chun Ho Lam	November 2002

C. AWARDS

Title	Amount	Year
University of Waterloo, Department of Electrical & Computer Engineering, Research Stimulation Grant	\$22,000/year	2016-2018

University of Waterloo, Department of Electrical & Computer Engineering, Marsland Faculty Fellowship Award	\$12,500	2014
University of Waterloo, Faculty of Engineering Distinguished Performance Award	\$2,500	2012
OCE Graduate Student Supervision Award	\$23,205	2011
University of Waterloo Dean's Graduate Student Supervision Award	\$10,000	2006
Honeywell patent filing award	\$US 2,500	2004

D. PUBLICATIONS:

(Note: The name of students, PDFs, visiting scholars and collaborators appear in bold.)

REFEREED JOURNAL PUBLICATIONS (J)

- [J1] **M. Restrepo**, C. Canizares and M. Kazerani, "Three-Stage Distribution Feeder Control Considering Four-Quadrant EV Chargers", accepted in December 2016 for publication in the *IEEE Transactions on Smart Grid*.
- [J2] **M. Restrepo**, **J. Morris**, M. Kazerani and C. Canizares, "Modeling and Testing of a Bidirectional Smart Charger for Distribution System EV Integration", accepted in March 2016 for publication in the *IEEE Transactions on Smart Grid*, DOI: 10.1109/TSG.2016.2547178.
- [J3] **Z. Alnasir** and M. Kazerani, "A Small-Scale Standalone Wind Energy Conversion System Featuring SCIG, CSI and a Novel Storage Integration Scheme", in *Renewable Energy, Elsevier*, Vol. 89, April 2016, Pages 360–370.
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- [C52] **A. Majd** and M. Kazerani, "A Microturbine-Based Distributed Power Generation Scheme Using Induction Generator", *Proceedings of 2004 Power Systems Conference*, Clemson, SC, USA, March 10-12, 2004.
- [C53] **A. Majd** and M. Kazerani, "Estimation of and Compensation for the Reactive Power Demand of a Cycloconverter in Distributed Power Generation Schemes Based on High-Speed Engines", *Proceedings of 2004 Power Systems Conference*, Clemson, SC, USA, March 10-12, 2004.
- [C54] **A. Majd** and M. Kazerani, "Comprehensive Analysis of a Dispersed Generation Scheme Based on Microturbine and Induction Generator", *Proceedings of 2004 IEEE Power Engineering Society General Meeting*, Denver, Colorado, USA, June 6-10, 2004.
- [C55] **R. El Shatshat**, M. Kazerani, and M.M.A. Salama, "On-Line Tracking and Mitigation of Power System Harmonics Using ADALINE-Based Active Power Filter System", *Proceedings of 2004 IEEE Canadian Conference in Electrical and Computer Engineering*, Niagara Falls, May 2-5, 2004.
- [C56] M. Kazerani and **X. Wang**, "Improving the Performance of an Isolated Photovoltaic Grid-Connected Inverter Using a High-Frequency-Link Resonant Capacitor", *Proceedings of 2003 IEEE Industrial Electronics Conference (IECON'03)*, Roanoke, Virginia, USA, November 1-6, 2003.
- [C57] M. Kazerani, "Naturally-Commutated Cycloconverter versus Rectifier-Inverter Pair for Grid-Connected Distributed Power Generation Based on High-Speed Microturbines", *Proceedings of 2003 IEEE Industrial Electronics Conference (IECON'03)*, Roanoke, Virginia, USA, November 1-6, 2003.
- [C58] **X. Wang** and M. Kazerani, "A Novel Maximum Power Point Tracking Method for Photovoltaic Grid-Connected Inverters", *Proceedings of 2003 IEEE Industrial Electronics Conference (IECON'03)*, Roanoke, Virginia, USA, November 1-6, 2003.
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Proceedings of 2003 IEEE Power Engineering Society Annual Meeting, Toronto, Ontario, Canada, July 13-17, 2003.

