



Ahmed Refaat Azmy

Prof.

EDUCATION

- **Ph.D., In philosophy in Engineering, Electric Power Systems, 2005, Department of Electrical Engineering, University Duisburg-Essen, Duisburg, Germany.**
“Simulation and Management of Distributed Generating Units using Intelligent Techniques”
- **M.Sc., Master of science in Engineering, in Electric Power Systems, 1996, Department of Electrical Engineering, Faculty of Engineering, Menoufya University, Egypt .** "Modelling and control of a wind-diesel generating unit"
- **B.Sc., Science in Electric Power Systems, 1991, Department of Electrical Engineering, Faculty of Engineering, Menoufya University, Egypt (excellent with honor degree)**

ACADEMIC EXPERIENCE (FULL-TIME)

- **Professor** at Electric Power Systems, Department of Electrical Power and Machines Engineering, Faculty of Engineering, Tanta University, Egypt, 2015~ present
- **Associate Professor** at Department of Electrical Power and Machines Engineering, Faculty of Engineering, Tanta University, Egypt, 2010~ 2015
- **Assistant Professor** at Department of Electrical Power and Machines Engineering, Faculty of Engineering, Tanta University, Egypt, 2005~2010
- **Research assistant**, Department of Electrical Engineering, University Duisburg-Essen, Germany, 2001~2005
- **Assistant lecturer** at Department of Electrical Power and Machines Engineering, Faculty of Engineering, Tanta University, Egypt, 1996~2001
- **Instructor** at Department of Electrical Power and Machines Engineering, Faculty of Engineering, Tanta University, Egypt, 1992~1996

NON-ACADEMIC EXPERIENCE (FULL-TIME)

None.

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

- **Certified trainer** at the Faculty and Leadership Development Center "FLDC", Tanta University, Egypt, 20010~Now

PROFESSIONAL ORGANIZATIONS

- Faculty of Engineering, Tanta University
- University Duisburg-Essen, Germany

HONORS AND AWARDS

- Tanta University Incentive Awards (2010)
- Prize of highest citations in Tanta University 2019
- Prizes for international publishing in 2010, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022 and 2023
- Citation Award at Tanta University 2020 (Top five citation in the faculty).



PUBLICATION LIST)

Journals:

1. M.R. Elkadeem, M.A. Alaam, **Ahmed M. Azmy**, "Improving performance of underground MV distribution networks using distribution automation system: A case study", Ain Shams Engineering Journal, Volume 9, Issue 1, 2018, Pages 469-481
2. Walla S. Sakr, Ragab A. El-Sehiemy, **Ahmed M. Azmy**, "Optimal allocation of TCSCs by adaptive DE algorithm", IET Generation, Transmission & Distribution, 2016, Vol. 10, Iss. 15, pp. 3844–3854, ISSN 1751-8687, doi: 10.1049/iet-gtd.2016.0362
3. Elkadeem, M. R.; Alaam, M. A.; and **Ahmed M. Azmy** "Reliability Improvement of Power Distribution Systems using Advanced Distribution Automation", Renewable Energy and Sustainable Development, [S.l.], vol. 3, no. 1, p. 25-34, Mar. 2017. ISSN 2356-8569. Date accessed: 19 Mar. 2017. doi:<http://dx.doi.org/10.21622/resd.2017.03.1.025>.
4. Walla S. Sakr, Ragab A. El-Sehiemy, **Ahmed M. Azmy**, "Adaptive differential evolution algorithm for efficient reactive power management", Applied Soft Computing Journal, Vol. 53, April 2017, pp. 336-351, ISSN 1568-4946, doi: 10.1049/iet-gtd.2016.0362
5. Abd-El Fattah Hamad, Hossam A. Abd el-Ghany and **Ahmed M. Azmy**, "Switching strategy for DG optimal allocation during repairing fault periods on loop distribution networks", International Transactions on Electrical Energy Systems, Volume 5, Issue 1, March 2017
6. Zeina k Gurgi, Doaa M. Yehia, **Ahmed M. Azmy**, and Abd El-wahab Hassan, "Harmonic Reduction for Grid-Connected Photovoltaic System based on Multilevel Inverter", Australian Journal of Basic and Applied Sciences 2018 Sept; 12(9): pages 135-145 DOI: 10.22587/ajbas.2018.12.9.23
7. Ahmed I. M. Ali, Mahmoud A. Sayed, Essam E. M. Mohamed, **Ahmed M. Azmy**, "Advanced Single-phase Nine-Level Converter for the Integration of Multi-Terminal DC Supplies" IEEE Journal of Emerging and Selected Topics in Power Electronics, vol. 7, no. 3, pp. 1949-1958, Sept. 2019. doi: 10.1109/JESTPE.2018.2868734
8. Ismail A. Soliman, Hossam A. Abd el-Ghany, **Ahmed M. Azmy**, "A robust differential protection technique for single core delta-hexagonal phase-shifting transformers" Electrical Power and Energy Systems 109 (2019) 207–216
9. Hossam A. Abd el-Ghany, **Ahmed M. Azmy**, and Ahmed Magdy Abeid, "A General Travelling-Wave Based Scheme for Locating Simultaneous Faults in Transmission Lines", IEEE Transactions on Power Delivery, DOI 10.1109/TPWRD.2019.2931178, IEEE
10. Eman K. Belal, Doaa M. Yehia, **Ahmed M. Azmy** "Adaptive Droop Control for Balancing State of Charge of Distributed Batteries in dc Microgrids", IET Generation, Transmission & Distribution, vol. 13, no. 20, pp. 4667-4676, 22-10-2019, doi: 10.1049/iet-gtd.2018.6849
11. Hossam A. Abd el-Ghany, **Ahmed M. Azmy** and Mohamed Attia Saad, "Optimal DG Deployment Based on Technical and Economic Considerations with Daily Load Variation", International Journal of Engineering Research in Africa, ISSN: 1663-4144, Vol. 45, pp 115-131, 2019
12. M.R. Elkadeem, Shaorong Wang, **Ahmed M. Azmy**, Eman G. Atiya, Zia Ullah, Swellam W. Sharshir, "A systematic decision-making approach for planning and assessment of hybrid renewable energy-based microgrid with techno-economic optimization: A case study on an urban community in Egypt", Sustainable Cities and Society, Vol. 54, Article 102013, DOI: <https://doi.org/10.1016/j.scs.2019.Article: 102013>, Elsevier, 2020.
13. Walaa S. Sakr, Hossam A. Abd el-Ghany, Ragab A. EL-Sehiemy, **Ahmed M. Azmy**, "Techno-economic assessment of consumers' participation in the demand response program for optimal day-ahead scheduling of virtual power plants", Alexandria Engineering Journal, Alexandria University, Vol. 59, pp. 399-415, 2020 <https://doi.org/10.1016/j.aej.2020.01.009>



