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## PERSONAL

- Date of Birth: June 21, 1964
- Place of Birth: Karak, Jordan
- Nationality: Jordanian
- Marital Status: Married – Four Kids

## EDUCATION

- Ph.D., Electrical Engineering, [Mississippi State University](#), 2000.
- M.Sc., Electrical Engineering, [Jordan University of Science & Technology](#), 1989.
- B.Sc., Electrical Engineering, [University of Jordan](#), 1987.

## EMPLOYMENT

- **Professor**, [Electrical Engineering Department](#), [School of Engineering](#), [The University of Jordan](#), May 2018 - present.
- **Associate Professor**, [Electrical Engineering Department](#), [School of Engineering](#), [The University of Jordan](#), September 2014-October 2018.
- **Chairman**, [Electrical Power Engineering Department](#), [Hijawi Faculty for Engineering Technology](#), [Yarmouk University](#), September 2013-August 2014.
- **Associate Professor**, [Electrical Power Engineering Department](#), [Hijawi Faculty for Engineering Technology](#), [Yarmouk University](#), February 2013-August 2014.
- **Associate Professor**, [Department of Electrical and Computer Engineering](#), [Sultan Qaboos University](#), Muscat, Oman, August 2008-January 2013.
- **Associate Professor**, [Electrical Power Engineering Department](#), [Hijawi Faculty for Engineering Technology](#), [Yarmouk University](#), October 2006-August 2008.
- **Assistant Professor**, [Electrical Power Engineering Department](#), [Hijawi Faculty for Engineering Technology](#), [Yarmouk University](#), February 2001-October 2006.
- **Research Assistant**, [High Voltage Laboratory](#), Mississippi State University, June 1997 – December 2000.
- **Teaching Assistant**, [Electrical and Computer Engineering Department](#), Mississippi State University, January 1997-May 1997.
- **Lecturer**, [Electrical Engineering Department](#), [King Fahd University of Petroleum & Minerals](#), Dhahran, Saudi Arabia, January 1990 -June 1996.
- **Teaching Assistant**, [Jordan University of Science & Technology](#), Jan. 1988-Dec. 1989.

## CURRENT RESEARCH INTEREST

- Application of Neural Networks and Signal Processing to Power System Engineering
- Power System Quality and Harmonics
- Digital Power System Protection
- Renewable Energy
- High Voltage Engineering
- Power System Dynamic Stability and Control.

## **COURSE TEACHING**

- **Courses and Labs at University of Jordan (September 2014-Present)**

1. Advanced Power System Protection – Postgraduate course
2. Power System Quality – Postgraduate course
3. High Voltage Engineering – Postgraduate course
4. Power System Analysis I
5. Power System Analysis II
6. Power System Protection
7. Electric Machines I
8. Electric Machines II
9. Electrical Circuit II
10. General Electrical Machines.
11. Power System Laboratory
12. Electrical Machines Laboratory
13. Final Year Projects I & II

- **Courses and Labs at Sultan Qaboos University (Sept. 2008-Jan. 2013)**

1. Digital Power System Protection – Postgraduate Course
2. Power System Quality and Harmonics
3. Power System Analysis (Theory and Lab)
4. Power System Protection (Theory and Lab)
5. High Voltage Engineering (Theory and Lab)
6. Power Distribution Systems
7. Artificial Intelligence
8. Electric Circuits (Theory and Lab)
9. Electric Engineering Fundamentals (Theory and Lab)
10. Electrical Engineering Technology (Theory and Lab)
11. Signals and Linear Systems
12. Final Year Projects I & II

- **Courses and Labs at Yarmouk University (Jan. 2001-Aug. 2014)**

1. Advanced High Voltage Engineering – Postgraduate course
2. Power System Protection – Postgraduate course
3. Modern Control Theory – Postgraduate course
4. MicroElectroMechanical Systems (MEMS) – Postgraduate course
5. Power System Analysis I & II (Theory and Lab)
6. High Voltage Engineering
7. Power System Quality
8. Electric Machines I & II (Theory and Lab)
9. General Electric Machines (Theory and Lab)
10. Control Systems (Theory and Lab)
11. Electric Circuits I & II (Theory and Lab)
12. Numerical Analysis (Theory and Lab)
13. Primary and Secondary Undergraduate Projects
14. Electric Workshops (Lab)

- **Courses and Labs at King Fahd University of Petroleum & Minerals (Jan 1990-June 1996)**

1. Electric Circuits (Theory and Lab)
2. Network Theory (Theory)
3. Electrical Systems (Theory and Lab)
4. Electric Machines (Theory and Lab)
5. Electric Energy Engineering (Theory and Lab)
6. Electrical Installation (Theory and Lab)
7. Power Electronics (Lab)

### **MS THESIS SUPERVISION and CO-SUPERVISION**

1. Alaa Farhan “A New Maximum Power Point Tracking (MPPT) Technique for Photovoltaic Systems under Steady State and Partial Shading Conditions, ” The University of Jordan, December 2018.
2. Fatima Alkasagi, “The Effectiveness of Risk Management In Minimizing Claims and Disputes in Puplic Construction Projects in Jordan”, The University of Jordan, May 2017.
3. Salma Azzam, “Connecting Renewable Energy Plants to the National Grid of Jordan: Technical Constraints and Proposed Requirements”, The University of Jordan, December 2016.
4. Dalia Abu-Eideh, “Extraction of the Third Harmonic Current of Surge Arrester Leakage Current using Hilbert Transform and Prony Analysis Approach”, Yarmouk University, January 2016.
5. Dua’a Talal Al-Sha’abi, “Long Term Electric Load Forecasting based on ANN and Regression Models: A case study of the Jordanian network”, Yarmouk University, May 2015.
6. Rafat Aljarrah, “Envelope Based Classification of Voltage Variations Using Artificial Neural Network”, Yarmouk University, March 2015.
7. Amani Alomari, “Discrimination between Transformer Inrush Current and Internal Fault using Least-Square-NN Approach”, Yarmouk University, February 2015.
8. Darwish A. Abu Qdoum, “Combined MUSIC-DVR Technique for Voltage Flicker Estimation and Mitigation, Yarmouk University, January 2015.
9. M. H. Gharaibeh, “Motion Planning for Mobile Robot in Dynamic Environments Using Artificial Potential Field Method and Fuzzy Logic”, Yarmouk University, May 2008.
10. Amer A. Hammad, “Estimation of Synchronizing and Damping Torques Using Adaptive Neuro-Fuzzy System (ANFIS)”, Yarmouk University, December 2007.
11. Iyad Maaitah, “Neural Network Identification and Control of DC Motors Using Neural Network Based Approach”, Yarmouk University, May 2006.
12. Jaroushi M. Jaroushi, “Fuzzy Logic-Based Power System Stabilizer Design”, Yarmouk University, November 2005.

