

C.V.

1. Personal Information:

Name:	Mohamed Emad Farrag (Professor) <i>BEng, MSc, PhD, CEng, MIET, MIEEE, SFHEA,</i> IET Academic Accreditor
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2. Employment Record:

From / To	Employer's Name and Location	Job Title and Duties
01/2022 – 06/2022	School of Computing, Engineering and Built Environment, Glasgow Caledonian University, Glasgow, UK	<ul style="list-style-type: none"> • Assistant Head for International
01/2021 – 01/2022		<ul style="list-style-type: none"> • Academic Lead for International
06/2020 – 01/2021		<ul style="list-style-type: none"> • Director of SMART Technologies Research Centre
10/2019– 05/2020		<ul style="list-style-type: none"> • Deputy Director of SMART technologies research centre
8/2019-		<ul style="list-style-type: none"> • Professor of Electrical Power Engineering • Leading research in the energy storage systems for power distribution network.
8/2017- 7/2019		<ul style="list-style-type: none"> • Reader, Electrical Power Engineering • Developer and Programme Lead of MSc course in Electrical Power Engineering • Department of Engineering representative at the School of Engineering Research Committee
3/2016-7/2017		<ul style="list-style-type: none"> • Senior Lecturer, • Chair of the Audio, Electrical and Electronic Programme Board
7/2014 -7/2017		<ul style="list-style-type: none"> • Senior Lecturer, Programme Lead of; <ul style="list-style-type: none"> ✓ MEng/BEng Electrical Power Engineering. ✓ MEng/BEng Mechanical and Power Plant Systems
01/2010 – 6/2014	<ul style="list-style-type: none"> • Lecturer, Energy Systems Engineering • Programme leader MEng/BEng Electrical Power Engineering, • Programme leader MEng/BEng Mechanical and PowerPlant Systems, <ul style="list-style-type: none"> ➤ <i>Module leader</i> • Smart energy lab manager, 	

		<ul style="list-style-type: none"> • Year tutor. • Focal point for the Glasgow Articulation Partnership with GCU/SEBE_ Electrical Power Programme. • Leading Erasmus/Internship projects in Electrical Power Engineering • Research, mobile dc tank storage system, demand response & load side management.
10/2008 – 12/2009	Institute of Energy and Sustainable Development, De Montfort University, Leicester, UK	<ul style="list-style-type: none"> • Research Fellow • Conducting research on energy saving and carbon reduction in support with the Intelligent Energy Europe (IEE), EU. • Part-lecturing of MSc course for energy and sustainable development and climate changes.
4/2008- 09/2008	School of Computing, Engineering and Information Sciences, Northumbria University, UK.	<p>Visiting Lecturer and Post Doctor Researcher</p> <ul style="list-style-type: none"> • Supporting the development of renewable energy lab(wind turbines, PV and CHP). • Develop real time monitoring system using dSPACE data acquisition facilities. • Development of Computer Aided Assessment of renewable energy module for Undergraduate and MSc Level.
4/2004 – 3/2008	Egyptian Ministry of Higher Education	<ul style="list-style-type: none"> • Higher Education Reform Project, supported by the WB \$60M loan; • Liaise with world bank Cairo office staff with regard to the project implementation • Supervise the procurement department with a budget of \$40M • Train Egyptian Universities procurement staff on international good practice • Co-ordinate the sub-projects relationships with international partners and suppliers
12/2002 – 3/2004	Faculty of Education & Technology, Helwan University, Egypt	Lecturer (Electrical and Electronics Department)

3. Education:

Place of Study	Dates	Qualifications
School of Engineering, Northumbria University, Newcastle upon Tyne, UK	1998-2002	PhD in Artificial Intelligent Control of Power Systems. Thesis title; "Investigation of Advanced Control of the Unified Power Flow Controller (UPFC)"
Faculty of Electronics Engineering- Egypt	1993-1996	MSc in Automatic Control "Adaptive Control of Large-Scale Systems"
Faculty of Electronics Engineering- Egypt	Sep. 1985 – May 1990	BEng in Industrial Electronics Engineering.

4. Membership of Professional Bodies:

Name	Dates	Class
UK-Higher Education Academy- Senior Fellow	2020 -	SFHEA
UK-Higher Education Academy	2012 -	FHEA
IET (Institution of Engineering and Technology)	1999 -	MIET
IEEE (Institute of Electrical and Electronics Engineers).	1999 -	MIEEE
UK Engineering Council	2019 -	CEng

5. Relevant Training & CPD:

Organising Body	Dates	Course Title
Glasgow Caledonian University, UK	10 th May 2023	Supporting, Motivating and Developing Student
People managers forum	12/2022, 01/2023	Managing others
GCU in collaboration with City of Glasgow College	23/11/2022	Bullying, Harassment and Victimisation Awareness course for Managers
GCU in collaboration with City of Glasgow College	28/9/2022	Coaching Conversations for Managers and Leaders
Glasgow Caledonian University, UK	Feb 2022	Online exam design
Webinar, Quanser Innovate Educate	27/05/2020	Platforms for Academic Teaching and Research
Webinar, DAAD, Germany	16 -17/4/2020	University Exams and Digital Questions Banks
Webinar basis, dSPACE	9/9/2019	Hardware In the Loop and Code Generation
Webinar basis, IET	17/9/2019	Electric Vehicle Infrastructure: Supercharged Solutions
Glasgow Caledonian University, UK	Jan., Nov. 2018	Effective Doctoral Supervisor Workshop
Glasgow Caledonian University, UK	2017	PL's Professional Development for Supporting Student Success
Teesside University, University of Central Lancashire	2016, 2017	External examiner induction
Glasgow Caledonian University, UK	7/2015	Risk management course
UK-Higher Education Academy	Sep. 2014	CPD, STEM education
Glasgow Caledonian University, UK	2010 - 2013	Range of CPD courses and workshops

Glasgow Caledonian University, UK	Sep. 2010 – July 2011	PGC in Learning & Teaching in Higher Education
Glasgow Caledonian University, UK	Feb.- June 2010	Supporting Students Learning
De Montfort University, UK	Jan. 2009	Certificate of Research Supervision
Institution of Engineering and Technology, IET	July 2008	The 15 th IET international school on “High Voltage Engineering and Testing”
International Training Centre, International Labour Organization, Turin, Italy	March 2007	Sustainable procurement, social, economic and environmental considerations in public procurement.
World Bank, Cairo	07/2005, 02/2006	WB sector, Financial club, FMR (Financial Monitoring Report) rules and strategy.
Northumbria University, Newcastle-UK	1999-2000	Post-Graduate Certificate in Academic Practice (PCAP).
PTH- Netherlands	1997	An applied programme in methodology and leadership in education.

6. Research Interests:

My research theme includes the following;

- Energy storage system dynamics and implications.
- Battery management systems for EV's.
- EVs battery state of health estimation.
- EVs battery second use in renewable energy application.
- Distribution generation (WT, PV) and EV; its impacts on distribution network's performance.
- Smart grid, novel dc tank storage.
- Power quality and FACTS controllers' application in power system transmission and distribution.
- Development of real-time control and data acquisition systems using more sophisticated dSPACE technology.
- Fuzzy and Neural Network control application.

7. Teaching Activities:

The following modules represent my teaching interest

- Power Electronics and Applications.
- Power Systems Operation and Protection.
- Power System Analysis.
- Power Quality.
- Power System Protection.
- Electrical Distribution Systems.
- Renewable Energy Technologies.
- Instrumentation and Control.
- Electrical and Electronic Circuit analysis.
- Analogue and Digital Electronics.
- Control theory.