14. Ahmed Samir Emam, **Ahmed M. Azmy** and Essam M. Rashad, "Enhanced Model Predictive Control-Based STATCOM Implementation for Mitigation of Unbalance in Line Voltages" IEEE Access, vol. 8, pp. 225995-226007, 2020, doi: 10.1109/ACCESS.2020.304498
15. Ali AIM, Sayed MA, Takeshita T, Hassan AMM, **Ahmed M. Azmy**, "A single-phase modular multilevel inverter based on controlled DC-cells under two SPWM techniques for renewable energy applications" Int Trans Electr Energ Syst. 2021; e12599. <https://doi.org/10.1002/2050-7038.12599>
16. Hossam A. Abd el-Ghany, Ismail A. Soliman and **Ahmed M. Azmy**, "A reliable differential protection algorithm for delta hexagonal phase-shifting transformers", International Journal of Electrical Power & Energy Systems, Volume 127, May 2021, 106671, <https://doi.org/10.1016/j.ijepes.2020.106671>
17. Ahmed M. Elkholy, Hossam A. Abd el-Ghany and **Ahmed M. Azmy**, "General Framework for Intentional Islanding to Enhance Distribution System Performance", Electric Power Components and Systems, Vol. 48, No. 14-15, pp. 1488-1507, 2021, <https://doi.org/10.1080/15325008.2020.1856227>
18. Ahmed E. ELGebaly, Ibrahim B. M. Taha, **Ahmed M. Azmy**, and Hossam A. Abd el-Ghany, "Optimal design and control of SSSCs for TLs considering technical and economic indices using GA and SAMPE-JAYA algorithms", IEEE Access, Vol. 9, pp. 38907-38919, March 4, 2021, DOI 10.1109/ACCESS.2021.3063807
19. Hossam A. Abd el-Ghany, Abd-El Fattah S. Hammad and **Ahmed M. Azmy**, "Evaluating the effect of considering repairing-fault periods on calculating technical losses in medium-voltage feeders of ring distribution networks", Electric Power Systems Research, Vol. 196, Article 107192, 2021, <https://doi.org/10.1016/j.epsr.2021.107192>
20. Heba N. Khalil, Samir M. Dawoud and **Ahmed M. Azmy**, "Transmission Loss Allocation in Deregulated Power Systems Comprising Renewable Distributed Generation" Jordan Journal of Electrical Engineering, Vol. 7, No. 3, September 2021 Pages 243-263
21. Ahmed A. Salem, Noura A. Nour Aldin, **Ahmed M. Azmy**, and Walid S. E. Abdellatif, "Implementation and Validation of an Adaptive Fuzzy Logic Controller for MPPT of PMSG-based Wind Turbines", IEEE Access, Vol. 9, No. 0, December 13, 2021, pp. 165690-165707, DOI: 10.1109/ACCESS.2021.3134947
22. Walaa S. Sakr, Ragab A. EL-Sehiemy, **Ahmed M. Azmy**, Hossam A. Abd el-Ghany, "Identifying Optimal Border of Virtual Power Plants Considering Uncertainties and Demand Response", Alexandria Engineering Journal, Alexandria University, Vol. 61, pp. 9673–9713, 2022, <https://doi.org/10.1016/j.aej.2022.02.070>
23. Ayman Hoballah, **Ahmed M. Azmy** "Constrained economic dispatch following generation outage for hot spinning reserve allocation using hybrid grey wolf optimizer", Alexandria Engineering Journal, (2023) 62, 169–180, <https://doi.org/10.1016/j.aej.2022.07.033>