### **HONORS AND AWARDS**

- Certificate of Appreciation, Mazoon Electricity Company, Oman, September 2009.
- Certificate of Appreciation, 4<sup>th</sup> IEEE GCC Conference & Exhibition, Bahrain, November 2007.
- Recipient of The Hisham Hijjawi Academic Distinction Award in the field of Scientific Research, [The Scientific Foundation of Hisham Adeeb Hijjawi](#), Amman, Jordan, 2006.
- Recipient of The Hisham Hijjawi Academic Distinction Award in the field of Scientific Research, [The Scientific Foundation of Hisham Adeeb Hijjawi](#), Amman, Jordan, 2005.
- Senior Membership, [IEEE](#), USA, 2004.

- Outstanding Academic and Leadership Achievements Award, [Mississippi State University](#), 2000.
- Barrier fellowship for Summer 2000, [Mississippi State University](#).
- Herein Award, [Mississippi State University](#), April 2000.
- Nominated for the “2000 Graduate Student Research” Award, [MS University](#).
- Nominated for the “Research Assistant of the Year 2000” Award, [MS University](#).
- Research Assistantship, [High Voltage Laboratory](#), [Mississippi State University](#), May 1997-December 2000.
- [Eta Kappa Nu \(EKN\)](#) Honor Association, [Mississippi State University](#), 1998
- Teaching Assistantship, [Mississippi Sate University](#), January 1997 - May 1997.
- Ph.D. Scholarship, [Yarmouk University](#), August 1996-May 2000.
- Distinguished Lecturer, [King Fahd University of Petroleum & Minerals](#), 1991-1996.
- Certificate of Appreciation, [King Fahd University of Petroleum & Minerals](#), 1996.
- Teaching Assistantship, [Jordan University of Science & Technology](#), Jan.1988-Dec. 1989.

### **PROFESSIONAL ORGANIZATIONS AFFILIATION**

- Chair, IEEE Jordan Section Joint PE/DEI Chapter, March 2016 - December 2017.
- Treasurer, IEEE Oman Section, PE Chapter, January 2011 - November 2013.
- Treasurer, IEEE Jordan-Section (January 2002 - December 2009).
- Treasurer, IEEE Jordan Section, PE/DEI Chapter, 2004 - 2008.
- Counselor, Yarmouk University Student Branch, July 2008 - December 2010.
- Senior Member, IEEE Power Engineering Society, 2004 - present.
- Member, IEEE Power Engineering Society, 1993 - 2004.
- Member, IEEE Dielectrics and Electrical Insulation Society, 2008 - present.
- Jordan Engineers Association (JEA), 1989 - present.

### **PROFESSIONAL DEVELOPMENT ACTIVITIES**

- Member of the Technical Program Committee (TPC-Track Chair) of JEEIT 2019, Jordan.
- Member of the Technical Program Committee (TPC-Track Chair) of AEECT 2017, Jordan.
- Member of the Technical Program Committee (TPC-Track Chair) of AEECT 2015, Jordan.
- Member of the Technical Program Committee (TPC) of AEECT 2013, Jordan.
- Member of the Technical Program Committee (TPC) of AEECT 2011, Jordan.
- Member of the Technical Program Committee (TPC) of 2011 IEEE GCC, UAE.
- Member of the Technical Program Committee (TPC) of 2011 JIEEEEC, Jordan.
- Member of the Technical Program Committee (TPC) of the International Conference of Electric Power and Energy Conversion, American University of Sharjah, EPEC2009.
- Member of the Organizing Committee of the 9<sup>th</sup> International Conference on Communications, Computers and Power (ICCCP09)
- Member of the Organizing Committee of the 6<sup>th</sup> WSEAS International Conference on Power Systems (PE'06), Lisbon, Portugal, September 22-24, 2006.

### **PROFESSIONAL ORGANIZATIONS SERVICES**

- **Reviewer for the following International Journals and Conferences:**
  - Sustainable Cities and Society Journal
  - Journal of Intelligent and Fuzzy Systems
  - Jordan Journal of Electrical Engineering
  - The Journal of Engineering Research (TJER)
  - IEEE Conference on Energy Conversion (CENCON2015) and (CENCON2017)

- Int. Conf. on Electrical, Electronic, Communication and Control Engineering (ICEECC2017)
- IEEE Student Conference on Research and Development (SCORED2017).
- IEEE-PECON 2012 and IEEE-PECON 2014.

- **Reviewer for The Research Council (TRC), Oman**
- **Reviewer for the Scientific Research Support Fund (SRF), Jordan**

## **UNIVERSITY, COLLEGE AND DEPARTMENT STANDING/SELECTED COMMITTEES**

### ● **University of Jordan 2014-Present**

- Member of Reviewing and Checking the Documents of The University of Jordan PV Project, 2017.
- Member of ABET Steering Committee, 2015-present.
- Member of Course Transfer Committee, 2015-present.
- Member of Postgraduate Studies Committee, 2017-present.
- Member of Study Plan Committee, 2017-present.
- Member of Scientific Research Committee, 2014-2016.
- Member of Aqaba University, 2017.
- Member of the Power System M.Sc. Program Committee, 2016.