8. Administration and Management:

- Assistant Head for International in SCEBE, GCU
- Academic Lead for International in SCEBE, GCU
- Director of SMART Technologies Research Centre
- Founder of GCU IEEE student branch

- Member of Glasgow Caledonian University Senate
- Member of the school research committee
- Chair of the Programme Board for Audio, Electrical and Electronic subject
- Developer of MSc course in Electrical Power Engineering
- Developer of MSc course in Vehicular Systems
- Programme lead (Sep. 2011-August 2015) then (June 2017- Jan. 2018), the two programmes are achieving top responses in the NSS for years in a row
- Mentoring and supporting new colleagues and early career researchers
- In my role as PL, I take initiative and independent decisions on various student issues on a daily basis that is appreciated by the AHoD and HoD
- I contribute to the department strategy on relation to programmes and targets
- Based on the programme team effort during the open days and applicants' days, programme targets are achieved
- Supporting international students transition particularly those who have late start due to visa issues through catch up classes for different modules in collaboration with other ML's
- Based on staff exchange visits to different institutions, I encourage our students to explore the opportunity, this was leading to increasing the outward number of students, particularly on Erasmus exchange
- I organise activities and speech during induction and open days
- With eSTEM project team, we have organised one-week training course for project partners blended learning and using advanced technology in teaching
- I am a personal academic advisor to SCEBE students
- I have been nominated for the teaching award 2015, 2018, 2021, 2022, 2023
- With the university supporting fund, I have investigated the HN returners' progression and challenges, also contributed to the study of "Retention and progression of HNC & HND, GGAP, GCU"
- I invite external speakers from industry to deliver practically oriented topics
- I arrange site visits for the programme' students to national firms
- I have visited several European HEI on Erasmus staff exchange (Netherlands, Finland, Spain, Portugal, Oman) for experience exchange

9. Skills and Experiences:

- I hold BEng, MSc and PhD in Industrial Electronics, Instrumentation & Control and FACTS controller application in power delivery in 1990, 1997 and 2002, respectively.
- I have experience of administrative and managerial responsibilities as being programme leader for three highly populated programmes in SCEBE-GCU.
- Throughout my career, I have shown the ability to take immediate decision when it is critical, by analysing the causes and recommending the corrective actions.
- I have the necessary experience, which enables me to conduct research on both individual and team basis.
- I have the skills to provide the necessary teaching and learning support as I hold a Post Graduate Certificate for Academic Practice (PCAP) from GCU in 2011 and an early career one from Northumbria University, 2000. In addition to Supporting Student Learning, achievement from Glasgow Caledonian University, 2010.
- I have completed the requirements for Certificate of Research Supervision from De Montfort University 2009, which enables me to act as the director of study for PhD Researchers.
- I can easily fit in a group and support team-work in order to provide a safe and supportive learning environment.

- I have the ability to build collaboration with the professional community through good communication skills and paying attention to the community needs.

10. Student Support:

- ✓ Inspiration approach for MSc and UG students through linking teaching to industry
- ✓ I created transfer induction day for 3rd year students moving into the Honours year to introduce them to honour project and other taught modules to be well prepared over summer break
- ✓ I am running catch-up regular classes of 4th year modules for late registered, those missing classes or students with some difficulties
- ✓ I run several revision classes before each exam diet
- ✓ I organise extra math classes to support 3rd and 4th year students
- ✓ Establishing discussion board for informal module related discussion with Honours year students

11. Teaching (Programme Development):

- ✓ Developing MSc programme in Vehicular Systems 2023.
- ✓ Developing MSc programme in Electrical Power Engineering, March 2017
- ✓ Recommending changes/amendments to programme structure based on professional body recommendations
- ✓ Leading the programme team to achieve accreditation of the EPE & MPPS programmes by the Institution of Engineering and Technology, Dec. 2015, Dec. 2019 (mapping the UKSpec and GCU ILO's)
- ✓ Leading the programme team for portfolio refresh and re-approval of the EPE and MPPS programmes, April 2015
- ✓ Leading the programme team for accreditation by the Energy Institute, Dec. 2013, (mapping the EI Specs and GCU ILO's)
- ✓ I regularly contribute to and advise on curriculum and programme pathways within the electrical subject group

12. Short Term Courses:

I have organized/shared several short-term courses; such as:

- Power system training course for Libyan engineering firms, Northumbria University, UK.
- Programmable Logic Controller, training courses for the oil companies, centre of training and human development, Cairo, Egypt.
- Digital communication for the Arab Organization for Administrative Development, Cairo, Egypt.
- Training of Egyptian Universities Procurement staff according to the international procurement standards and World Bank guidelines.

13. Major Research and Development Projects:

Research projects (Awarded);

1. SUN RUN 2, extension of P4G project, \$150,000.00 Nov. 2023.
2. Strengthening the Academia-Industry collaboration related to the field of Electric Vehicle ecosystem: a goal towards skill development and employability, British Council, £40,000.00 July 2023.
3. Fostering Career Opportunities for Women Graduates in Jordan and Advancing Gender Equity in Leadership Across UK, £19,500, Sep. 2023.
4. Caterpillar & GCU research collaboration over PhD research topic in EVs battery state of health estimation, £15,000, March 2023.
5. Professional Development Training Programmes in Egypt, British Council, £30,000, December 2022.
6. British Council Women in Science EDI in Brazil £30,000.00, November 2022.
7. Angaza Africa - Harnessing solar and wind power to provide sustainable energy access in rural Kenya, Innovate UK, UK Research and Innovation, UK Government, £182,000.00, September 2022.
8. SUN-RUN P4G Pioneering Green Partnerships, £96,831.00, May 2022.
9. The Royal Society of Edinburgh, Development of Research Focus Group on the Impact of Electric Vehicle uptake on energy demand and decarbonisation of sector, collaboration with India, £10,000, January 2022.

10. British Council going global partnership, Global Project Semester (GPS), Cairo, Egypt, £39,870.00, January 2022.
11. British Council Scholarships for Women in STEM with Egypt, £175,000, October 2021.
12. British Council, "Go Global Partnership", Smart Grid for Sustainable Societies, with India, £19,000, October 2021.
13. ETP studentship with Scottish Power Energy Network, A Digital Twins for Future Distribution Networks with Smart Meter Data Driven Monitoring and Control, £88,200.00, 3.5 years, awarded July 2021.
14. Additively-manufactured 3-D printing of electric scooter, in collaboration with Vellore Institution of Technology, India, awarded by the Royal Academy of Engineering, £80,000, 24 months, March 2021.
15. THREE-Lanka, Training Hub for Renewable Energy tEchnologies and management in Sri Lanka, in collaboration with three EU HEIs and seven Sri Lankan HEIs, €981,606.00, awarded August 2020.
16. ETP studentship with Scottish Power Energy Network, Strategic Assessment of the Technical and Economic impacts on Investment Decisions of Electric Grid Transmission Systems,
17. £84,387.00 awarded October 2019, 3.5 years.
18. ETP studentship with Scottish Power Energy Network, High precision fault localisation in buried power cables based on wireless charging, £83,276k, granted Sep. 2018, 3.5 years.
19. Pinpoint of MV & LV cables fault locations with Scottish Power (SP), £69,217 k, granted in August 2018, 12-month.
20. International Diploma for School Teachers in STEM Education / eSTEM, in Egypt, in collaboration with two EU HEI and five Egyptian HEI, €906,318.00, Aug. 2015 – Oct. 2018.
21. Evaluation of energy saving device, Scottish Funding Council SCF, Interface Voucher, the knowledge connection for business, 2014, (£ 10 k).
22. Interactive Technology Enhanced Learning for Engineering, GGAP, 2011, (£11k).
23. Retention and progression of HNC & HND, GGAP, 2011, (£ 10k).
24. Real time monitoring of EV-Batteries performance, Scottish Funding Council SCF, Interface Voucher, the knowledge connection for business, 2011, (£ 10 k).
25. Feasibility study of wind generation in the SME sector, Scottish Funding Council SCF, Interface Voucher, the knowledge connection for business, 2011, (£ 10 k).
26. Investigation of Engineering HN returners, progression and challenges, GGAP, 2011, (£ 4k).
27. Investigation of energy savings technology and management techniques of vending machines, Scottish Funding Council SCF, Interface Voucher, the knowledge connection for business, 2010, (£ 7 k).
28. Glasgow Caledonian University competition for studentship, the project title "Investigation of a novel energy savings technique in micro-grid using Unified Power Flow Controller (UPFC)", 2010.
29. iNET, towards low carbon buildings, case study for schools and SMEs in midland, funded by emda, De Montfort University, UK, 2009, (£ 80 k).
30. Face Your Elephant, EPSRC funded project for public engagement, De Montfort University, UK, 2009, (£ 100k).
31. Research Inform Teaching, Northumbria University, UK, 2008, (£20 k).