Conferences

24. Mariam E. Elshiekh, Diaa-Eldin A. Mansour, **Ahmed M. Azmy** and Essam M. Rashad, "Parametric Study of SFCL with DFIG Wind Turbine Generators", The 19th International Middle East Power Systems Conference MEPCON'17, Faculty of Engineering, Menoufia University, Egypt, 19-21 December 2017
25. Ahmed Magdy Abeid, Hossam A. Abd el-Ghany and **Ahmed M. Azmy**, "An Advanced Traveling-Wave Fault-Location Algorithm for Simultaneous Faults", The 19th International Middle East Power Systems Conference MEPCON'17, Faculty of Engineering, Menoufia University, Egypt, 19-21 December 2017
26. Abeer A. Kholeif, Hossam A. Abd el-Ghany and **Ahmed M. Azmy**, "Impact of Supply Voltage Variation on V-I Trajectory Identification Method", The 19th International Middle East Power Systems Conference MEPCON'17, Faculty of Engineering, Menoufia University, Egypt, 19-21 December 2017
27. Hasnaa M. El-Arwash, **Ahmed M. Azmy** and Esam M. Rashadand, "A GA-Based Initialization of PSO for Optimal APFs Allocation in Water Desalination Plant", The 19th International Middle East Power Systems Conference MEPCON'17, Faculty of Engineering, Menoufia University, Egypt, 19-21 December 2017
28. Ahmed M. Elkholy, Hossam A. Abd el-Ghany and **Ahmed M. Azmy**, "A Proposed Load Shedding Mechanism for Enhancing Intentional-Islanding Dynamics of Distribution Systems", The 19th International Middle East Power Systems Conference MEPCON'17, Faculty of Engineering, Menoufia University, Egypt, 19-21 December 2017
29. Mohamed Attia Saad, Hossam A. Abd el-Ghany and **Ahmed M. Azmy**, "Optimal DG Deployment to Improve Voltage Stability Margin Considering Load Variation", The 19th International Middle East Power Systems Conference MEPCON'17, Faculty of Engineering, Menoufia University, Egypt, 19-21 December 2017
30. Eman K. Belal, Doaa M. Yehia, **Ahmed M. Azmy** " Effective Power Management of DC Microgrids Using Adaptive Droop Control ", 2018 Twentieth International Middle East Power Systems Conference (MEPCON), Cairo University, Cairo, Egypt, December 18-20, 2018 (MEPCON'2018)
31. Ahmed I. M. Ali, Essam E. M. Mohamed, Mahmoud A. Sayed, Mahmoud S. R. Saeed, **Ahmed M. Azmy** "Design and Validation of a Single-Phase Multilevel Inverter Utilizing Reduced Switches Number", 2018 Twentieth International Middle East Power Systems Conference (MEPCON), Cairo University, Cairo, Egypt, December 18-20, 2018 (MEPCON'2018)
32. Ahmed M. Elkholy, Hossam A. Abd el-Ghany, **Ahmed M. Azmy** "An Advanced Load Shedding Algorithm to Enhance Intentional-Islanding Dynamics", 2018 Twentieth International Middle East Power Systems Conference (MEPCON), Cairo University, Cairo, Egypt, December 18-20, 2018 (MEPCON'2018)
33. Walid S. E. Abdellatif, Ali H. Kasem Alaboudy, **Ahmed M. Azmy** "Fault-Ride Through Capability Enhancement of DFIG-Based Wind Turbines by SFCL" 2018 Twentieth International Middle East Power Systems Conference (MEPCON), Cairo University, Cairo, Egypt, December 18-20, 2018 (MEPCON'2018)
34. Ismail A. Soliman, Hossam A. Abd el-Ghany, **Ahmed M. Azmy** "A Proposed Algorithm for Current Differential Protection of Delta Hexagonal Phase Shifting Transformer" 2018 Twentieth International Middle East Power Systems Conference (MEPCON), Cairo University, Cairo, Egypt, December 18-20, 2018 (MEPCON'2018)
35. Mohamed Sheba, Diaa-Eldin A Mansour and **Ahmed M. Azmy**, "Mitigating the Impact of Electric Vehicles Integration to DC Microgrids Through Using SMES", 2019 IEEE Conference on Power Electronics and Renewable Energy (CPERE) - IV. Renewable Energy Systems, Aswan, , October 23-25, 2019