### ● **Sultan Qaboos University 2008-2012**

- Member of Postgraduate Studies & Scientific Research Committee, 2009-2012.
- Member of the Strategic Planning Committee, 2010-2012.
- Member of Accreditation (ABET), Curriculum & Timetabling Committee, 2009-2012.
- Member of Electrical Power Engineering Research Group (EPERG), 2009-2012

### ● **Yarmouk University 2001-2014**

- Chair of the Industrial Training Committee, 20013.
- Member of the Postgraduate Studies Committee, 2013.
- Member of the College Budget Committee, 2013.
- Member of the Degree Plans and Exams Committee, 2013.
- Member of Quality Control Committee, 2013.
- Member of Faculty Promotion Committee, 2007.
- Member of Scientific Research Committee, 2007.
- Member of Power System MS Program Committee, 2007.
- Member of ABET Curriculum Development Committee, 2006.
- Member of Faculty for Faculty Committee, 2006-2007.
- Member of Students Misconduct Judicial Committee, 2005-2006.
- Chairman of Election Committee, Student Union, Power Engineering Department, 2004.
- Member of the ICT Conference Organizing Committee, Yarmouk University, 2004.
- Member of the Undergraduate Power System Program Curriculum Committee, 2003-2005.
- Member of the Graduate Power System M.Sc. Program Curriculum Committee, 2004.
- Member of the Graduate Industrial Automation M.Sc. Program Committee, 2003.
- Member of Hijjawi College Council, 2003-2004.
- Member of the Department Course Transfer Committee, 2004-2006.
- Student Advising, 2002-2008.

- **King Fahd University of Petroleum & Minerals**
  - ♦ Planning and Continuing Education Committee
  - ♦ Project/Seminar and Speaker Committee
  - ♦ Laboratory Supervision and Development

## RESEARCH PUBLICATIONS

### Book Chapter

[B-1] **Eyad A. Feilat**, "Lifetime Assessment of Electrical Insulation," Chapter 11, in the book *Electric Field*, InTechOpen, 2018/5/23, ISBN 978-1-78923-187-8, pp. 231-253.

### Journal Papers

- [J-1] Mohammed A. Haj-ahmed, **Eyad A. Feilat**, Hussam J. Khasawneh, Ahmed. F. Abedalhadi, Alaa Awwad, "Comprehensive Protection Schemes for Different Types of Wind Generators," IEEE Transactions on Industry Applications, 54(3), May/June 2018, pp. 2051 - 2058.
- [J-2] **E. A. Feilat**, D. T. Al-Sha'abi, M. A. Momani, "Long-Term Load Forecasting Using Neural Network Approach for Jordan's Power System," Engineering Press, 1(2), 2017, pp. 43-50.
- [J-3] **E. A. Feilat**, S. Azzam, A. Al-Salaymeh, "Impact of Large PV and Wind Power Plants on Voltage and Frequency Stability of Jordan's National Grid," Sustainable Cities and Society, 35(1), 2018, pp. 257-271.
- [J-4] Ibrahim A. Metwally, Mohamed Eladawy, **E. A. Feilat**, "Online condition monitoring of surge arresters based on third-harmonic analysis of leakage current", IEEE Transactions on Dielectrics and Electrical Insulation, 24(4), 2017, pp. 2274 - 2281.
- [J-5] **E. A. Feilat**, Rafat R. Aljarrah, M. B. Rifai, "Detection and Classification of Voltage Variations using Combined Envelope-Neural network based Approach," Jordan Journal of Electrical Engineering (JJEE), 3(2), 2017, pp. 112-124.
- [J-6] **E. A. Feilat**, D. A. Abu Qdoum M. B. Rifai, "Voltage Flicker Estimation and Mitigation using Combined MUSIC-DVR Technique," Jordan Journal of Electrical Engineering (JJEE), 2(1), 2016, pp. 13-28.
- [J-7] **E. A. Feilat**, "Discrimination between Transformer Inrush Current and Internal Fault using Combined DFT-ANN Approach," Jordan Journal of Electrical Engineering (JJEE), 1(1), 2015, pp. 1-12.
- [J-8] **E. A. Feilat**, Ibrahim A. Metwally, Sulaiman Al-Matri and Ahmad S. Al-Abri "Analysis of the Root Causes of Transformer Bushing Failures," WASET, International Journal of Computer, Electrical, Automation, Control and Information Engineering, 7(6), 2013, pp. 791-796.
- [J-9] A. Al-Hinai, A. Al-Badi, **E. A. Feilat**, and M. Albadi, "Efficiency Enhancements of Electric Power System and Economic Analysis- Practical Case Study," Int. J. of Thermal & Environmental Engineering, 5(2), 2013, pp. 183-190.
- [J-10] **E. A. Feilat** and E.K. Ma'aita, "RBF neural network approach for identification and control of DC motors," The Journal of Engineering Research (TJER), 9(2), 2012, pp. 80-89.
- [J-11] M. Jaradat, M. Garibeh and **Eyad A. Feilat**, "Autonomous mobile robot dynamic motion planning using fuzzy potential field," Soft Computing, 16(1), 2012, pp. 153-164.
- [J-12] **E. A. Feilat**, "Performance Comparison of adaptive estimation techniques for power system small-signal stability assessment," The Journal of Engineering Research (TJER), 7(2), 2010, pp. 10-23.
- [J-13] **E. A. Feilat**, "Fast Estimation of Synchronizing and Damping Torques Coefficients using Adaline," Journal of Electrical Engineering, 9 (1), 2009, pp. 101-108.

