

SAMPLE FUNDED RESEARCH PROJECTS

Hassan El-Kishky (PI), A HYBRID SOLAR-WIND GENERATION BASED MICRO-GRID FOR THE IRRIGATION SYSTEM OF A MAJOR LAND RECLAMATION PROJECT IN EGYPT-CASE STUDY OF THE TOSHKA PROJECT, Joint Project, USAID-OST, \$199,988, September 1, 2010-December 31, 2013.

Hassan El-Kishky, FACTS Devices for Power Quality Improvement and Energy Storage of Aircraft Electric Power Systems, \$88,400 Joint project ESTDF, January 2008 to June 2010.

Hassan El-Kishky (PI), Study and Characterization of Power Distribution Networks: Case Study of the Egyptian Electric Distribution System, Joint Project, USAID-OST, \$152,100, September 1, 2009-August 31, 2013.

Hassan El-Kishky (Co-PI), Advanced Digital Signal Processing for Emitters Identification, \$60,000, US NAVY, 2003-2004.

Hassan El-Kishky (PI), David Beams, and Shehu Farinwata, A Neural Network Controlled Active Shielding of Power Frequency Magnetic Fields, \$9,000, Excellence Awards, UT System, 2001.

Hassan El-Kishky (PI), On Stress-grading Systems for High Voltage Rotating Machines, UT Tyler, President Summer Research Award, \$5,000, 2001.

Hassan El-Kishky (PI), Thermal Analysis of Stress-grading Systems for High Voltage Rotating Machines, UT Tyler, President Summer Research Award, \$5,000, 2002.

Hassan El-Kishky (PI), Introduction of the Design and Development Lab to increase retention of Electrical Engineering Students, TETC TWD-grant, \$95,599, 2005-2008.

SUPERVISED MASTER THESES

PMU-Based Adaptive Central Protection Unit (CPU) for Power Systems with High DG Penetration, The University of Texas at Tyler, 2014.

Modeling and Characterization of Power Distribution Networks with Installed Distributed Generation and Connected PHEVs, The University of Texas at Tyler , 2013.

Modeling, Control, and Characterization of Aircraft Electric Power Systems, The University of Texas at Tyler, 2012.

Power Quality and Voltage Stability of Power Systems with Large Share of Distributed Energy Resources, The University of Texas at Tyler, 2012.

Comparative Analysis of Feature Extraction Techniques for EEG Signals for Alzheimer Patients, The University of Texas at Tyler, 2011.

Time-Series Analysis Using Fractal Dimensions and Neural Networks, of Engineering-Electrical Tract, The University of Texas at Tyler, 2009.

Modulation Classification Using Fractal Dimensions, of Engineering-Electrical Tract, The University of Texas at Tyler, 2007.

High Frequency Performance of Stress-Grading Systems, of Engineering-Electrical Tract, The University of Texas at Tyler, 2007.

Emitter Identification Using Higher Order Moments, of Engineering-Electrical Tract, The University of Texas at Tyler, 2006.

Simulation of Feher Quadrature Phase Shift Keying Using MATLAB®, Master of Engineering-Electrical Tract, The University of Texas, Tyler, 2004.

Development and Analysis of High-Temperature Stress-grading Systems for High Voltage Rotating Machines, Master of Science in Electrical Engineering, Joint Research work, Assiut University, Assiut, Egypt, 2004.

Quasi-static Electric Field Enhancement due to Water Droplets in a Non-uniform Gap, of Engineering-Electrical Tract, The University of Texas, Tyler, 2004.

SUPERVISED DOCTORAL DISSERTATIONS

FACTS Devices for Energy Storage and Power Quality Improvement of Aircraft Electric Power System. Joint work with South Valley University, Granted PhD degree, June 2010 (Granted Egypt's Science Bureau Best PhD Award, 2010)

SAMPLE COURSES TAUGHT

Power Electronics Analysis and Design (Graduate)
Adjustable Speed Drives (Graduate)
Applied Electromagnetic Fields (Graduate/undergraduate)
Computer-Aided Power System Analysis (Graduate)
Power System Planning and Operation (Graduate)
Power System Transients (Graduate)
Power Transmission and Distribution (Graduate)
Electric Power Systems (Undergraduate)
Power Electronics Analysis and Design (Undergraduate)
Power System Analysis (Undergraduate)