- [C60] **A. Elnady**, M.M.A. Salama, and M.Kazerani, “An Efficient Compensator for the Voltage Related Power Quality Problems in Distribution Systems”, *Proceedings of 34th Annual IEEE Power Electronics Specialists Conference (PESC’03)*, Acapulco, Mexico, June 15-19, 2003.
- [C61] **H.H. Zeineldin**, E.F. El-Saadany and M.Kazerani “Capacitor Commutated Converter Using an Adaptive Active Capacitor for HVDC System”, *Proceedings of 2003 Canadian Conference in Electrical and Computer Engineering (CCECE 2003)*, Montreal, Quebec, Canada, May 2003, pp. 529-534.
- [C62] M. Kazerani and **Y. Ye**, “Comparative Evaluation of Three-Phase PWM Voltage- and Current-Source Converter Topologies in FACTS Applications”, in *Proceedings of 2002 IEEE Power Engineering Society Summer Meeting (IEEE/PES-SM2002)*, Chicago, IL, USA, July 21-25, 2002.
- [C63] **K.A. Nigim**, M.M.A. Salama, M. Kazerani, “Using MathCAD to Solve Polynomial Nonlinear Complex Induction Machine Equations”, in *Proceedings of 2002 American Society of Engineering Education Annual Meeting (ASEE 2002)*, Montreal, Quebec, Canada, June 16-19, 2002.
- [C64] **X. Wang** and M. Kazerani, “A Modular Photo-Voltaic Grid-Connected Inverter Based on Phase-Shifted-Carrier Technique”, in *Proceedings of 2002 IEEE Industry Applications Society Annual Meeting (IAS2002)*, Pittsburgh, Pennsylvania, October 13-18, 2002.
- [C65] **Dorin O. Neacsu**, Andrei Alistar, and M. Kazerani, “Insightful Analysis of Carrier PWM Algorithms for Direct AC-AC Matrix Converter Based on Voltage-Source Converter Modules”, in *Proceedings of 2002 IEEE Industry Applications Society Annual Meeting (IAS2002)*, Pittsburgh, Pennsylvania, October 13-18, 2002.
- [C66] **Afshin Majd** and M. Kazerani, “A Dynamic Model for Studying the Transient Behavior of Induction Generator”, in *Proceedings of ELECTRIMACS 2002*, Montreal, Quebec, Canada, Aug. 18-21, 2002.
- [C67] **Y. Yang**, M. Kazerani and V.H. Quintana, “A Novel Modeling and Control Method for Three-Phase PWM Converters”, in *Proceedings of 2001 IEEE 32nd Annual Power Electronics Specialists Conference (PESC 2001)*, Vancouver, British Columbia, Canada, June 17-21, 2001.
- [C68] M. Kazerani, “A Direct AC/AC Converter Based on Current-Source Converter Modules”, in *Proceedings of 2001 IEEE 32nd Annual Power Electronics Specialists Conference (PESC 2001)*, Vancouver, British Columbia, Canada, June 17-21, 2001.
- [C69] **Y. Yang**, M. Kazerani and V.H. Quintana, “Current-Source Converter Based SSSC: Modeling and Control”, in *Proceedings of 2001 IEEE Power Engineering Society Summer Meeting (IEEE/PES-SM2001)*, Vancouver, British Columbia, Canada, July 15-19, 2001.
- [C70] **R. El Shatshat**, M. Kazerani, and M.M.A. Salama, “Rule-Based Controller for Modular Active Power Filters”, in *Proceedings of the 2001 IEEE/PES Large Engineering Systems Conference on Power Engineering (LESCOPE)*, Halifax, Nova Scotia, Canada, July 11-13, 2001.