- [J-14] **E. A. Feilat** and Amer Hammad, "Fuzzy Logic Based Estimation of Synchronizing and Damping Torques Coefficients," *Abhath Al-Yarmouk: Basic Sci. & Eng.*, 18(1), 2009, pp. 585-593.
- [J-15] **E. A. Feilat**, "Neural network based assessment of small-signal stability," *International Journal of Modeling and Simulation (IJMS)*, 27(2), 2007, pp. 151-157.
- [J-16] **E. A. Feilat**, "Prony analysis technique for estimation of the mean curve of lightning impulses," *IEEE Transactions on Power Delivery*, 21(4), 2006, 2088-2090.
- [J-17] **E. A. Feilat**, "Detection of voltage envelope using Prony analysis-Hilbert transform method," *IEEE Transactions on Power Delivery*, 21(4), 2006, 2091-2093.
- [J-18] **E. A. Feilat**, A. M. Jaroshi, and S. M., Radaideh, "A comparative design and performance of fuzzy logic based power system stabilizer," *WSEAS Transactions on Power Systems*, 1(1), 2006, 289-295.
- [J-19] **E. A. Feilat** and K. N. Al-Tallaq, "An artificial neural network approach for three-zone distance protection," *International Journal of Modeling and Simulation (IJMS)*, 25(4), 2005, 1-8.
- [J-20] **E. A. Feilat** and K. N. Al-Tallaq, "Combined Hilbert transform-neural network approach for discrimination between inrush and short-circuit currents," *International Journal of Engineering Simulation (IJES)*, 6(2), 2005, 38-44.
- [J-21] **E. A. Feilat** and K. N. Al-Tallaq, "Identification and relaying of out-of-step operation using combined Prony analysis-apparent impedance method," *WSEAS Transactions on Circuits and Systems*, 4(8), 2005, 944-951.
- [J-22] **E. A. Feilat**, "Prony-RBFNN adaptive power system stabilizer," *WSEAS Transactions on Circuits and Systems*. 4(7), 2005, 765-772.
- [J-23] **E. A. Feilat**, S. Grzybowski, P. Knight, and L. Doriott, "Breakdown and aging behavior of composite insulation system under DC and AC high voltages," *WSEAS Transactions on Circuits and Systems*, 4(7), 2005, 780-787.
- [J-24] S. Grzybowski, **E. A. Feilat**, and P. Knight, "Multistress life models of epoxy encapsulated magnet wire under high frequency pulsating voltage," *Korean Institute of Electrical Engineers (KIEE) International Transaction on Electrophysics & Applications*, 3(1), 2003, 1-4.
- [J-25] **E. A. Feilat**, N. Younan, and S. Grzybowski, "Estimating the synchronizing and damping torque coefficients using Kalman filtering," *Electric Power System Research*, 52(2), 1999, 145-149.
- [J-26] M. H. Shwehdi, F. Shahzad, M. Izzularab, and **E. A. Feilat**, "Multiple regression technique for estimating the insulation strength of series dielectrics on distribution systems: a statistical approach," *IEE Proceedings, Part-C: Generation, Transmission and Distribution*, 145(2), 1998, 189-195.
- [J-27] **E. A. Feilat**, E. M. Aggoune, M. Bettayeb, and H. Al-Duwaish, "On-line estimation of synchronizing and damping torque coefficients using neural network based approach," *Electric Machines and Power Systems*, 25, 1997, 993-1007.
- [J-28] **E. A. Feilat**, M. Bettayeb, H. Al-Duwaish, M. Abido, and A. Mantawy, "A neural network based approach for on-line dynamic stability assessment using synchronizing and damping torque coefficients," *Electric Power System Research*, 39(2), 1996, 103-110.
- [J-29] **E. A. Feilat**, A. Shaltout, "Evaluating the dynamic performance of multimachine power systems with VAR compensation using the synchronizing and damping torque. *Arabian Journal for Science and Engineering (AJSE)*, 20(4b), 1995, 753-762.
- [J-30] **E. A. Feilat**, I. El-Amin, and M. Bettayeb, "Power system harmonics estimation: a comparative study," *Electric Power System Research*, 29(1), 1994, 91-97.

- [J-31] A. Shaltout, and **E. A. Feilat**, “Damping and synchronizing torque of closely coupled generators,” *Electric Power System Research*, 26(2), 1993, 195-202.
- [J-32] A. Shaltout, and **E. A. Feilat**, “Damping and synchronizing torque computation in multimachine power systems,” *IEEE Transactions on Power Systems*, 7(1), 1992, 280-286.

### **Conference Papers**

- [C-1] Mohammad I. Al Saaideh, Eyad A. Feilat, Dia I. Abu-Al-Nadi, Amer S. Al-Hinai, “Lightning Impulse Parameter Estimation Using Nonlinear Least Square Algorithm,” 2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT), April 9-11, 2019, Amman, Jordan.
- [C-2] Ahmad Hammoudeh, Mohammad I. Al Saaideh, **Eyad A. Feilat**, Hamza Mubarak, “Estimation of Synchronizing and Damping Torque Coefficients Using Deep Learning Algorithm,” 2019 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT), April 9-11, 2019, Amman, Jordan.
- [C-3] Mohamed Taha, Dia Abualnadi, Omar Hasan, **Eyad A. Feilat**, “Lightning Pulse Parameter Estimation using Fractional Model Order Reduction,” 7<sup>th</sup> IEEE International Conference on Control Systems, Computing and Engineering (ICCSCE2017), November 24-26, 2017, Penang, Malaysia.
- [C-4] Mohammed A. Haj-ahmed, **Eyad A. Feilat**, Hussam J. Khasawneh, Ahmed. F. Abedalhadi, Alaa Awwad, “Investigation of Fault Characteristics of Different Types of Wind Generators”, The 2017 IEEE-IAS Annual Meeting, October 1-5, 2017, Cincinnati, OH, USA.
- [C-5] Salma Azzam, **E. A. Feilat**, Ahmed Al-Salaymeh, “Impact of Connecting Renewable Energy Plants on the Capacity and Voltage Stability of the National Grid of Jordan,” The 8<sup>th</sup> International Renewable Energy Congress (IREC 2017), Amman, Jordan, March 21-23, 2017.
- [C-6] A. AL-Hinai, A. Al-Badi, **E. Feilat**, M. Albadi, H. Al-Nassri, A. Al-Busaidi, “Energy Losses in Power System-Practical Case Study,” Proceedings of the 10th Arab Academy of Sciences International conference on Energy and Water Sustainability, Beirut, Lebanon, December 7-9, 2012.
- [C-7] **E. A. Feilat**, Amer Al-Hinai, “Lightning Impulse Parameter Estimation Using PSO Method,” Proceedings of the 8<sup>th</sup> Jordanian International Electrical and Engineering Conference (JIEEEEC2013), Amman Jordan, December 16-18, 2012.
- [C-8] **E. A. Feilat**, M. Bouzguenda, “Medium-Term Load Forecasting Using Neural Network Approach,” Innovative Smart Grid Technologies-ME (IEEE PES ISGT Middle East 2011), December 17-20, 2011, Jeddah, Saudi Arabia.
- [C-9] **E. A. Feilat**, “Voltage Flicker Estimation Using ESPRIT-Based Method,” 2011 IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT2011), December 6-8, 2011, The University of Jordan, Amman, Jordan.
- [C-10] **E. A. Feilat**, A. Al-Hinai, “HV Impulse Parameter Estimation Using ESPRIT-Based Method,” International Conference on Electric Power and Energy Conversion Systems (EPECS'11), American University of Sharjah, Sharjah, UAE, November 15-17, 2011.