36. Haytham Ibrahim, Doaa M Yehia and **Ahmed M. Azmy**, " Effect of Wind Energy Penetration Scenario on Power Quality and Power Losses of Distribution Networks", 2019 IEEE Conference on Power Electronics and Renewable Energy (CPERE) - IV. Renewable Energy Systems, Aswan, October 23-25, 2019
37. Mohamed Attia Saad, Hossam A. Abd El-ghany and **Ahmed M. Azmy**, "Technical Performance Enhancement of Distribution Systems via Optimal DG Deployment", 25th International Conference on Electricity Distribution, CIRED, Madrid, 3-6 June 2019, Paper No. 104, pp. 1-5
38. Abd-El Fattah Hamad, Hossam A. Abd El-ghany and **Ahmed M. Azmy**, " Optimal DG Allocation in LV Distribution Networks Considering Repairing Fault Periods", 25th International Conference on Electricity Distribution, CIRED, Madrid, 3-6 June 2019, Paper No. 627, pp. 1-5
39. Ismail A. Soliman, Hossam A. Abd El-Ghany and **Ahmed M. Azmy** "A Comprehensive Differential Protection Scheme for Delta Hexagonal Phase Angle Regulating Transformers" 2019 AEIT International Annual Conference, Firenze, Italy, 18-20 September, 2019
40. Hossam A. Abd El-Ghany, **Ahmed M. Azmy** and Ahmed Magdy Abeid, "A Robust Travelling-Wave Simultaneous Faults Location Considering Parameters Variations" 2019 AEIT International Annual Conference, Firenze, Italy, 18-20 September, 2019
41. Alaa Sh. Elghnam, Said M. Allam and **Ahmed M. Azmy**, "A Comprehensive Analysis and Control of DVR Operating Modes for Grid-Voltage Compensation", 2019 21st International Middle East Power Systems Conference (MEPCON), Tanta University, Cairo, Egypt, December 17-19, 2019 (MEPCON'2019)
42. Ahmed S. Abdelhafez, Mohamed K. El-Nemr and **Ahmed M. Azmy**, "AC Micro-Grid Flexible Simulation Utility for SCADA System Development", 2019 21st International Middle East Power Systems Conference (MEPCON), Tanta University, Cairo, Egypt, December 17-19, 2019 (MEPCON'2019)
43. Walid S. E. Abdellatif, Ali H. Kasem Alaboudy and **Ahmed M. Azmy**, "Comparison Between Outer Crowbar and RSFCL for LVRT Capability Enhancement of Wind Turbines Conversion System", 2019 21st International Middle East Power Systems Conference (MEPCON), Tanta University, Cairo, Egypt, December 17-19, 2019 (MEPCON'2019)
44. M.R. Elkadeem, **Ahmed M. Azmy**, Shaorong Wang, Eman G. Atiya, Zia Ullah and Samir M. Dawoud, "Optimal Design of Low-cost and Reliable Hybrid Renewable Energy System Considering Grid Blackouts", 2019 21st International Middle East Power Systems Conference (MEPCON), Tanta University, Cairo, Egypt, December 17-19, 2019 (MEPCON'2019)
45. Haytham Ibrahim, Doaa M.Yehia and **Ahmed M. Azmy**, "Power Quality Investigation of Distribution Networks with High Penetration of Solar Energy", 2019 21st International Middle East Power Systems Conference (MEPCON), Tanta University, Cairo, Egypt, December 17-19, 2019 (MEPCON'2019)
46. Ahmed Samir Emam, **Ahmed M. Azmy**, and Essam Eddin M. Rashad, "Egyptian Power System Optimal Allocation of STATCOM Devices based on Particles Swarm Optimization Technique", 2019 21st International Middle East Power Systems Conference (MEPCON), Tanta University, Cairo, Egypt, December 17-19, 2019 (MEPCON'2019)
47. Ahmed Samir Emam, **Ahmed M. Azmy**, and Essam Eddin M. Rashad, "Model Predictive Control-based Optimal STATCOM Operation for Mitigating Voltage Sag in Electric Networks Comprising Large Wind Farms", 2019 21st International Middle East Power Systems Conference (MEPCON), Tanta University, Cairo, Egypt, December 17-19, 2019 (MEPCON'2019)
48. Alaaeldien M.M.Hassan, Xu Yang, Ahmed I. M. Ali, Taiea. A. Ahmed and **Ahmed M. Azmy**, "A Study of Level- Shifted PWM Single-phase 11-Level Multilevel Inverter", 2019 21st International Middle East Power Systems Conference (MEPCON), Tanta University, Cairo, Egypt, December 17-19, 2019 (MEPCON'2019)