Electric Power Systems Lab (Undergraduate)
Automatic Control Systems (Undergraduate)
Numerical Methods (Graduate/Undergraduate)
High Voltage Engineering and Technology (Graduate)
Electromagnetic Fields (Undergraduate)
Applied Electromagnetic Fields (Undergraduate)

PUBLICATIONS

1. H. Ibrahim and H. El-Kishky, "A Novel Generalized State-Space Averaging (GSSA) model for Advanced Aircraft Electric Power Systems." Elsevier, Journal of Energy Conversion and Management 89 (2015): 507-524.
2. H. Ibrahim, J. Gatabi, and H. El-Kishky, "An Auxiliary Power Unit for Advanced Aircraft Electric Power Systems." Elsevier, Electric Power Systems Research Journal 119 (2015): 393-406.
3. H. El-Kishky, [H. Ibrahim](#), [On modeling and control of advanced aircraft electric power systems: System stability and bifurcation analysis](#), International Journal of Electrical Power & Energy Systems 12/2014; 63:246–259.
4. P. Mohammadi, H. El-Kishky, A Robust Initialization Algorithm for k-Means Clustering in Power Distribution Networks with PMU-based Adaptive Protection System, Proceedings of the Power Modulator and High Voltage Conference (IPMHVC), 2014 IEEE International
5. P. Mohammadi, H. El-Kishky, The Impacts of Distributed Generation on Fault Detection and Voltage Profile in Power Distribution Networks, Proceedings of the Power Modulator and High Voltage Conference (IPMHVC), 2014 IEEE International
6. Abdel-Akher, M. Aly, M.M. ; Ziadi, Z. ; El-kishky, H. ; Abdel-Warth, M.A. "Voltage stability modeling and analysis of unbalanced distribution systems with wind turbine energy systems", Industrial Technology (ICIT), 2014 IEEE International Conference on
7. [M. Abdel-Salam](#), [A. Ahmed](#), [H. Ziedan](#), [R. Kamel](#), [K. Sayed](#), [M. Amery](#), [M. Swify](#), H. El-Kishky, [Aggregation of microgrids for irrigation in Toshka area](#), Clean Electrical Power (ICCEP), 2013 International Conference on; 01/2013.
8. [Mazen Abdel-Salam](#), [Hamdy Ziedan](#), [Rashad M. Kamel](#), [Khairy Sayed](#), [Mahmoud Amery](#), [Mohsen Khalaf](#), Hassan El-kishky, [Effect of Micro-Grid Renewable Micro-sources on Short Circuit Capacity of Hosting Distribution Networks](#), Telecommunications Energy Conference 'Smart Power and Efficiency' (INTELEC), Proceedings of 2013 35th International; 01/2013.
9. Stability Study and Characterization of Power Distribution Networks with Distributed Generation Resources: Case-study of the Egyptian Power Distribution

System, ESTDF-USDA Final Report - Award 58-3148-0-203, Hassan El-Kishky (PI), M. Shirvaikar (Co-PI), \$152,100 December 2013.