- [C-11] **E. A. Feilat** and Ali Al-Maqrashi, “ESDD- and DDDG- Based Assessment of Insulator Pollution Levels in Oman,” Proceedings of the 6<sup>th</sup> IEEE GCC Conference & Exhibition 2011, February 19-22, 2011, UAE, pp. 593-596.
- [C-12] M. A-K. Jaradat, M. H. Garibeh, **E. A. Feilat**, “Dynamic Motion Planning For Autonomous Mobile Robot Using Fuzzy Potential Field,” Proceeding of the 6th International Symposium on Mechatronics and its Applications (ISMA09), Sharjah, UAE, March 24-26, 2009.
- [C-13] **E. A. Feilat**, “Comparison of Computation Algorithms for Synchronizing and Damping Torque Coefficients,” International Conference on Communication, Computer and Power (ICCCP'09), Muscat, Oman, February 15-18, 2009.
- [C-14] **E. A. Feilat**, E. K. Maaitah, “Identification and Control of DC Motors Using RBF Neural Network Approach”, International Conference on Communication, Computer and Power (ICCCP'09), Muscat, Oman, February 15-18, 2009.
- [C-15] **E. A. Feilat**, “Adaline based estimation of synchronizing and damping torques coefficients,” 4<sup>th</sup> IEEE-GCC2007 Conference, November 11-14, 2007, Bahrain.
- [C-16] **E. A. Feilat**, “Fast estimation of synchronizing and damping torque coefficients using an adaptive neural network,” The 42<sup>nd</sup> International Universities Power Engineering Conference (UPEC 2007), Brighton, UK, September 4-6, 2007.
- [C-17] **E. A. Feilat**, “Voltage Dip Estimation Techniques, An Overview,” 7th Regional Conference of Cigre National Committees in Arab Countries, November 3-5, 2007, Amman, Jordan.
- [C-18] **E. A. Feilat**, A. M. Jaroshi, S. M. Radaideh, “Adaptive neuro-fuzzy technique for tuning power system stabilizer”, Proceedings of the 41<sup>st</sup> International Universities Power Engineering Conference (UPEC 2006), Newcastle upon Tyne, UK, September 6-8, 2006.
- [C-19] Eslam Jaber, **E. A. Feilat**, “BIOMEMS for undergraduate biomedical engineers”, Proceedings of the International Medical Informatics and Biomedical Engineering-IMIBE'06, April 2006, Amman, Jordan.
- [C-20] **E. A. Feilat**, “Small-signal stability monitoring via Prony analysis”, Proceedings of the 6<sup>th</sup> Jordanian International Electrical and Electronics Engineering Conference (JIEEEEC 2005), March 2006, Amman, Jordan.
- [C-21] **E. A. Feilat**, A. M. Jaroshi, S. M. Radaideh, “Performance assessment of fuzzy logic based power system stabilizer,” Proceedings of the 5<sup>th</sup> WSEAS/IASME International Conference on Electric Power Systems, High Voltages, Electric Machines, Tenerife, Spain, December 16-18, 2005, pp. 256-261.
- [C-22] **E. A. Feilat**, “Voltage flicker detection using PA-HT based technique,” Proceedings of the US-UAE Workshop: Recent Research and Education Activities in Power Electronics and Drives, American University of Sharjah, Sharjah, UAE, December 2005.
- [C-23] **E. A. Feilat**, “Prediction of the Low-Frequency Oscillations Based on Neural Network Approach,” Proceedings of the 40<sup>th</sup> International Universities Power Engineering Conference (UPEC-40), September 7-9, 2005, Cork Institute of Technology, Cork, UK.
- [C-24] **E. A. Feilat**, “An Artificial Neural Network Based Approach for Adapting Power System Stabilizer,” Proceedings of the 40<sup>th</sup> International Universities Power Engineering Conference (UPEC-40), September 7-9, 2005, Cork Institute of Technology, Cork, UK.
- [C-25] K. N. AL-Tallaq, **E. A. Feilat**, “Online Detection of Out-of-Step Operation Based on Prony Analysis-Impedance Relaying,” Proceeding of the 5<sup>th</sup> WSEAS International Conference on

Power Systems and Electromagnetic Compatibility (PSE'05), Corfu, Greece, August 23-25, 2005, pp. 55-60.