- [C71] **Y. Ye** and M. Kazerani, "Decoupled State-Feedback Control of CSI-Based STATCOM", in *Proceedings of 32nd Annual North American Power Symposium (NAPS2000)*, Waterloo, Ontario, Canada, October 23-24, 2000.
- [C72] **Y. Ye** and M. Kazerani, "Operating Constraints of FACTS Devices", in *Proceedings of 2000 IEEE Power Engineering Society (PES) Summer Meeting (IEEE/PES SM2000)*, Seattle, Washington, USA, July 16-20, 2000.
- [C73] **R. El Shatshat**, M. Kazerani, and M.M.A. Salama, "Modular Active Power Filtering Approaches: Power Splitting versus Frequency Splitting", in *Proceedings of the 1999 IEEE Canadian Conference on Electrical and Computer Engineering (CCECE 1999)*, pp. 1304-1308, Edmonton, Alberta, Canada, May 9-12, 1999.
- [C74] **R. El Shatshat**, M. Kazerani, and M.M.A. Salama, "ADALINE-Based Controller for Active Power-Line Conditioners", in *Proceedings of 1999 IEEE/PES Transmission and Distribution Conference*, Vol. 2, pp. 566-571, New Orleans, Louisiana, USA, April 11-17, 1999.
- [C75] **R. El Shatshat**, M. Kazerani, and M.M.A. Salama, "Modular Approach to Active Power-Line Harmonic Filtering", in *Proceedings of 1998 IEEE Power Electronics Specialists Conference (PESC'98)*, Vol. 1, pp. 223-228, Fukuoka, Japan, May 17-22, 1998.
- [C76] B.T. Ooi and **M. Kazerani**, "Voltage-Source Matrix Converter as a Controller in Flexible AC Transmission Systems", in *Proceedings of 1997 IEEE Power Engineering Society (PES) Summer Meeting*, July 20-24, 1997, Berlin, Germany.
- [C77] B. Lu, **M. Kazerani**, and B. T. Ooi, "Automatic Feedback Strategy for Regulation of Real and Reactive Power in an Asynchronous Link Based on a Voltage-Source Matrix Converter", in *Proceedings of 1997 IEEE Power Electronics Specialists Conference (PESC'97)*, Vol. II, pp. 842-846, June 22-27, 1997, St. Louis, Missouri, USA.
- [C78] B.T. Ooi, **M. Kazerani**, R. Marceau, Z. Wolanski, F.D. Galiana, D. McGillis, and G. Joos, "Mid-Point Siting of FACTS Devices in Transmission Lines", in *Proceedings of 1997 IEEE Power Engineering Society (PES) Winter Meeting*, February 2-6, 1997, New York, USA.
- [C79] B.T. Ooi and **M. Kazerani**, "Unified Power Flow Controller Based on Matrix Converter", in *Proceedings of 1996 IEEE Power Electronics Specialists Conference (PESC'96)*, Vol. I, pp. 502-507, June 23-27, 1996, Baveno, Italy.
- [C80] B.T. Ooi and **M. Kazerani**, "Elimination of the Waveform Distortions in the Voltage-Source-Converter Type Matrix Converter", in *Proceedings of 1995 IEEE Industry Applications Society Annual Meeting (IAS'95)*, Vol. 3, pp. 2500-2504.
- [C81] B.T. Ooi and **M. Kazerani**, "Application of Dyadic Matrix Converter Theory in Conceptual Design of Dual Field Vector and Displacement Factor Controls", in *Proceedings of 1994 IEEE Industry Applications Society Annual Meeting (IAS'94)*. Vol. II, pp. 903-910.
- [C82] **M. Kazerani** and B.T. Ooi, "Direct AC-AC Matrix Converter Based on Three-Phase Voltage-Source Converter Modules", in *Proceedings of 1993 IEEE Industrial Electronics Conference (IECON'93)*, Vol. II, pp. 812-817.
- [C83] **M. Kazerani**, P.D. Ziogas, and G. Joos, "A High Performance Current Controlled Regenerative AC-DC Converter for DC Motor Drives", in *Proceedings of 1990 IEEE Industrial Electronics Conference (IECON'90)*, Vol. II, pp. 1169-1175.