Research projects (submitted);

1. SBRI: Zero Emission Generators (ZE-Gen), Demonstrator, UKRI, Innovate UK, £500,000.00, December 2023.
2. Enhance Best Practices for Quality Management in Egypt's Globalised Business Environment, British Council, £30,000, Nov. 2023.
3. Enhancing STEM Education and Employability Skills: A UK-Egypt Collaboration, the British Council, £25,817, Nov. 2023.
4. Nishati Mjini - African Innovation Collaborations for Net Zero Places. Exploitation of a Flat Pack Hybrid Power System (FPHPS), £292,514.00 Nov. 2023.
5. Data-driven Energy Exchange Unit and Battery Swap Mechanism for Sustainable Transportation: Shaping the KSA Green and Circular Economy, £119,997.00, Oct. 2023.
6. BCWISTEM, British Council Women in STEM Scholarships-Early Career Fellow-Going Global Partnerships (GGP), £180,000.00, October 2023.

7. Empowerment of people with disabilities through integration of eco-energy systems and sustainable garment processing (*Eco-ubulumko*), Royal Academy of Engineering, £75500, October 2023.
8. Unlocking Egypt's Smart Farming: Deployment, of Smart Precision Irrigation Systems based on Agriculture 4.0 and Artificial Intelligence, British Council, £65,000.00. Oct. 2023.
9. Horizon Europe Water-Soil, £4,930,197.00, Oct 2023.
10. Advanced Sustainable Transportation and Transnational Collaborative Research towards the Integration of Proton Exchange Membrane Fuel Cell into Powertrain Systems of Mid-Sized Trucks, H2EV, Royal Academy of Engineering, £60,000. Sep. 2023.
11. Portable Energy EXchange unit (E2X) for electric transportation, Royal Academy of Engineering, £60,000. Sep. 2023
12. ELITE India - Environmental Learning and Industrial Training for Engineers India, £39,991.00, British Council, August 2023.
13. Electric Network Data Analytical Methods and Applications For Society, Connect4Innovation: UK-Turkey Higher Education Institutional Partnerships Fund 2023-2025, £25,000. August 2023.
14. Upskilling Workforce in Autonomous and Electric Vehicle's Sector: The route for net-zero, British Council, £40,000.00 July 2023.
15. TRANSCEND: Training ANd reSearCh on invErter, battery aNd microgrid, British Council, £40,000.00 July 2023.
16. "Kilimo Bora" - Employing innovative cold storage and sustainable mobility solutions to empower agricultural communities in Africa, EC10, InnovateUK, UKRI, £411,302.00, June 2023.
17. (GEAR-UP) Development of work inteGratEd leARning modUles for enhancing emPloyability and innovation skills in electrical vehicle industries, British Council, £36,000.00 November 2022.
18. British Council Women in STEM Scholarships-Early Career Fellow-Going Global Partnerships (GGP), £170,088.00, October 2022.
19. BCWiSTEM: British Council Scholarship Women into STEM, £180,000.00, October 2022.
20. The Royal Academy of Engineering, "Visiting Professor" in MVDC/HVDC for off shore electrification", £25380.00, March 2022.
21. Newton International Fellowship, increasing the reliability and efficiency of wireless charging of e-mobility based vehicles, £119,250.00, funded by the BC.
22. The Royal Academy of Engineering, Solar Samaki (Solar-Fish) - Capacity Building in Solar Energy Solutions for Fish Vendors and Farmers at the Shores of Lake Victoria, in Western Kenya, £44832.00, Feb. 2022.
23. British Council, "Go Global Partnership – Challenges / Saudi", Unique Project Semester with DAH University and UBT Saudi, £65,000, January 2022.
24. British Council, "Women in Science UK Brazilian Gender Equality Partnership", £27,000, October 2021.
25. Supporting and Advancing Black, Asian and minority' students, "Supporting and Advancing Black, Asian and minority' students", £94,000.
26. Royal Academy of Engineering, "Design and development of a standalone hybrid powergeneration system for rural and coastal areas in India", £ 80,000, Jan 2021.
27. Newton Fund, Institutional link with Mexico, GREENER - hiGh peRformancE concENtrated photovoltaic for zEro carbon transport in smaRt communities, £145,677.00, June 2020.
28. Enhancing Equity, Skill Quality, and Academic Relevance for Employability (EE-Square),
29. £1,500,000.00, June 2020, British Embassy-Cairo.
30. digital TWIN technology: virtual training HUB for Egyptian higher education institutions /TWINHUB, €785,200.00, (€125,113.00 for GCU), Feb. 2020, Erasmus+ CBHEI, EU.
31. Multilingual Inclusive TVET E-Modules using Virtual and Augmented Reality / MITEVAR,
32. €928,000.00, (€120,000.00 for GCU), Feb. 2020, Erasmus+ CBHEI, EU.
33. Newton Fund, Institutional link with Egypt, "high performance CONCEntrated Photovoltaic/Thermal system for clean energy-water production in arid areas - CONCEPT",
34. £296,500.00, applied - August 2019.
35. Newton Fund, Institutional link with Egypt, "DC-GEAR, DC - Generate, Embark And Renovate, DC Energy Trading for Supporting Electrifications of Remote Areas",
36. £284,381.00, applied - August 2019.

37. THREE-E, Training Hub for Renewable Energy technologies and management in Egypt, in collaboration with two EU HEI and five Egyptian HEI, €930,000.00, (£254,000.00 for GCU).
38. University Student Capacity Building: Towards Readiness for Sustainable Development- Oriented Job Market / STREAM, €968,310.00, (£195,654.00 for GCU), 2019, Erasmus+ CBHEI, EU.
39. Newton Fund, Institutional link with Sultanate of Oman, "Optimisation of Photovoltaic System Performance in the Harsh Environment in Oman", £121,955.00, June 2018.
40. ACCEPT, cApacity building for hybrid electric vehicle Engineering in Egypt, Erasmus+ project funded by the EU Erasmus+ project funded by the EU, €996,000.00, (£75,000.00 for GCU).
41. Increasing Hosting Capacity of Distributed Generation in the Distribution Systems of Egypt (HOCKEY), EPSRC, Dec. 2017, £805,099.00.
42. High Performance CPV/T for Clean Energy-Water Production in Arid Areas, Newton Institutional Links April 2017, £296,291.00 (GCU £146,291.00).
43. "EngageMe" Increasing learning-communities' engagement through employment of learner-centered methodologies, Erasmus+, Strategic Partnerships for higher education March 2017,
44. €201,511 (GCU €49,005).
45. ACM4PDN, £ 3 m - FP7 proposal, presented 2013 with a consortium of 11 HEI and SME's across Europe.
46. FP7, Research for the benefit of SMEs, €776,000.00 Euro.