- [C-26] **E. A. Feilat**, "Prony-RBFNN Approach for Tuning Power System Stabilizer," Proceeding of the 5<sup>th</sup> WSEAS International Conference on Power Systems and Electromagnetic Compatibility (PSE'05), Corfu, Greece, August 23-25, 2005, pp. 206-211.
- [C-27] **E. A. Feilat**, "DC and AC Aging of HV Encapsulated Flyback Transformers," Proceeding of the 5<sup>th</sup> WSEAS International Conference on Power Systems and Electromagnetic Compatibility (PSE'05), Corfu, Greece, August 23-25, 2005, pp. 491-495.
- [C-28] **E. A. Feilat**, K. N. Al-Tallaq, "A New Approach for Distance Protection Using Artificial Neural Network," Proceedings of the 39<sup>th</sup> International Universities Power Engineering Conference (UPEC-39), September 6-8, 2004, UWE, Bristol, UK, pp. 473-477.
- [C-29] K. N. Al-Tallaq, **E. A. Feilat**, "A New Power Definition in Harmonic Distorted Power Systems," Proceedings of CIGRE'2004 Paris Conference, August 29-September 3, 2004, Paris, France.
- [C-30] **E. A. Feilat**, "Dynamic Stability Evaluation of Single-Machine Infinite Power System Using RBF Neural Network," Proceedings of the 5<sup>th</sup> Jordanian International Electrical and Electronics Engineering Conference (JIEEE 2003), Amman, Jordan, October 13-16, 2003, pp. 138-142.
- [C-31] **E. A. Feilat**, K. N. Al-Tallaq, H. Yamin, "Neural-Network Based Technique for Discrimination Between Inrush and Internal Faults in Single-Phase Transformers," Proceedings of the 5<sup>th</sup> Jordanian International Electrical and Electronics Engineering Conference (JIEEE 2003), Amman, Jordan, October 13-16, 2003, pp. 189-193.
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- [C-39] **E. A. Feilat**, S. Grzybowski, P. Knight, "Multiple Stress Aging of Magnet Wire by High Frequency Voltage Pulses and High Temperatures," Conference Records of the 2000 IEEE International Symposium on Electrical Insulation (ISEI2000), Anaheim, CA, April 2-5, 2000, pp. 157-160.
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- [C-47] M. Bettayeb, M. E. Aggoune, **E. A. Feilat**, "Real Time Simulation of Power Systems," Symposium of Modeling and Simulation, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia, 1996.
- [C-48] **E. A. Feilat**, A. Shaltout, "Evaluating the Dynamic Performance of Multimachine Power Systems with VAR Compensation Using the Synchronizing and Damping Torque," Proceedings of the 2nd Saudi Symposium on Energy, Utilization & Conservation, KFUPM, Dhahran, Saudi Arabia, November 27-30, 1994, pp. 1-10.
- [C-49] A. Shaltout, **E. A. Feilat**, "Effect of Synchronous Condenser on Power System Dynamic Stability," Proceedings of the First National Jordanian Conference on Electrical Engineering, University of Mutah, Jordan, April 19-21, 1993, pp. 190-199.
- [C-50] A. A. Shaltout, **E. A. Feilat**, "Damping and synchronizing torque computation in multimachine power systems," Proceedings of the IEEE-PES 1991 Summer Meeting, San Diego, California, USA, June 1991.

## **PROJECTS CONDUCTED AT SULTAN QABOOS UNIVERSITY**

- [RP-1] **E. Feilat**, I. Metwally,, and S. Al-Hinai, “Blackout Investigation due to Transformer-Bushing Failures at JBB Ali Grid Station,” February 2011. [RO 15,000]
- [RP-2] A. Al-Hinai, **E. Feilat**, Abdullah Al-Badi, and Mohammed Al-Badi, PDO power system electrical losses optimization study,” June 2011. [RO 28,000]
- [RP-3] A. Al-Hinai, **E. Feilat**, “Evaluation of Kauther Phase II Harmonic Model/Study,” April 2010. [RO 4,500]
- [RP-4] A. Al-Hinai, **E. Feilat**, and S. Al-Hinai, “EDSA-Based AC Arc Flash Analysis Study Of OXY 11-kV RMUs Network”, OCCIDENTAL OF OMAN (OXY), September 2010.
- [RP-5] **E. Feilat**, and A. Al-Hinai, “Technical Evaluation of Power System Analysis Software for PDO Applications,” PETROLEUM DEVELOPMENT OF OMAN (PDO), August 2010. [RO 9,612]
- [RP-6] **E. Feilat**, and A. Al-Hinai, “Verification of Symmetrical Short-Circuit Analysis of 10MVA 33/11 kV Transformer,” VOLTAMP Transformers Oman LLC, May 2010. [RO 2,800]
- [RP-7] Ali Al-Magrashi and **E. A. Feilat**, “Measurement of Severity of Pollution on 132 kV Insulators,” Dhofar Power Company, February 2010.

## **RESEARCH PROJECTS CONDUCTED at MISSISSIPPI STATE UNIVERSITY**

- [RP-8] S. Grzybowski, **E. A. Feilat**, “Multistress Lifetime characteristics of Encapsulated Fine Gauge Magnet Wire”, High Voltage Laboratory, Mississippi State University, MS, December 2000.
- [RP-9] S. Grzybowski, **E. A. Feilat**, “Accelerated Life Test Data for Air Insulated and Encapsulated Magnet Wires under High Frequency Pulsating Voltage and High Temperature”, High Voltage Laboratory, Mississippi State University, MS, November 2000.
- [RP-10] S. Grzybowski, **E. A. Feilat**, “Magnet Wire Accelerated Aging”, High Voltage Laboratory, Mississippi State University, MS December 1999.
- [RP-11] S. Grzybowski, **E. A. Feilat**, “Study on Dielectric Breakdown in Thomson Consumer Electronics HV Component”, High Voltage Laboratory, Mississippi State University, MS, April 1998.

## **TECHNICAL REPORTS OF HV TESTING PROJECTS at MS STATE UNIVERSITY**

- [TR-1] S. Grzybowski, **E. A. Feilat**, “Wet 60 Hz Withstand Voltage Tests on Double-Bushing Potential Transformers Models: POF-200, POF-250, & POF-350”, High Voltage Laboratory, Mississippi State University, MS, November 2000.
- [TR-2] S. Grzybowski, **E. A. Feilat**, “Lightning Impulse Withstand Voltage and 60 Hz Dry and Wet Withstand Voltage Tests on Three-Phase High Voltage Horizontal Vector Vacuum Switch”, High Voltage Laboratory, Mississippi State University, MS, August 2000.
- [TR-3] S. Grzybowski, **E. A. Feilat**, “Lightning Impulse Withstand Voltage and 60 Hz Dry and Wet Withstand Voltage Tests on Single High Voltage Vacuum Switch Unit”, High Voltage Laboratory, Mississippi State University, MS, August 2000.
- [TR-4] S. Grzybowski, **E. A. Feilat**, “Performance Evaluation of 36 kV DynaVar<sup>®</sup> Type VL Station Class Surge Arresters Under 60 Hz Power Frequency Voltage”, High Voltage Laboratory, Mississippi State University, MS, August 2000.
- [TR-5] **E. A. Feilat**, A. Lynn Libby, “Design Tests on a Type ATR Double Center Break Air Switch”, High Voltage Laboratory, Mississippi State University, Mississippi State, June 2000.