- [C84] **M. Kazerani**, P.D. Ziogas, and G. Joos, "Programmable Input Power Factor Conditioners for Single-Phase Front-End Diode Rectifiers", in *Proceedings of 1990 IEEE Applied Power Electronics Conference (APEC'90)*, pp. 177-184.
- [C85] **M. Kazerani**, P.D. Ziogas, and G. Joos, "A Novel Active Current Waveshaping Technique for Solid State Input Power Conditioners", in *Proceedings of 1989 IEEE Industrial Electronics Conference (IECON'89)*, pp. 99-105.

ARTICLES SUBMITTED TO REFEREED CONFERENCES (CS)

- [CS1] **A. Abuaiash** and M. Kazerani, "Single-Phase Bidirectional Integrated Onboard Battery Charger for EVs Featuring a Battery-Supercapacitor Hybrid Energy Storage System", submitted in November 2016 to the *2017 IEEE International Conference on Industrial Technology (ICIT 2017)*, Toronto, Ontario, Canada, March 22-25, 2017.

MAGAZINE ARTICLES (M)

- [M1] **M. Arriaga**, C. Canizares and M. Kazerani, "Access to Electricity in Canada's Remote Communities", in the *IEEE Power & Energy Magazine*, Vol. 12, No. 4, pp. 50-59, July/August 2014. (10 two-column pages)

FEATURED WORK (F)

- [F1] **Z. Al-Nasir** and M. Kazerani, "A Small-scale Standalone Wind Energy Conversion System Featuring SCIG, CSI and a Novel Storage Integration Scheme", featured in *Renewable Energy, Global Innovations*, November 2016.

E. Technical Reports (TR)

- [TR1] **D. Pola**, M. Kazerani, M. Orchard, **C. Burgos** and D. Saez, “Lithium-Ion Battery Characterization and Validation, Experiments for Long-Term Maximum-Power Predictions”, technical report based on a collaborative research carried out by University of Waterloo and University of Chile (WISE-UCHile), November 2014.
- [TR2] **C. Burgos**, M. Kazerani, D. Saez, R. Cardenas and M. Orchard, “Implementation of an Experimental System for Modeling of Maximum Power versus State-of-Charge (SoC) of Lithium-Ion Batteries”, based on a collaborative research carried out by University of Waterloo and University of Chile (WISE-UCHile), August 2013.
- [TR3] C. A. Cañizares, J. Nathwani, K. Bhattacharya, M. Fowler, **M. Kazerani**, R. Fraser, I. Rowlands and H. Gabbar, "Towards an Ontario Action Plan For Plug-In-Electric Vehicles (PEVs)," Waterloo Institute for Sustainable Energy (WISE), University of Waterloo, May 2010, 165 pages, available at: <http://www.plugndriveontario.ca/>.
- [TR4] B. Fan, W. Petersen, J. McPhee, A. Khajepour and **M. Kazerani**, “Electric Vehicle Drive System Modeling”, prepared for Magna Advanced Technologies, July 2008.
- [TR5]- P.P. Dash, A. Yazdani and **M. Kazerani**, “HydroOne PV System Modeling Project, Tasks 1-6”
 [TR7] prepared for HydroOne, Progress Reports #1-3, Nov. 2008, March 2009 and May 2009.
- [TR8] **M. Kazerani**, “SPLC System Simulation”, prepared for Gerdau Ameristeel, Ontario, Report #1, June 22, 2005.
- [TR9] **M. Kazerani**, “SPLC System Simulation”, prepared for Gerdau Ameristeel, Ontario, Report #2, June 27, 2005.
- [TR10] **M. Kazerani**, “SPLC System Simulation”, prepared for Gerdau Ameristeel, Ontario, Report #3, August 5, 2005.
- [TR11] M. Kazerani, “Cycloconverter Fault Analysis”, prepared for RailPower Technologies Inc., BC, September 28, 2001.
- [TR12] M. Kazerani, “Rectifier-Inverter Pair and Naturally-Commutated Cycloconverter Approaches to Commercial Electric Power Generation from High-Speed Micro-Turbines: A Comparative Study”, prepared for RailPower Technologies Inc., BC, May 7, 2001.
- [TR13]-**G. Esmaeili** and M. Kazerani, “Development of High-Performance & Low-Cost Grid-
 [TR17]Connected Inverters for Efficient and Environment-Friendly Production of Power from Solar Energy”, prepared for ESTAC (Environmental Science and Technology Alliance Canada), Progress Report #1-5, April 4, 2000, July 4, 2000, October 4, 2000, January 10, 2001, and April 10, 2001.
- [TR18] **L. Mootosamy** and M. Kazerani, “Transformation of Two Single-Tuned Filters to a Double-Tuned Filter and Vice Versa”, prepared for IREQ (Institut de recherche d’Hydro-Quebec), Hydro Quebec, June 1988.