As a research fellow with DMU, I have contributed to the delivery of the following research projects

1. Automatic Intelligent Metering for Small and Medium Enterprises aIM4SMEs, De Montfort University, UK, (€ 868 K), (energy auditing and project outcomes communication with SMEs), I was DMU research team leader reporting to the Institute Director.
2. Communicate Your Building Energy Rating, towards A rating building, De Montfort University, UK, (€ 500 K).

Development projects;

I have contributed to the delivery of the following development projects;

1. Higher Education Enhancement Project, Ministry of Higher Education, Egypt, (\$73 m), 2004-2007, I was responsible for technical communication with the world bank and Egyptian state universities staff training for international fair practice in procurement.
2. Internal quality strategic plan, Faculty of Industrial Education, Helwan University, Egypt (EGP 350 k) 2007-2008.

14. Research Supervision

- PhD completion: 10
- MPhil completion: 1
- Director of Study: 7
- Second Supervisor: 2

Overseas Supervision

I have contributed to the following research projects overseas;

- MSc by research, "Elimination of multilevel inverter harmonics of PV systems", Helwan University, 2006/2007.
- MSc by research, "Voltage Source Compensation for Ohmic contact welding machines", Helwan University, 2006/2007.
- PhD, "Artificial Intelligent Control of Interline Power Flow Control", Menoufia University, 2007/2008, not to completion.

15. Knowledge Transfer and Income Generation:

- Applying for research and capacity building fund.
- Recruiting self-funded PhD candidates.
- Planning for commercialising the high voltage lab testing facilities including the AC/DC cable

testing and insulation inspection in the environmental chamber.

- Planning to develop CPD courses in condition monitoring that underpinned by the strong research activities conducted within the subject group.
- Some of my research has high potential impacts, e.g.
 - The optimum loading of self-excited induction wind turbine generators may lead to changes in the WT connection regulations,
 - The DC cable testing under different high voltage conditions is expected to contribute to better understanding of the wind farms DC cable failure
- The eSTEM/ENGAGE.ME and other projects, are a good opportunity for two-channel knowledge transfer with European and international higher education institutions in the field of e-learning and using new technologies in teaching and student engagement.
- I am a member of the UK Universities High Voltage Network Consortium (UHVnet) that holds annual Colloquium.

16. PhD-External Examiner:

- A Robust Intelligent Object Detection System for Driverless Vehicles through Sensor Fusion and Artificial Intelligence Techniques, UK, November 2023
- Optimization of Non-Linear Robust Controller for Robotic Manipulator System, UK, August 2023
- Design and Analysis of Secure Offshore Wind Farms, UK, May 2023.
- Microsecond and sub-microsecond impulse breakdown of insulating liquids and liquids-polymer interfaces, UK, October 2022.
- Photovoltaic challenges and recommendations - A Case Study for Oman, UK, October 2022
- High Performance Disturbance Observer -Based Control System Design for Permanent Magnet Synchronous AC Machine Applications, UK, 2022.
- Power Sharing Control for Inverter-Based Distributed Generation Systems in Microgrids, UK, 2022.
- Investigation of domestic level EV chargers in Distribution Network: Assessment and mitigation solution, Republic of Ireland, 2021.
- Experimental and Modelling Studies on Understanding the Performance of Transformer Insulation, India 2021
- SiC Power Electronic Devices Evaluation and Magnetic Components Optimization in Wind Power System, UK 2021
- Advancing the Infrastructure for Wireless Biomedical Applications, India 2021
- Design of Energy Efficient Snubber Circuits for Protections of Switching Devices in High Power Applications, UK, 2021.
- Modelling of HVDC Systems, UK, 2020.
- Optimisation of Protection Strategy in Active DC Power Distribution Networks, UK, 2020.
- Multi-level constraints mapping of wind resources for Mauritius, Mauritius, 2019
- An Investigation of the Energy Storage System on-board a Tram for Catenary Free Operation, UK, 2019.
- Fault Detection Schemes for Dynamical Systems, UK, 2018.
- Performance of fixed speed wind turbine with STATCOM based BESS, Brunel University, UK, 2017.
- Integrated performance reliability optimisation of systems with multi-level redundancies, UK, 2016.
- Chaotic Self-Adaptive Particle Swarm Optimisation Algorithm for Economic Dispatch Problems, Northumbria University, UK, 2014.
- Control of Brushless Doubly-Fed Reluctance Machines under Normal and Faulty Operating Conditions, Northumbria University, UK, 2014.

- Error Estimation and Controllability Analysis of Contemporary Fuzzy Logic Control Models, Thapar University, Punjab, India, 2012.

MSc external examiner:

- Pretoria University, South Africa

17. PhD-Internal Examiner:

- Operational planning of market-based virtual power plant with high penetration of renewable energy sources, 2023
- Fault Diagnosis and Optimal and Robust Fault Tolerant Control of Wind Turbines Working Under Harsh Environmental Conditions, 2023
- Characterization and modelling of acid rain pollution process and effect on high voltage outdoor glass insulators, 2022
- Statistical analysis of reliability factors of Lithium ion batteries, 2019
- Flashover Characteristics of Silicone Rubber Materials under Various Contaminated Conditions for Application in Outdoor Polymeric Insulators, 2017
- Reliability analysis of rail services, 2017
- A novel hybrid method of domestic load profile modelling, 2016
- The Simulation and Evaluation of Partial Discharge Acoustic Signals in Oil, 2015
- Demand Side Management Strategies to Regulate Electricity in Oman, 2011
- Modelling of electrical distribution systems with high penetration level of distributed generation and electric vehicles, 2010

Viva Independent Chair: 4

18. Consultancy / professional practice:

- Energy consumption analysis and savings for SMEs (industrial and commercial).
- World Bank procurement advisor, Egyptian Supreme Council of Universities, 2005-2007.

19. IET Accreditor

I served as a panel member for accrediting Electrical/Electronic programmes for UG/PGT at;

- Surrey University
- University of Highland and Island, Scotland
- Sheffield University
- De Montfort University

20. Programme-External Examiner

- Electrical and Electronic, London South Bank University partnership in Bahrain, 2022 - 2026
- Electrical Power Engineering, Aston University, 2022 - 2026
- MEng/BEng Electrical Power Engineering, Robert Gordon University, 2019-2023
- MEng/BEng - Maintenance Management, University of Central Lancashire, 2018-2022
- MEng/BEng - Mechatronics, University of Central Lancashire, 2018-2022
- MSc - Electrical Power and Energy Systems, Teesside University, UK, 2016-2020
- MSc - Sustainable Electrical Energy, Dublin Institute of Technology, Ireland, 2016-2019

21. Programme Review Panel (external / internal member)

- International foundation programme, Study Group - Lancaster University International Study Centre IFY Provision, 2022.
- Pool of Dual Degree, National University of Science and Technology, Oman and GCU, November 2021.
- MSc Energy Engineering, Oman academic accreditation authority 2021
- MSc Electronic Engineering with partner, Coventry University 2021
- BEng Electronic Engineering and Instrumentation, Coventry University 2021
- MSc Renewable Energy & Power Systems Management programme, City, University of

London, 2020

- Top Up Degree in Electrical and Electronic Engineering, Liverpool John Moores University, 2019
- Undergraduate Foundation in Engineering, Bedfordshire University, 2019
- PM Programme revalidation, Study Group - Sheffield University, 2018
- International foundation programme, Study Group - Sheffield University, 2018
- Power Electronics and Mechatronic, BEng/MSc programmes - Glyndwr University, 2018
- Computing (programming and managements), BSc programmes – GCU, 2017
- School of health BSc/MSc programmes – GCU, 2017