49. W. S. Sakr, Hossam A. Abd el-Ghany, Ragab A. EL-Sehiemy and **Ahmed M. Azmy**, "A Day-ahead Optimal RERs Scheduling Approach for Virtual Power Plants Considering Different Loading Conditions", 2019 21st International Middle East Power Systems Conference (MEPCON), Tanta University, Cairo, Egypt, December 17-19, 2019 (MEPCON'2019)
50. Mohamed M. Radwan, Ahmed E. Elgebaly, **Ahmed M. Azmy** and Gamal E. M. Ali, "Optimization-Based Design of a SVC Wide-Area Damping Controller for Power System Stability Enhancement", The 22nd International Middle East Power Systems Conference (MEPCON), Assiut University, December 14-16, 2021
51. Abd Elfattah Hammad, Hossam Abd El-Ghany and **Ahmed M. Azmy**, "Proposed Simplified Formula for Calculating Technical Losses in Radial Distribution Feeders Considering Repairing-Fault Periods", The 22nd International Middle East Power Systems Conference (MEPCON), Assiut University, December 14-16, 2021
52. Hossam A. Abd El-Ghany, **Ahmed M. Azmy** and Abeer A. Kholeif, "Adaptive Load Identification Considering Effects of Harmonics and Voltage Variations", The 22nd International Middle East Power Systems Conference (MEPCON), Assiut University, December 14-16, 2021

Book Chapters:

53. Essam M. Rashad, Hossam A. Abd el-Ghany, **Ahmed M. Azmy**, and Nagy I. Elkalashy, "Identifying Hosting Capacity of Renewable DG Units in Smart Grids Considering Protection Systems", Advances in Control Techniques for Smart Grid Applications, Springer, Singapore, https://doi.org/10.1007/978-981-16-9856-9_6
54. **Ahmed M. Azmy**, "Management of Distributed Generation for Smart Buildings", Advances in Control Techniques for Smart Grid Applications, Springer, Singapore, https://doi.org/10.1007/978-981-16-9856-9_7

PROFESSIONAL DEVELOPMENT

- Participating in the construction of the labs of electrical power and machines in the Faculty of Engineering, Tanta University (Tanta and Kafr El-Shikh cities)
- Consultant of many projects inside and outside the Tanta University
- Attending 14 training workshops through the national development project "Digital library" as a director of the automated library project in Tanta University including 14 libraries in 13 Faculties
- Attending 15 training workshops through the national development project "FLDP"
- Attending 8 training workshops through the national development project quality assurance and accreditation in Egypt "QAAP" as a peer reviewer
- Attending 2 training workshops through the national development project training of trainers in Egypt "TOT"
- A member in the management team of the QAAP project in Faculty of Engineering, Tanta University
- A member in the committee of developing the post-graduate bylaw
- **Co-chair of the 21st International Middle East Power Systems Conference (MEPCON), Tanta University, Cairo, Egypt, December 17-19, 2019 (MEPCON'2019)**



SERVICE ACTIVITIES (INTERNAL AND EXTERNAL)

- **Director** of the automated library project in Tanta University (one of the main projects of education development in Egypt, 2006~2021
- **Director** of the quality assurance unit, Faculty of Engineering, Tanta University, Egypt, 2007~2013
- **Executive Director** of the continuous improvement and qualification for accreditation program CIQAP, Faculty of Engineering, Tanta University, Egypt, 2009~2012
- **Head of the department** of Electrical Power and Machines Engineering, Faculty of Engineering, Tanta University, Egypt, Oct. 2011~ Oct. 2014
- **Vice Dean** for Community Service and Environment Development, 2016~ 2019
- **Head of the department** of Electrical Power and Machines Engineering, Faculty of Engineering, Tanta University, Egypt, Oct. 2020~ present
- **Supervisor** of 9 approved Ph.D. theses
- **Supervisor** of 32 approved M.Sc. theses