F. INVITED TALKS:

Title	Place	Time
“Climate Change, Clean Energy,	University of Waterloo, IEEE Lecture Series, invited by	July 2007

and Power Electronics”	IEEE student section	
“Wind Energy Conversion System: Electrical Components”	University of Waterloo, invited by Prof. David Johnson, Mechanical Engineering	March 2008
Towards Renewable Energy-Based Microgrids for Remote Communities	University of Chile, Santiago, Chile	April 2013
Towards Electrified Powertrains for Vehicular Systems	University of Chile, Santiago, Chile	April 2013
PV Energy for Microgrids	University of Chile, Santiago, Chile (via internet, as part of a course on Microgrids)	December 2013
Wind Energy for Microgrids	University of Chile, Santiago, Chile (via internet, as part of a course on Microgrids)	December 2013
Design of Microgrids: Planning and Optimal Sizing	University of Chile, Santiago, Chile (via internet, as part of a course on Microgrids)	December 2013
Research Activities in Microgrids and Vehicles	University of Chile, Santiago, Chile	December 2014

G. CHAPTERS IN BOOKS:

Book Title	Chapter Number and Title	Publisher
“Handbook of Automotive Power Electronics and Motor Drives”, edited by A. Emadi	Chapter 11 “AC/AC Converters” 14 pages	CRC Taylor & Francis, ISBN: 0-8247-2361-9, 2005

SERVICE:

A. INTERNAL

- Faculty Advisor for Waterloo Electric Motorsports, 2012-2015.
- Vision 2015 Research Committee member, Dept. of ECE, 2011.
- DTPC (Department of ECE Tenure and Promotion Committee) member, 2011-2012.
- PhD Exam Chair (University of Waterloo), 4-5 exams per year, Sept. 2009-present.
- Served in internal review process of NSERC RTI applications, 2015.