22. Conferences Activities:

- Keynote speaker at Middle East Power Conference, Cairo, Egypt, Dec. 2023
- Keynote speaker of International Conference on Innovations in Power & Advanced Computing Technologies (i-PACT 2023), December **2023**.
- Energy and Electrical Grid Stability workshop, Cairo, Egypt, December **2023**.
- Finance Chair, EEE CCTA 2024 The 8th IEEE Conference on Control Technology and Applications (CCTA) 2024, Newcastle upon Tyne, UK, August **2024**.
- Keynote speaker at Middle East Power Conference MEPCON 2023, Egypt, Dec. **2023**.
- Keynote speaker of 7th International Conference Environment-Friendly Energy and Applications–EFEA **2022**.
- Co-Chair of the International conference on CApacity building in the Renewable Energy Sector (I-CARES), 22/06/22 - 23/06/22, Newcastle upon Tyne, UK, **2022**.
- Keynote speaker of 6th International Conference on Sustainable Development, 1-4 November **2021**, Egypt.
- Steering committee member of the International Power Engineering Conference, **UPEC2021** conference Sep. **2021**.
- Local organising committee member of, 9th International Conference on Renewable Energy Research and Applications, September 27th -30th, **2020**, Glasgow, UK.
- Chair and organiser of the International Power Engineering Conference, **UPEC 2018** conference held at GCU, 4th – 7th Sep. **2018**.
- Organiser of the Universities High Voltage Network Colloquium, GCU, 2017
- Keynote speaker at Middle East Power Conference, Cairo, Egypt, Dec. 2016
- Member of the UPEC international steering committee, 2016-
- Chair of conditional monitoring sessions at UPEC 2015.
- Plenary speaker at Middle East Power Conference, Mansoura, Egypt, Dec. 2015
- International Conference on Control, Engineering & Information Technology (CEIT'2015), Programme committee member, 2015.
- Publication Chair of 3rd International Symposium on Environmental Friendly Energies and Applications (EFEA). Paris, France Nov. 2014.
- Co-chair of the 7th Saudi student conference in the UK, Feb. 2014.
- Co-chair of International Conference on Deregulated Environment and Energy Markets, DEEM, Chitkara University, India, 2011.

23. Staff Exchange Activities:

- Overseas Adjunct Professor, VIT, India 2022/2023
- Overseas visiting professor, Shanghai University, China, 2021, 2022, 2023
- Visiting lecturer, Saxion University, May 2019, Netherland
- Visiting lecturer, ISEP, Porto, May 2018, Portugal
- Visiting lecturer, Metropolia University, Helsinki, Finland, April 2017
- Visiting lecturer, ISEP, Porto, March 2016, Portugal
- Visiting staff to Caledonian College of Engineering Oman, frequent visits, 2012-2016
- Visiting lecturer, Mondragon University, Feb. 2014, Mondragon, Spain
- Visiting lecturer Northumbria University, 2008

24. Journals and Grant Reviewing:

I am a reviewer for;

- EPSRC peer reviewer
- Leverhulme trust
- IET Power Electronics
- IEEE Power Delivery & Power Systems
- European Transaction on Electrical Power, ETEP
- UPEC, power conference
- Energies transactions
- Renewable Energy Journal
- CIBSE, Building Service Engineering Research & Technology

25. Community Engagement and Outreach:

I work closely with colleges-university liaison group

26. Recent Publications:

Published Books

1. "Sensorless Speed Observer for Industrial Drives based Induction Motors with Low Complexity", BOOK TITLE "Induction Motors - Recent Advances, New Perspectives and Applications", **2023**.

Refereed Journals;

1. Numair, M.; Aboushady, A.A.; Arraño-Vargas, F.; **Farrag, M.E.**; Elyan, E. Fault Detection and Localisation in LV Distribution Networks Using a Smart Meter Data-Driven Digital Twin. *Energies* **2023**, *16*, 7850. <https://doi.org/10.3390/en16237850>.
2. C. N. Ibem, **M. E. Farrag**, A. A. Aboushady and S. M. Dabour, "Multiple Open Switch Fault Diagnosis of Three Phase Voltage Source Inverter Using Ensemble Bagged Tree Machine Learning Technique," in IEEE Access, doi: 10.1109/ACCESS.2023.3304238, **2023**.
3. Elmorshedy, M. F., Abd-Elaziz, A. A., Dabour, S. M., **Farrag, M. E.**, El-Sousy, F. F. M., Xu, W., Rashad, E. M., "Performance investigation and control design of SSI grid-connected system for PV applications with maximum power extraction", *Alexandria Engineering Journal*, Volume 78, 2023, Pages 354-366, ISSN 1110-0168, <https://doi.org/10.1016/j.aej.2023.07.031>, **2023**.
4. Ashok B, Kannan C, Deepak C, Rathan Ramesh, Tharun MV Narendhra, **Mohamed Emad Farrag**, Sathiseelan Denis Ashok, Rajasekar Vignesh, Pemmaredy Saiteja, Chellapan Kavitha, "Model based integrated control strategy for effective brake energy recovery to extend battery longevity in electric two wheelers". *Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering*. **2023**; 0(0). doi:10.1177/09544070231167616.
5. Dabour, S.M.; El-hendawy, N.; Aboushady, Ahmed A; **Farrag, M.E.**; Rashad, E.M. "A Comprehensive Review on Common-Mode Voltage of ThreePhase Quasi-Z Source Inverters for Photovoltaic Applications", *Energies* **2023**, *16*, 269. <https://doi.org/10.3390/en16010269>.
6. Ashraf, N.; Abbas, G.; Raza, A.; Ullah, N.; Mohammad, A.; **Farrag, M.E.** "A Single-Phase Compact-Sized Matrix Converter with Symmetrical Bipolar Buck and Boost Output Voltage Control", *Energies* **2022**, *15*, 7534. <https://doi.org/10.3390/en15207534>.
7. Dabour, S.M.; Aboushady, A.A.; Elgenedy, M.A.; Gowaid, I.A.; **Farrag, M.E.**; Abdel-Khalik, A.S.; Massoud, A.M.; Ahmed, S. "Symmetrical Nine-Phase Drives with a Single Neutral-Point: Common-Mode Voltage Analysis and Reduction. *Appl. Sci.* **2022**, *12*, 12553. <https://doi.org/10.3390/app122412553>.
8. Tariq, M.A.; Shami, U.T.; Fakhar, M.S.; Kashif, S.A.R.; Abbas, G.; Ullah, N.; Alsharif, M.; **Farrag, M.E.** "Dragonfly Algorithm-Based Optimization for Selective Harmonics Elimination in Cascaded H-Bridge Multilevel Inverters with Statistical Comparison. *Energies* **2022**, *15*, 6826. <https://doi.org/10.3390/en1518682>.
9. Dabour, S.M.; Aboushady, A.A.; Gowaid, I.A.; Elgenedy, M.A.; **Farrag, M.E.** "Performance Analysis and Evaluation of Multiphase Split-Source Inverters", *Energies* **2022**, *15*, 8411. <https://doi.org/10.3390/en15228411>.
10. Akram, S.; Fakhar, M.S.; Kashif, S.A.R.; Abbas, G.; Ullah, N.; Alsharif, M.; **Farrag, M.E.**, "Introducing Adaptive Machine Learning Technique for Solving Short-Term Hydrothermal Scheduling with Prohibited Discharge Zones", *Sustainability* **2022**, *14*, 11673. <https://doi.org/10.3390/su141811673>.
11. Ataullah, H.; Iqbal, T.; Khalil, I.U.; Mohammad, A.-S.; Ullah, N; **Emad Farrag, M.** "Analysis and Verification of Leakage Inductance Calculation in DAB Converters Based on High-Frequency Toroidal Transformers under Different Design Scenarios. *Energies* **2022**, *15*, 6176. <https://doi.org/10.3390/en15176176>.
12. Saiteja, P, Ashok, B, Wagh, AS, **Farrag, ME.** "Critical review on optimal regenerative braking control system architecture, calibration parameters and development challenges for EVs". *Int J. Energy Res.* **2022**; 1- 34. doi:10.1002/er.8306.
13. K. H. Ali, A. A. Aboushady, S. Bradley, **M. E. Farrag** and S. A. Abdel Maksoud, "An Industry Practice Guide for Underground Cable Fault-Finding in the Low Voltage Distribution Network," in IEEE Access, **2022**, doi: 10.1109/ACCESS.2022.3186352.
14. Derick Mathew, **M E Farrag**, Rani Chinnappa Naidu, Rajesh Muthu, A Sivaprakasam, and P Somasundaram, "Buck-Boost Single-Stage Microinverter for Building Integrated Photovoltaic", *Energies* 2021, *14*(23), 7854, doi.org/10.3390/en14237854 - 23 Nov., **2021**.
15. Faisal Shahzad, Haroon Farooq, Waqas Ali, Hassan Erteza Gillani, Naeem Abas Kalair, and **Mohamed Emad Farrag**, "Comparative Analysis of AC and DC Distribution System with Respect to Harmonic Distortion Considering Daily Load Profile", *Pakistan Journal of Engineering and Technology*, PakJET, Volume: 03, Number: 03, Pages: 1-7, **2020**.
16. **Mohamed E. A. Farrag**, Donald M Hepburn and Belen Garcia, "Quantification of Efficiency Improvements from Integration of Battery Energy Storage Systems and Renewable Energy Sources into Domestic Distribution Networks", *Energies*, *12*(24), 4640, **2019**.
17. M. Azizian Fard, **M. E. Farrag**, A. Reid and Faris Al-Naemi, "Electrical Treeing in Cable Insulation under Harmonics Superimposed on HVDC Voltages", *Energies* 2019, *12*, 3113; doi:10.3390/en12163113, **2019**.
18. Waqas Javed, Dong Chen, **Mohamed Emad Farrag** and Yan Xu, "System Configuration, FaultDetection, Location, Isolation and Restoration:

- A Review on LVDC Microgrid Protections”, *Energies* 2019, 12, 1001; doi:10.3390/en12061001. **2019**.
19. K. N. Bangash, **M. E. A. Farrag**, A. H. Osman, “Investigation of Energy Storage Batteries in Stability Enforcement of Low Inertia Active Distribution Network”, *Technology and Economics of Smart Grids and Sustainable Energy*, 4:1, doi.org/10.1007/s40866-018-0059- 4, **2019**.
 20. M. Azizian Fard, **M. E. Farrag**, S. McMeekin2 and A. Reid, “Electrical Treeing in Cable Insulation under Different HVDC Operational Conditions”, *Energies*, No. 11, 2406; doi:10.3390/en11092406 **2018**.
 21. Nachat N. Nasser, **Mohamed E. A. Farrag**, “Power Management of Islanded Self-Excited Induction Generator Reinforced by Energy Storage Systems”, *Energies*, No. 11, Article # 359;doi: 10.3390/en11020359, **2018**.
 22. Derick M., Rani C., Rajesh M., **Farrag M. E.**, Wang Y., and Busawon K., "An improved optimization technique for estimation of solar photovoltaic parameters", Elsevier, *Solar Energy Journal*, Vol. 157, pp 116-124, **2017**.
 23. M. Azizian Fard, **M. Emad Farrag**, S. G. McMeekin, A. J. Reid, “Partial Discharge Behaviour under Operational and Anomalous Conditions in HVDC Systems”, *IEEE Transactions on Dielectrics and Electrical Insulation*, Vol. 24, Issue 3, pp. 1494-1502, June **2017**.
 24. K. N. Bangash, **M. E. A. Farrag**, A.H. Osman, “Impact of Energy Storage Systems on the Management of Fault Current at LV Network with High Penetration of Distributed Generation”, *International Journal of Smart Grid and Clean Energy*, Vol. 6, No. 3, pp 195- 206, July **2017**.
 25. Haroon Farooq, Waqas Javed, Waqas Ali, **Mohamed E. Farrag**, “Analyzing the Impact of HVDC Transmission on a Distribution System Loaded with Non Linear Loads”, *Journal of Faculty of Engineering & Technology*, Vol 24, No 2, **2017**.
 26. Chao Long, **Mohamed Emad A. Farrag**, Donald M. Hepburn and Chengke Zhou, “Point Estimate Method for Voltage Unbalance Evaluation in Residential Distribution Networks with High Penetration of Small Wind Turbines”, *Energies*, No. 7, pp. 7717-7731; doi:10.3390/en7117717, **2014**.
 27. C. Long, D. Hepburn, **M. E. A. Farrag**, C Zhou, “An improved statistical time series method for voltage violation quantification in residential distribution network with small wind turbines and battery electric vehicles”, *International Journal of Smart Grid and Clean Energy*, Vol. 3, No. 1, pp 29-36, January **2014**.
 28. Ahmed Al Hinai, Babakalli Alkali, Zhou C. and **Mohamed Farrag**, “Assessing the Reliability of Seawater Desalination Plant Energy Recovery through Maintenance Modeling”, *International Journal of Condition Monitoring and Diagnostic Engineering Management*, published in ICHT-2013, Vol. 17, No. 3, pp 7-13, ISSN 1363-7681, **2014**.
 29. **Farrag, M. E. A.**; Putrus, G.A., “Analysis of the Dynamic Performance of Self-Excited Induction Generators Employed in Renewable Energy Generation”, *Energies* **2014**, No. 7, PP. 278-294,doi: 10.3390/en7010278.
 30. M. Suliman, **M. E. Farrag** and S. Bashi “Design and Implementation Series Compensator Based on Adaptive Neuro-Fuzzy Control (ANFIC)”, *International Journal of Enhanced Research in Science, Technology & Engineering*, Vol 3, No. 5, **2014**.
 31. C. Long, **M. E. A. Farrag**, C Zhou, D. Hepburn. “Statistical Quantification of Voltage Violations in Distribution Networks Penetrated by Small Wind Turbines and Battery Electric Vehicles”, *IEEE Transactions on Power Systems*, Vol. 28, No. 3, Aug. **2013**, pp. 2403-2411.
 32. H. Farooq, C. Zhou, **M. E. A. Farrag**, “Analyzing the Harmonic Distortion in a Distribution System Caused by the Non-Linear Residential Loads”, *International Journal of Smart Grid and Clean Energy*, Vol. 2, No. 1, January **2013**: pp. 46–51, ISSN: 2315-4462.
 33. **M. E. A. Farrag**, G. A. Putrus, “Design of adaptive neuro-fuzzy inference controller for a transmission system incorporating UPFC”, *IEEE, Transaction on Power Delivery*, Vol. 27, Issues: 1, pp 53-61, Jan. **2012**.
 34. **M. E. A. Farrag**, G. A. Putrus, “An On-line Training Radial Basis Function Neural Network for Optimum Operation of the UPFC,” Appeared on-line 21/04/2010, *European Transaction on Electrical Power*, No. 21, pp 27-39, **2011**.
 35. H. Farooq, C. Zhou, M. Allan, **M. E. Farrag**, R.A. Khan, M. Junaid, “Investigating the Power Quality of an Electrical Distribution System Stressed by Non-Linear Domestic Appliances”, in *Renewable Energy and Power Quality Journal* **2011**, No. 9, ISSN: 2172-038X (Presented at ICREPQ 2011, 13th– 15th April 2011, Las Palmas de Gran Canaria, Spain).