- [TR-6] S. Grzybowski, **E. A. Feilat**, “Wet 60 Hz Withstand Voltage Tests on Current Transformers Models: COF-250, COF-350 & COF-550”, High Voltage Laboratory, Mississippi State University, MS, June 2000.
- [TR-7] S. Grzybowski, **E. A. Feilat**, X. Li, “60 Hz Dry Flashover and Withstand Voltages and Dry CFO Voltage of 138-kV Fiber Optic Insulator”, High Voltage Laboratory, Mississippi State University, MS, June 2000.
- [TR-8] S. Grzybowski, **E. A. Feilat**, X. Li, “CFO Voltages of Distribution Lines Elements (Braces and Crossarms)”, High Voltage Laboratory, Mississippi State University, MS, May 2000.
- [TR-9] S. Grzybowski, **E. A. Feilat**, “RIV and 60 Hz Dry Flashover Voltage Test on Composite Supported Line Post”, High Voltage Laboratory, Mississippi State University, MS, May 2000.

### **Professional Development And Workshop Attended**

- [W-1] “Photovoltaic Systems and Energy Storage”, IEEE-JEA Innovative Technologies Workshop Series, Sep. 12-13, 2017, Amman, Jordan.
- [W-2] “Energy Storage Systems”, April 24, 2017, Jordan CIGRE, Amman, Jordan.
- [W-3] “The Future of Jordan Green Technology & the Regional Best Practices”, May 5, 2015, Jordan Engineers Association, Amman, Jordan.
- [W-4] “Staff Development Workshops”, Jan. 18-22, 2015, University of Jordan, Amman, Jordan.
- [W-5] “Electric Training Course”, Muscat GeoSystems, Oct. 08-10, 2012, Muscat, Oman.
- [W-6] “LabView”, Feb. 1-2, 2011, Sultan Qaboos University, Muscat, Oman.
- [W-7] “Power Quality”, Jan. 15-19, 2011, Sultan Qaboos University, Muscat, Oman.
- [W-8] “Know your Students Learning Styles”, Sultan Qaboos University, Dec, 15, 2010, Oman.
- [W-9] “Distribution System Protection”, July 31-Aug. 2, 2010, Sultan Qaboos University, Muscat, Oman.
- [W-10] “Becoming an Effective Supervisor”, Jan. 26-27, 2010, Sultan Qaboos University, Oman.
- [W-11] “Developing Leadership Capability in Teaching & Learning,” Sultan Qaboos University, Jan. 24-25, 2009.
- [W-12] “Internet Application in Engineering Education and Industrial Training, Jordan University of Science & Technology, Aug. 6-7, 2002.
- [W-13] “High Voltage Measurement Techniques”, Mississippi State University, April 19-23, 1999.
- [W-14] “High Voltage Measurement Techniques”, Mississippi State University, April 20-24, 1998.
- [W-15] “High Voltage Measurement Techniques”, Mississippi State University, May 12-16, 1997.
- [W-16] “Lightning Protection of Transmission Lines”, Mississippi State University, October 14-16, 1996.
- [W-17] “Motivating Students to Learn”, King Fahd University of Petroleum & Minerals, October 9-13, 1993.
- [W-18] “The Dynamics of Teaching Excellence”, King Fahd University of Petroleum & Minerals, May 9-13, 1992.
- [W-19] “Power System Protection”, King Fahd University of Petroleum & Minerals, April 18-22, 1992.
- [W-20] “Good Evaluation: A Critical Part of Good Teaching”, King Fahd University of Petroleum & Minerals, Nov. 23-27, 1991.

### **SHORT COURSES TAUGHT**

- Amer Al-Hinai and **E. A. Feilat**, “Electrical Power System Modeling and Analysis”, Short-Course, Sultan Qaboos University, Oman, 21-23 March 2011.
- Amer Al-Hinai and **E. A. Feilat**, “Electrical Power System Modeling and Analysis”, Short-Course, Sultan Qaboos University, Oman, 27-29 June 2010.
- K. Tallaq and **E. A. Feilat**, “Digital power system protection”, Short Course, Amman, Jordan, 2003.

## **INVITED LECTURES/SEMINARS**

- [S-1] "Power Quality Enhancement using Custom Power Devices", The University of Jordan, April 28, 2014.
- [S-2] "Applications of Prony Analysis & Hilbert Transform in Power System Engineering," Sultan Qaboos University, April 29, 2008.
- [S-3] "Added CFO Voltage by Fiberglass Poles and Cross-arms," Irbid Electric Power Company, March 6, 2004. "Power System Quality Part-I: Terms and Definitions," Irbid Electric Power Company, Irbid, Jordan, September 9, 2002.
- [S-4] "Power System Quality Part-II: Harmonics," Irbid Electric Power Company, Irbid, Jordan, September 9, 2002.
- [S-5] "Power System Harmonics: Phenomena, Sources, Impact, Modeling, And Control," National Electric Power Company (NEPCO), Amman, Jordan, April 27, 2002.
- [S-6] "Radial Basis Function Neural Networks: An Overview," King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia, March 14, 1996.
- [S-7] Application of Pattern Recognition to Power System Security Assessment," King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia, March 7, 1996.
- [S-8] "Power System Dynamic Security Assessment: Neural Network Based Approach," King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia, January 17, 1996.
- [S-9] "Power System Static Security Assessment: Neural Network Based Approach," King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia, January 11, 1996.