- New-Faculty Hiring Committee (DACA II) member, Dept. of ECE, January 2008-present.
- Student Exchange Program Coordinator, Dept. of ECE, Sept. 2006-present.
- Undergraduate Study Committee Member, Dept. of ECE, 2005-2008.
- Graduate Study Committee Member, Dept. of ECE, 2000-2004.
- Faculty of Engineering Committee Member, 2006-2008.
- Department of Electrical & Computer Engineering Research Committee member, 2015-present.
- Work-Term Report Coordinator, Dept. of ECE, 2002-2004.
- Class Professor, Electrical Engineering Class of 2002 (activities included guiding students in the program, inviting associate chairs to talk to the class, giving presentations to the class, and monitoring class representative elections.)
- Power and Energy Systems Group Secretary, 1999-2004
- Serving on examination committees for PhD Comprehensive exams and PhD Defenses of graduate students
 - Ameen (2016), PhD Comprehensive Background Exam
 - Amr Said (2016), PhD Defense
 - Amir Mosaddegh (2016), PhD Defense
 - Walied Alharbi (2016), PhD Comprehensive Exam
 - Mohammad Saleh Moonesan (2016), PhD Defense
 - Bharatkumar V. Solanki (2016), PhD Comprehensive Exam
 - Nafeesa Mehboob (2016), PhD Defense
 - Elham Akhavan (2016), PhD Defense
 - Nazila Rajaei (2015), PhD Defense
 - Abolfazl (Amir) Mosaddegh (2014), PhD Comprehensive Exam
 - Isha Sharma (2014), PhD Defense
 - Haytham Aly Atteya Mohamed Mostafa (2014), PhD Defense
 - Amir Taghavipour (2014), PhD Defense
 - Behnam Tamimi (2014), PhD Comprehensive Exam
 - Yanjun Huang (2014), PhD Comprehensive Exam
 - Amr Ismaeilo Said (2014), PhD Comprehensive Exam
 - Morad Abdelaziz (2014), PhD Defense
 - Ehsan Nasr (2014), PhD Defense
 - Lena Ahmadi (2013), PhD Defense
 - Mohammad Saleh Moonesan (2013), PhD Comprehensive Exam
 - Mohammad Nassar (2013), PhD Comprehensive exam
 - Elham Akhavan Rezaie (2013), PhD Comprehensive exam
 - Nafeesa Mehboob (2013), PhD Comprehensive exam
 - Nazila Rajaei (2013), PhD Comprehensive exam
 - Amir Taghavipour (2012), PhD Comprehensive exam
 - Isha Sharma (2012), PhD Comprehensive exam
 - Morad Abdelaziz (2012), PhD Comprehensive exam
 - Lena Ahmadi (2011), PhD Comprehensive exam
 - Mohab Elnashar (2011), PhD Defense
 - Mohammad Albadi (2010), PhD Defense
 - Amirhossein Hajimiragha (2010), PhD Defense
 - Babak Ebrahimi (2009), PhD Defense

- Mohab Elnashar (2009), PhD Comprehensive exam
- Yasser Abdel-Rady Ibrahim Mohamed (2008), PhD Defense
- Mohammad Albadi (August 2007), PhD Comprehensive exam
- Amir Hossein Hajimiragha (August 2007), PhD Comprehensive exam
- Tarek El-Fouly (2007), PhD Defense
- Babak Ebrahimi (Mechanical Engineering, 2007), PhD Comprehensive exam
- Sameh Kodsi (2006), PhD Defense
- Saeed Ul Haq (2006), PhD Defense
- JianWei Liu (2004), PhD Defense
- Mostafa Marei (2004), PhD Defense
- Amr Elnady (2004), PhD Defense
- Walid El-Khattam (2004), PhD Defense
- Ayman El-Haj (2003), PhD Defense
- Luiz Meyer (2003), PhD Defense
- Judge in SFF students' debates and technical presentation competitions
- Judge in Mini Solar Car Competition, 2005 & 2007
- Judge in inaugural Minimise Energy Capstone Design Award Competition, 2014
- Reader of students' Master's Theses
 - Parisa Golchoubian (2016)
 - Shaharyar Anjum (2014)
 - Jose Daniel Lara (2014)
 - Felipe Ramos Gaete (2013)
 - Wajid Muneer (2011)
 - Syed Ahsan Hashmi (2010)
 - Ahmed Said Khalifa (2010)
 - Rina Baba (2009)
 - Chris Lawrence (2007)
 - Ku-Feng Tong (2007)
 - Maria Wei (2006)
 - Ming Chen (2005)
 - Feng Li (2004)
 - Esmaeil El Samahy (2004)
 - Ramtin Omranipour (2003)
- Marking work-term reports
- Mentoring new TAs
- Member of hiring committee for Electric Machines Lab technician
- Preparing proposal for renovation of undergraduate power lab
- Coordinating Lab Tours for visitors
- Marking 4th-year design project poster presentations and seminars
- Presenting before company representatives on behalf of the group
- Attending PhD and MASc Seminars as an attending faculty
- Replacing absent faculty members in PhD Comprehensive and defense exams
- Acting as the Chair of Examination Committee for PhD Comprehensive Exams