Refereed Conferences;

1. Belal Elsabbagh, Mohamed Farrag, “Estimating the State of Health of Lithium Ion Batteries using Neural Networks”, *24th International Middle East Power Systems Conference (MEPCON)*, Egypt, 19-21 December **2023**.
2. Mithul Raaj A T, Justin Ratnam, Niranjan Kumar S, Tanya Gupta, Keerthi Balaji, Rani C, Rajesh Kumar M, **Mohamed Farrag**, “A Comprehensive Exploration on Different Machine Learning Techniques for State of Charge Estimation of EV Battery”, *Proceedings of the 58th International Universities Power Engineering Conference*, 29th August – 1st Sep. **2023**.
3. Chukwuemeka N. Ibem, **Mohamed E. Farrag**, Ahmed A. Aboushady, “Open Circuit Fault Diagnosis Technique for Inverter Switches and Gate Drive Malfunction”, *Proceedings of the 58th International Universities Power Engineering Conference*, 29th August – 1st Sep. **2023**.
4. Mohamed. A. Elgenedy, Jake T. Simpson, **Mohamed E. Farrag**, “Electroporation for Water Disinfection: A Proof of Concept Experimentation”, *Proceedings of the 58th International Universities Power Engineering Conference*, 29th August – 1st Sep. **2023**.
5. M. Numair, A. A. Aboushady, **M. E. Farrag** and E. Elyan, "On the UK smart metering system and value of data for distribution system operators," 19th International Conference on AC and DC Power Transmission (ACDC 2023), Glasgow, UK, 2023, pp. 174-180, doi: 10.1049/icp.2023.1326.
6. Dabour, S., Aboushady, A., Elgenedy, M., Gowaid, A. & **Farrag, M. E. A.**, “A vector control strategy for five-phase drives fed by simplified split-source inverters”, *Proceedings of the 2023 IEEE Conference on Power Electronics and Renewable Energy*, **2023**.
7. S. M. Dabour, A.A. Aboushady, I. A. Gowaid, M. A. Elgenedy and **M. E. Farrag**, "Analysis and Control of Simplified Dual-Output Single-Phase Split-Source Boost Inverters," *23rd International Middle East Power Systems Conference (MEPCON)*, Cairo, Egypt, **2022**, pp. 1-5, doi: 10.1109/MEPCON55441.2022.10021748.
8. Dabour, S., **Farrag, M. E. A.**, Gowaid, A., Elmorshedy, M. F., Ali, M. M. & Almakhles, D., “Improved Responses of Grid Connected Quadratic Boost Inverter Based on Super-Twisting Sliding Mode Control”, *48th Annual Conference of the Industrial Electronics Society, IECON 2022 Conference*, 17/10/22 - 20/10/22, Brussels, Belgium, **2022**.
9. Bakeer, A., Dabour, S., Gowaid, A., Aboushady, A., Elgenedy, M. & **Farrag, M. E. A.**, “Enhanced finite control set-model predictive control for three-phase split-source inverters”, *Proceedings of the 57th International Universities Power Engineering Conference*, 29th August – 2nd Sep. **2022**.
10. Dabour, S., Aboushady, A., Elgenedy, M., Gowaid, A. & **Farrag, M. E. A.**, “Current Ripple Evaluation of Space Vector Modulated Five-Phase Split-Source Inverters”, *Proceedings of the 57th International Universities Power Engineering Conference*, 29th August – 2nd Sep. **2022**.
11. Omotayo Ilesanmi, **Mohamed E. Farrag**, Arshad Arshad, Azmy Gowaid, “Multiagent Control of DGs in Distribution Network for Active and Reactive Power Management”, *Proceedings of the 57th International Universities Power Engineering Conference*, 29th August – 2nd Sep. **2022**.