10. Pooria Mohammadi, Hassan El-Kishky, Distributed Generation Impacts on Distribution Networks Voltage Profile and Fault Current, Georgia Tech Power Conference-Relay and Protection, May 2013- Won The 2013 Clayton Griffin Best Student Paper Award at the Georgia Tech Power Conference, 2013.
11. A hybrid Solar-Wind Generation Based Micro-Grid for the Irrigation System of A Major Land Reclamation Project in Egypt-Case Study of the Toshka Project, ESTDF-USDA Final Report - Award 58-3148-9-231, Hassan El-Kishky (PI), \$199,988 December 2013.
12. [H.E. Darkhaneh](#), H. El-Kishky, [A novel GSSA method for modeling of controllers in the multi-converter system of an Advanced Aircraft Electric Power System \(AAEPS\)](#), Power Modulator and High Voltage Conference (IPMHVC), 2012 IEEE International; 01/2012
13. [H.E. Darkhaneh](#), [J.R. Gatabi](#), H. El-Kishky, [Dynamic bifurcation analysis of Advanced Aircraft Electric Power System \(AAEPS\) with non-linear loading](#), Power Modulator and High Voltage Conference (IPMHVC), 2012 IEEE International; 01/2012
14. [Basma Othman](#), [Mamdouh Abdel-Akher](#), Ahmad Eid, [Mohamed Aly](#), [Hassan El-Kishky](#), [Developed software tool for distribution energy systems simulation and analysis](#), 2012 IEEE International Conference on Power and Energy (PECON 2012); 12/2012.
15. [Ahmed Bedawy](#), [Mohamed M Aly](#), Mamdouh Abdel-Akher, [Hassan El-Kishky](#), [Bifurcation analysis of static unbalanced power networks with distributed generation](#), Power and Energy (PECON), 2012 IEEE International Conference on; 01/2012.
16. A hybrid Solar-Wind Generation Based Micro-Grid for the Irrigation System of A Major Land Reclamation Project in Egypt-Case Study of the Toshka Project, ESTDF-USDA Interim Report - Award 58-3148-9-231, Hassan El-Kishky (PI), \$199,988 December 2011.
17. [M. Abdel-Akher](#), [A. A. Ali](#), A. Eid, [H. El-Kishky](#), [Optimal size and location of distributed generation unit for voltage stability enhancement](#), IEEE Energy Conversion Congress and Exposition International Conference (ECCE2011); 09/2011
18. [H. El-Kishky](#), [H. Ibrahim](#), [M. Abu Dakka](#), A. Eid, [Abdel-Akher](#), [Modeling and characterization of VSCF aircraft electric power systems with nonlinear loading](#), 18th IEEE International Pulsed Power Conference (PPC'11); 06/2011

19. [H. El-Kishky, H. Ibrahimi, M. Abu Dakka, A. Eid, Abdel-Akher, Transient performance of battery/fuel cell-based APU on aircraft electric power systems with nonlinear loading](#), 18th IEEE International Pulsed Power Conference (PPC'11); 06/2011.
20. Eid, [H. El-Kishky, M. Abdel-Salam, T. El-Mohandes, VSCF aircraft electric power system performance with active power filters](#), 42nd Southeastern Symposium on System Theory (SSST2010); 09/2010.
21. Stability Study and Characterization of Power Distribution Networks with Distributed Generation Resources: Case-study of the Egyptian Power Distribution System, ESTDF-USDA Interim Report - Award 58-3148-0-203, Hassan El-Kishky (PI), M. Shirvaikar (Co-PI), \$152,100 August 2010.
22. Eid, [H. El-Kishky, M. Abdel-Salam, T. El-Mohandes, Characterization and performance evaluation of advanced aircraft electric power systems](#), Journal of power electronics 09/2010; 10(5).
23. Hassan El-Kishky and Joe Upatham, Characterization of EEG Signals from Alcoholic Subjects Using Fractal Dimensions, Proceedings of the 2010 ASEE Gulf Southwest Conference, June, 2010.
24. Hassan El-Kishky and Joe Upatham, Characterization of EEG Signals from Seizure Subjects Using Fractal Dimensions, Proceedings of the 2010 ASEE Gulf Southwest Conference, June, 2010.
25. Eid, [H. El-Kishky, M. Abdel-Salam, T. El-Mohandes, Modeling and characterization of an aircraft electric power system with a fuel cell-equipped APU connected at HVDC bus](#), International Power Modulator and High Voltage Conference (IPMHVC 2010); 05/2010.
26. Eid, H. El-Kishky, M. Abdel-Salam, T. El-Mohandes [Modeling and characterization of an aircraft electric power system with a fuel cell-equipped APU paralleled at the main AC bus](#), International Power Modulator and High Voltage Conference (IPMHVC 2010); 05/2010
27. Eid, H. El-Kishky, M. Abdel-Salam, T. El-Mohandes [Power quality investigations of VSCF aircraft electric power systems](#), System Theory (SSST), 2010 42nd Southeastern Symposium on; 04/2010
28. Eid, H. El-Kishky, M. Abdel-Salam, T. El-Mohandes [VSCF aircraft electric power system performance with active power filters](#), System Theory (SSST), 2010 42nd Southeastern Symposium on; 04/2010