A. EXTERNAL

- Senior IEEE Member
- Member of the IEEE societies: IAS, PES, PELS, TVT and IES
- Registered Professional Engineer in the province of Ontario
- Adjunct Professor at Ryerson University
- Editor for IEEE Transactions on Vehicular Technology (March 2012-present)
- Serving on an NSF Review Panel, Winter 2015
- Reviewer for IEEE and IEE Conference and Transaction papers
- Reviewer of book proposals and book chapters
- Reviewer of NSERC (Discovery, Create and Strategic Grant proposals, Canada), Early Researcher Award (Ontario) and FRQNT New Researcher Grant (Quebec) applications
- Reviewer of research grant proposals for Qatar National Research Fund (QNRF), 2+ per year, 2010-present
- Technical Session Chair for NAPS 2000, IEEE IECON2003, 2005 and 2008, IEEE ISIE2006, VPPC 2010, ITEC 2014 and IECON 2014.
- Member of power electronics technical committee in IEEE Industrial Electronics Society
- Member and one of original founders of Renewable Energy subcommittee in IEEE Industrial Electronics Society, IES (activities include organizing special sessions for IES conferences and special sections in IEEE Transactions on Industrial Electronics, expert data bank development, regular meetings, attracting new members,...)
- Member of Task Force on Modeling and Analysis of Electronically-Coupled Distributed Resource Systems, under Working Group on Distributed Resource Systems, General Systems Subcommittee, Transmission and Distribution Committee, IEEE Power and Energy Society (PES)
- Member of technical committee of The international Power Electronics, Drive Systems and Technologies Conference (PEDSTC), Feb. 15-16, 2012, Tehran, Iran
- Organizer of Special Session 21 on “Energy Storage for Renewable Energy Systems”, in IEEE 2008 Industrial Electronics Conference (IECON’08), Orlando, Florida, USA, Nov. 10-13, 2008.
- Organizer of Special Session 29 on “Micro-Grid for Remote Communities”, in IEEE 2009 Industrial Electronics Conference (IECON’09), Porto, Portugal, Nov. 3-6, 2009.
- Co-Organizer of Special Session on “Grid-Connected Renewable Energy Power Conversion Systems”, in 2010 IEEE International Conference on Industrial Technology (ICIT’10), Vina del Mar-Valparaiso, Chile, March 14-17, 2010.
- Co-Organizer of Special Session 10 on “Advanced Control on Multi-Source, Multi-Converter for Automotive Applications, in 2010 IEEE Vehicle Power and Propulsion Conference (VPPC 2010), September 1-3, 2010, Lille, France.
- Guest Editor for “Special Section on Renewable Energy” in IEEE Transactions on Industrial Electronics, 2009.

- Associate Editor for “Special Issue on Power Electronics for Microgrids” in IEEE Transactions on Power Electronics, 2010.
- Associate Editor for CCECE2012 (Canadian Conference in Electrical & Computer Engineering).
- Member of editorial board of International Journal of Integrated Energy Systems, published by International Sciences press, quarterly (Editor-in Chief: Josep M. Guerrero)
- Investigator for Association of Professional Engineers Ontario (PEO), 2006-2007 (activities include giving expert reviews to complaints, investigating disputes between companies and trying to reach out-of-court settlement, and acting as PEO’s expert witness in the court if needed)
- External Examiner for PhD Theses
 - Fahimeh Kazempour (University of Toronto), June 2016
 - Chia-Hao Tu (McMaster University), December 2015
 - Harikrishna Raj Pinkymol (NTU, Singapore), November 2015
 - Aboutaleb Haddadi (McGill University), March 2015
 - Joanne Hui (Queen’s University, November 2014)
 - Ehsan Al-Nabi (Ryerson University, May 2013)
 - Keyhan Kobravi (University of Toronto, July 2012)
 - Mohammad Bagher Delghavi (University of Western Ontario, September 2011)
 - Leon Chetty (University of Kwazulu-Natal, South Africa, January 2011)
 - Behzad Vafakhah (University of Alberta, February 2010)
 - Chad Michel Abbey (McGill University, July 2009)
 - Charles Sao (University of Toronto, December 2006)