## **ORAL PRESENTATIONS**

- [P-1] "Impact of Connecting Renewable Energy Plants on the Capacity and Voltage Stability of the National Grid of Jordan," The 8<sup>th</sup> International Renewable Energy Congress (IREC 2017), Amman, Jordan, March 21-23, 2017.
- [P-2] "Lightning Impulse Parameter Estimation Using PSO Method," Proceedings of the 8<sup>th</sup> Jordanian International Electrical and Engineering Conference (JIEEEEC2013), Amman Jordan, December 16-18, 2012.
- [P-3] "HV Impulse Parameter Estimation Using ESPRIT-Based Method", International Conference on Electric Power and Energy Conversion Systems (EPECS'11), American University of Sharjah, Sharjah, UAE, November 15-17, 2011.
- [P-4] "Voltage Flicker Estimation Using ESPRIT-Based Method" , 2011 IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT2011), December 6-8, 2011, The University of Jordan, Amman, Jordan.
- [P-5] ESDD- and DDDG- Based Assessment of Insulator Pollution Levels in Oman," the 6<sup>th</sup> IEEE GCC Conference & Exhibition 2011, February 19-22, 2011, UAE.
- [P-6] "Comparison of Computation Algorithms for Synchronizing and Damping Torque Coefficients," The 9<sup>th</sup> International Conference on Communication, Computer and Power (ICCCP'09), Muscat, Oman, February 15-18, 2009.
- [P-7] "Identification and Control of DC Motors Using RBF Neural Network Approach," The 9<sup>th</sup> International Conference on Communication, Computer and Power (ICCCP'09), Muscat, Oman, February 15-18, 2009.
- [P-8] "Adaline Based Estimation Of Synchronizing And Damping Torques Coefficients," 4<sup>th</sup> IEEE-GCC2007 Conference, November 11-14, 2007, Bahrain.
- [P-9] "Adaptive neuro-fuzzy technique for tuning power system stabilizer," The 41st International Universities Power Engineering Conference (UPEC 2006), Newcastle upon Tyne, UK, September 6-8, 2006.
- [P-10] "Small-signal stability monitoring via Prony analysis," The 6<sup>th</sup> Jordanian International Electrical and Electronics Engineering Conference (JIEEEEC 2005), March 14-16, 2006, Amman, Jordan.

- [P-11] “Prony-RBFNN Approach for Tuning Power System Stabilizer”, 5<sup>th</sup> WSEAS International Conference on Power Systems and Electromagnetic Compatibility (PSE’05), Corfu, Greece, August 23-25, 2005.
- [P-12] “DC and AC Aging of HV Encapsulated Flyback Transformers”, 5<sup>th</sup> WSEAS International Conference on Power Systems and Electromagnetic Compatibility (PSE’05), Corfu, Greece, August 23-25, 2005.
- [P-13] “A New Approach for Distance Protection Using Artificial Neural Network”, 39<sup>th</sup> International Universities Power Engineering Conference (UPEC-39), September 6-8, 2004, UWE, Bristol, UK.
- [P-14] “Dynamic Stability Evaluation of Single-Machine Infinite Power System Using RBF Neural Network”, 5<sup>th</sup> Jordanian International Electrical and Electronics Engineering Conference (JIEEE 2003), Amman, Jordan, October 13-16, 2003.
- [P-15] “Neural-Network Based Technique for Discrimination Between Inrush and Internal Faults in Single-Phase Transformers”, 5<sup>th</sup> Jordanian International Electrical and Electronics Engineering Conference (JIEEE 2003), Amman, Jordan, October 13-16, 2003.
- [P-16] “Effect of High Frequency Pulses on the Breakdown Voltage and Lifetime of Magnet Wire Insulation of Flyback Transformer”, US-Jordan Workshop: Modern Power Electronics Research and Education, Amman, Jordan, December 16-17, 2002.
- [P-17] “Performance Estimation Techniques for Power System Dynamic Stability Using Least Squares, Kalman Filtering and Genetic Algorithm”, IEEE SoutheastCon2000, Nashville, TN, April 7-9, 2000.
- [P-18] “Electrical Aging Models for Fine Gauge Magnet Wire Enamel of Flyback Transformer”, IEEE SoutheastCon2000, Nashville, TN, April 7-9, 2000.
- [P-19] “Added Critical Flashover Voltage by Fiberglass Distribution Line Pole”, 2000 IEEE International Symposium on Electrical Insulation, Anaheim, CA, April 2-5, 2000.
- [P-20] “Multiple Stress Aging of Magnet Wire by High Frequency Voltage Pulses and High Temperatures”, IEEE International Symposium on Electrical Insulation (ISEI2000), Anaheim, CA, April 2-5, 2000.
- [P-21] “Breakdown Voltage Behavior of PET Thermoplastics at DC and AC Voltages”, IEEE SoutheastCon99, Lexington, Kentucky, March 25-28, 1999.
- [P-22] “On-Line Adaptive Assessment of the Synchronizing and Damping Torque Coefficients Using Kalman Filtering”, IEEE SoutheastCon99, Lexington, Kentucky, March 25-28, 1999.
- [P-23] “Comparison of Aging Behavior of Two-Layer Polymeric Dielectrics Aged at AC and DC Voltages”, 1998 IEEE Conference on Electrical Insulation and Dielectric Phenomena (CEIDP98), Atlanta, Georgia, USA, October 25-28, 1998.
- [P-24] “Evaluating the Dynamic Performance of Multimachine Power System with VAR Compensation Using Synchronizing and Damping Torque”, 2nd Saudi Symposium on Energy, Utilization & Conservation, Dhahran, Saudi Arabia, November 27-30, 1994.

### **PH.D. DISSERTATION**

“Lifetime Characteristics of Magnet Wires under High Frequency Pulsating Voltage and High Temperature”, Mississippi State University, Mississippi State, 2000.

### **M.SC. THESIS**

“Dynamic Stability Evaluation of Multimachine Power Systems Using Synchronizing and Damping Torques”, Jordan University of Science & Technology, Jordan, 1989.

### **PERSONAL INTEREST**

Family, cultural events, traveling, swimming, and community services.