12. Arshad Syed Anwar, **M. E. Farrag**, Jim Baird "Sensitivity Analysis of Transmission Assets: Special Case Transformers Aging", 56th International Universities' Power Engineering Conference (UPEC), Teesside University, Middlesbrough, UK, Paper No. 1570737149, 31st August – 3rd September **2021**.
13. K. H. Ali, S. Bradley, A. A. Aboushady, S. A. Abdel Maksoud and **M. E. Farrag**, "Developing a Framework for Underground Cable Fault - Finding in Low Voltage Distribution Networks," 9th International Conference on Renewable Energy Research and Application (ICRERA), 27-30 September, Glasgow, United Kingdom, pp. 477-482, doi:10.1109/ICRERA49962.2020.9242813, **2020**.
14. Chukwuemeka N. Ibem, **Mohamed Emad Farrag**, Ahmed A. Aboushady, "New Fuzzy Logic Based Switch-Fault Diagnosis in Three Phase Inverters", 55th International Universities' Power Engineering Conference (UPEC), Turin, Italy, Paper No. 1119, 1st – 4th Sep. **2020**.
15. Abdallah Abdaelbaset, **Mohamed Emad Farrag**, Shahab Farokhi, "Evaluation of Precipitation Rate Impacts on Overhead Transmission Line Ampacity", 54th International Universities' Power Engineering Conference (UPEC), Bucharest, Romania, Paper No. 139, 3rd-6th Sep. **2019**.
16. Chukwuemeka N. Ibem, **Mohamed Emad Farrag**, Ahmed A. Aboushady, "Enhanced Fault Diagnosis of DFIG Converter Systems", 54th International Universities' Power Engineering Conference (UPEC), Bucharest, Romania, Paper No. 115, 3rd -6th Sep. **2019**.
17. Ehnaiash Aburaghiega, **Mohamed Emad Farrag**, D M Hepburn, Ayman Haggag, "Enhancement of Power Transformer State of Health Diagnostics Based on Fuzzy Logic System of DGA", The 20th International Middle East Power Systems Conference, MEPCON- 2018, 18th - 20th Dec., Cairo, Egypt, **2018**.
18. M. Qatan, **M. Emad Farrag**, B. Alkali, C. Zhou, "Modelling and Analysis of the Remaining Useful Life of MV XLPE Cable: Case study of Oman Oil and Gas Power Grid", 53rd International Universities' Power Engineering Conference (**UPEC**), Glasgow, Scotland, UK, Paper No. 44, 4th -7th Sep. **2018**.
19. K.N. Bangash, **M.E.A. Farrag**, A.H. Osman, "Manage Reverse Power Flow and Fault Current Level in LV Network with High Penetration of Small Scale Solar and Wind Power Generation", 53rd International Universities' Power Engineering Conference (**UPEC**), Glasgow, Scotland, UK, Paper No. 245, 4th -7th Sep. **2018**.
20. Ehnaiash Aburaghiega, Mohamed Emad Farrag, D M Hepburn, Belen Garcia, "Advanced On-line Condition Monitoring of, and Inter-turn Short Circuit Detection in, Power Transformers", 53rd International Universities' Power Engineering Conference (**UPEC**), Glasgow, Scotland, UK, Paper No. 462, 4th -7th Sep. **2018**.
21. Abdallah Abdaelbaset, **Mohamed Emad Farrag**, Shahab Farokhi, "Impact of Rain On Transmission Lines Ampacity Scotland as a Case Study", 53rd International Universities' Power Engineering Conference (**UPEC**), Glasgow, Scotland, UK, Paper No. 515, 4th -7th Sep. **2018**.
22. Muhammad Tahir Hassan, Stas Burek, **Mohamed Emad Farrag**, "Industrial Energy Efficiency Optimisation Through Cogeneration Using Biomass", 53rd International Universities' Power Engineering Conference (**UPEC**), Glasgow, Scotland, UK, Paper No. 534, 4th -7th Sep. **2018**.
23. Mohammed Y. Suliman, **Mohamed Emad Farrag**, "Power Balance and Control of Transmission Lines Using Static Series Compensator", 53rd International Universities' Power Engineering Conference (**UPEC**), Glasgow, Scotland, UK, Paper No. 534, 4th -7th Sep. **2018**.
24. Abdulwahab Alhamali, **Mohamed Emad Farrag**, Geraint Bevan, Donald M Hepburn, "Genetic Algorithm for Optimal Battery Energy Storage Systems Capacity and Site Selection for a Distribution Network with a High Penetration of Wind Energy", 175th International Conference On Electrical and Electronics Engineering (ICEEE), Istanbul, Turkey 23rd-24th December **2017**.
25. Waqas Ali, Haroon Farooq, Atta ur Rehman, **Mohamed E. Farrag**, "Modeling and performance analysis of micro-hydro generation controls considering power system stability", First International Conference on Latest trends in Electrical Engineering and Computing Technologies (INTELLECT), Karachi, Pakistan, 15th – 16th Nov., **2017**
26. Nachat N. Nasser, **Mohamed Emad Farrag**, "Operation of Stand-Alone Self-Excited Induction Generator Supported by Energy Storage Systems for Small Scale Wind Energy Generation", 52nd International Universities' Power Engineering Conference (**UPEC**), Crete, Greece, Paper No. 119, Aug. 29th to Sep. 1st, **2017**.
27. Abdulwahab Alhamali, **Mohamed Emad Farrag**, Geraint Bevan, Donald M Hepburn, "Determination of Optimal Site and Capacity of DG Systems in Distribution Network based on Genetic Algorithm", 52nd International Universities' Power Engineering Conference (**UPEC**), Crete, Greece, Paper No. 368, Aug. 29th to Sep. 1st, **2017**.
28. Abdulwahab Alhamali, **Mohamed Emad Farrag**, Geraint Bevan, Donald M Hepburn, "Review of Energy Storage Systems in Electricity Distribution Networks", The 18th International Middle East Power Systems Conference, MEPCON-2016, 27th – 29th Dec. 2016, Cairo, Egypt, **2016**
29. M. Qatan, B. Alkali, **M. E. Farrag**, C. Zhou, "Block Replacement Models for Cables Subject to Deterioration", Condition Monitoring and Diagnosis 2016, Sep. 25th -28th, Xi'an, China, **2016**.
30. E. A. F. Aburaghiega, **M. E. Farrag**, D. M. Hepburn, M. B. Garcia, "Enhanced Condition Monitoring of Power Transformers through Improvement in Accuracy of DGA Interpretation", 51st International Universities' Power Engineering Conference (**UPEC**), Coimbra, Portugal, Paper No. 407, Sep. 6th-9th, **2016**.
31. A. Abdelbaset, **M. E. Farrag**, S. Farokhi, D. M. Hepburn, "Overview of On-line and Off-line Ampacity Identification Techniques of Bare Overhead Transmission Line", 51st International Universities' Power Engineering Conference (UPEC), Coimbra, Portugal, Paper No. 161, Sep. 6th-9th, **2016**.
32. M. A. Fard, A. Reid, D. Hepburn, **M. E. Farrag**, "Partial Discharge Behaviour under HVDC Superimposed with Transients", 51st International Universities' Power Engineering Conference (**UPEC**), Coimbra, Portugal, Paper No. 382, Sep. 6th- 9th, **2016**.
33. M. Qatan, B. Alkali, **M. E. Farrag**, C. Zhou, "RCM Cost Analysis and Simulation of MV XLPE Cable Failure Process towards Optimum Preventive Maintenance Strategy", 9th IMA International Conference on Modelling in Industrial Maintenance and Reliability, London, UK 12th -14th July, ISBN: 978-0-905091-31-0, **2016**.
34. M. Qatan, **M. E. Farrag**, B. Alkali, C. Zhou, "Modelling and Analysis of Operating Temperature on MV XLPE Cable effects lifetime", 2nd International Conference on Desalination and Environment, Elsevier, Qatar, 23rd - 26th January, Paper No.13, **2016**.
35. K.N. Bangash, **M. E. Farrag**, Ahmed Osman, "Impacts of Distributed OLTC on Voltage Profile of Active Distribution Network Highly Penetrated by DG's", The 17th International Middle East Power Systems Conference, MEPCON-2015, 15th -17th Dec. 2015, Mansoura, Egypt, **2015**.
36. K.N. Bangash, **M. E. Farrag**, Ahmed Osman, "Smart Control of on Load Tap Changer deployed in Low Voltage Distribution Network", Fourth International Conference on Electric Power and Energy Conversion Systems (EPECS 2015), Sharjah, UAE, 24-26 November **2015**
37. K.N. Bangash, **M. E. Farrag**, Ahmed Osman, "Investigation of On Load Tap Changer Control in Smart Distribution Network", ICSGCE, 2015 International Conference on Smart Grid and Clean Energy Technologies, Offenburg, Germany, 20-23 October **2015**.
38. E. A. F. Aburaghiega, **M. E. Farrag**, D. M. Hepburn, M. B. Garcia, "Power Transformer Health Monitoring: A shift from off-line to on-line fault detection", in 50th International Universities' Power Engineering Conference (**UPEC**), Staffordshire, UK, Paper No. 62, 1st – 4th Sep., **2015**.
39. E. A. F. Aburaghiega, **M. E. Farrag**, D. M. Hepburn, "Investigation and Understanding the Conditions of Power Transformer Internal Faults

- using On-line Technique”, International Conference on Renewable Energies and Power Quality (ICREPQ'15), La Coruña, Spain, 25th–27th March, **2015**
40. E. Aburaghiega, **M. E. Farrag**, D. M. Hepburn, “Investigation of Power Transformer Health Condition using Off-line Method” HV NET, Staffordshire, **2015**.
 41. C. Rani, E. Petkov, K. Busawon, **M. Farrag**. “Chaotic Adaptive Particle Swarm Optimisation Using Logistics and Gauss Map for Solving Cubic Cost Economic Dispatch Problem” Proceedings of IEEE 3rd International Symposium on Environmental Friendly Energies and Applications (EFEA), Vol. 1, pp. 397-401, **2014**.
 42. C. Rani, E. Petkov, K. Busawon, **M. Farrag**. “Particle Swarm Optimization with Exponentially Varying Inertia Weight Factor for solving Multi- Area Economic Dispatch Problem” Proceedings of IEEE 3rd International Symposium on Environmental Friendly Energies and Applications (EFEA), Vol. 1, pp. 402-407, **2014**.
 43. K.N. Bangash, **M. E. Farrag**, Ahmed Osman, “Investigation of Power Quality and Environmental Impacts on EV Battery Charging”, International Conference on Electrical Engineering and Applications, Athens, Greece, 4th -6th April **2014**.
 44. Mohammed Y. Suliman, **M. E. Farrag**, Sinan Bashi, “Design of Fast Real Time Controller for the SSSC Based on Takagi-Sugeno (TS) Adaptive Neuro-Fuzzy Control System”, International Conference on Renewable Energies and Power Quality (ICREPQ'14), Córdoba, Spain, 7th – 10th April, **2014**.
 45. Ahmed Al Hinai, Babakalli Alkali, Zhou C. and **Mohamed Farrag**, “Assessing the Reliability of Seawater Desalination Plant Energy Recovery through Maintenance Modelling”, International Conference on Harnessing Technology: Challenges & Opportunities in GCC States, Sultanate of Oman, 2-3 December, **2013**.
 46. Chao Long, Donald M. Hepburn, **Mohamed E.A. Farrag** and Chengke Zhou, “An improved statistical time series method for voltage violation quantification in residential distribution network with small wind turbines and battery electric vehicles,” in International Conference on Smart Grid and Clean Energy Technologies, Kuala Lumpur, Malaysia, 11-13, Oct. **2013**.
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