29. A. Eid, H. El-Kishky, M. Abdel-Salam, T. El-Mohandes [On Power Quality of Variable-Speed Constant-Frequency Aircraft Electric Power Systems](#), IEEE Transactions on Power Delivery 02/2010; · 1.66 Impact Factor.
30. A. Eid, M. Abdel-Salam, H. El-Kishky, and T. El-Mohandes [Active power filters for harmonic cancellation in conventional and advanced aircraft electric power systems](#), Electric Power Systems Research 01/2009
31. A. Eid, M. Abdel-Salam, H. El-Kishky, and T. El-Mohandes [Simulation and transient analysis of conventional and advanced aircraft electric power systems with harmonics mitigation](#), Electric Power Systems Research 01/2009
32. A. Eid, H. El-Kishky, M. Abdel-Salam, T. El-Mohandes [Constant frequency aircraft electric power systems with harmonic reduction](#), Industrial Electronics, 2008. IECON 2008. 34th Annual Conference of IEEE; 12/2008.
33. H. El-Kishky, A. El-Said, and F. Brown, "PERFORMANCE OF NON-LINEAR STRESS-GRADING SYSTEMS AT NON-SINUSOIDAL VOLTAGES," proceedings of the IEEE International Power Modulator Conference and High Voltage Workshop, IPMC 2008, Las Vegas, May 2008
34. H. El-Kishky, A. El-Said, and F. Brown, "HIGH FREQUENCY PERFORMANCE OF NON-LINEAR STRESS GRADING SYSTEMS," proceedings of the IEEE International Power Modulator Conference and High Voltage Workshop, IPMC 2008, Las Vegas, May 2008.
35. H. El-Kishky (PI), Development and Integration of the Hobby Shop, a Freshmen Non-conventional Design and Development Lab, Final Report, Texas TWF-TETC, 2008.
36. Hassan El-Kishky and Ralph Hippenstiel, INTEGRATING THE HOBBY SHOP, A NON-CONVENTIONAL FRESHMEN LAB, INTO THE ELECTRICAL ENGINEERING CURRICULUM, Proceedings of the ASEE Annual Conference, June, 2007.
37. H. El-Kishky, R. Hebner, M. Abdel-Salam, and Fredericka Brown, "Minimization of Local Field Enhancement Along Stress-Grading Systems of HV Large Rotating Machines", Proc. IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), Kansas City, MO, 15-18 Oct. 2006.
38. R. Hebner, H. El-Kishky, M. Abdel-Salam, and F. Brown, "Higher Frequency Performance of Stress-Grading Systems for HV Large Rotating Machines", Proc. IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), Kansas City, MO, 15-18 Oct. 2006.

39. R. Hippenstiel and H. El-Kishky (Co-PI), Advanced Signal Processing Techniques for Emitter Identification, Final Report, US Navy, 2006.
40. R. Hippenstiels, H. El-Kishky, and SandeepDattaprasad, "Emitter Identification Using Wavelet-Based Higher Order Moments", Proc. 9th Annual Symposium on Wireless Personal Multimedia Communications, September 17-20, 2006.
41. R. Hippenstiel and H. El-Kishky (Co-PI), Advanced Signal Processing Techniques for Emitter Identification, Interim Report, US Navy, 2005.
42. R. Hippenstiel and H. El-Kishky, Classification and Identification of Signals and Emitters, Report No. UT TYLER-EE-04.01, September 2004.
43. R. Hippenstiel, H. El-Kishky, and PenioRadev, On Time-Series Analysis and Signal Classification-Part I: Fractal Dimensions, Proc. of the 38th Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, CA, Nov. 2004.
44. M. Abdel-Salam, A. Abdou, and H. El-Kishky, Seeds Sorting by Electrostatic Separation: An Experimental Study, Proc. IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), Boulder, CO, 17-20 Oct. 2004.
45. H. El-Kishky, M. Abdel-Salam, H. Wedaa, and Y. Sayed, "Time-Domain Analysis of Nonlinear Stress-Grading Systems for High Voltage Rotating Machines", Proc. IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), Albuquerque, NM, October 2003.
46. H. El-Kishky, M. Abdel-Salam, H. Wedaa, S. Frick, and Y. Sayed, A GUI Module for the Design and Analysis of Stress-Grading Systems of High Voltage Rotating Machines, Proc. IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), Albuquerque, NM, October 2003.
47. H. El-Kishky, M. Abdel-Salam, H. Wedaa, and Y. Sayed, Novel techniques for Optimal Design and Analysis of Stress-grading Systems, Proc. IEEE PES Conference on Transmission and Distribution, Dallas, September, 2003.
48. H. El-Kishky, M. Abdel-Salam, H. Wedaa, and Y. Sayed, Design of Stress-grading Systems Based on Power Loss Minimization, Proc. of the IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), Cancun, Mexico, Oct. 2002.
49. H. El-Kishky, B. S. Nindra, M. Abdel-Salam, and Eugene Williams, Experience with the Development and Evaluation of Corona-Suppression Systems for High Voltage Rotating Machines, IEEE Transactions on Dielectrics and Electrical Insulation, Aug. 2002.
50. H. El-Kishky, W. Hoover and B. S. Nindra, Electrostatic Field and Potential Distribution along Gradient Systems for High Voltage Machines, Proceeding of

the IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP), Victoria, BC, Canada Oct. 2000.

51. H. El-Kishky, B. Nindra, J. A. Hutt, Corona Suppression Systems for High Voltage Machines, presented at the Power Generation Conference, Las Vegas, Nevada, July, 1999.
52. M. Abdel-Salam, M. Th. El-Mohandes, H. El-Kishky, H. Abdalla, Magnetic Field Computation Around Parallel DC and Multi-Phase AC Transmission Lines, Electric Power System Research Journal, Vol. 49, pp. 99-105, 1999.
53. H. El-Kishky, "Electric and Magnetic Fields Calculation around Parallel DC and Multi-phase AC Power Transmission Lines", M.S. Thesis, AssiutUniversity, October 1990.
54. H. El-Kishky, Jane A. Hutt, An Overview of Partial Discharge in High Voltage Machines, Paper Presented in the North Hydro Association Workshop, The Dalles, Oregon, April 15 - 17 1998.
55. Anibal De La O., H. El-Kishky, R. S. Gorur and J. T. Burnham, Sudden Falshover of Non-ceramic Insulators Under Power Frequency Voltage, IEEE Transactions on Dielectrics and Electrical Insulation, Vol. 2, no. 1, Feb. 1997.
56. Anibal De La O., H. El-Kishky, R. S. Gorur, Flashover of Partially Wetted Insulators: Experimental and Theoretical Study, Student Poster Contest Paper, IEEE-PES summer meeting, Denver, Colorado, July 1996.
57. Manuel R. Hernandez, M. Mukund, H. El-Kishky, G.G. Karady, Attenuation of Power Frequency Magnetic Fields Using Active Shielding, First Award, Student poster Paper Contest at the IEEE-PES summer meeting, Denver, Colorado, July 1996.
58. H. El-Kishky, Electric Field Computation along Outdoor Insulators, Ph.D. Dissertation, ArizonaStateUniversity, Tempe, Arizona, 1995.
59. H. El-Kishky, R. S. Gorur, Electrostatic Field and Energy Computation Along Hydrophobic Surfaces, IEEE Trans. on Dielectrics and Electrical Insulation, Vol. 3, no. 4, Aug. 1996.
60. H. El-Kishky, R. S. Gorur, Electric Field Computation on an Insulating Surface with Discrete water Droplets, IEEE Trans. on Dielectrics and Electrical Insulation, Vol. 3, no. 3, June 1996.
61. H. El-Kishky, R. S. Gorur, Electric Potential and Field Computation Along AC High Voltage Insulators, IEEE Trans. on Dielectrics and Electrical Insulation, Vol. 1, no. 6, Dec. 1994.

62. H. El-Kishky, Electric and Magnetic Fields Calculation around Parallel DC and Multi-Phase AC Transmission Lines M.S. Thesis, AssiutUniversity, 1990.
63. M. Abdel-Salam, M. Th. El-Mohandes, H. El-Kishky, Electric Field Around Parallel DC and Multi-Phase AC Transmission Lines, IEEE Trans. on Electrical Insulation, Vol. 25, no. 6, Dec. 1990.
64. Abdel-Salam, M, El-Mohandes, M.T.,El-Kishky, H., Electric field around parallel DC and multi-phase AC transmissionlines, Conference Record of the 1989 IEEE Industry Applications Society Annual Meeting, Oct. 1-5, 1989, Pages: 2014 -2020, vol.2.