Amr Mohamed Ibrahim Hassan

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Summary

Amr. M. Ibrahim received the B.Sc., M.Sc., and the Ph.D. degrees in electrical engineering from Ain Shams University, Cairo, Egypt. He is a Professor in the Department of Electric Power and Machines, Ain Shams University. He has supervised 10+ Ph.D. and M.Sc. thesis in the field of electrical power system. He has taught tens of undergraduate and graduate courses in this field. He has authored and co-authored more than 40 papers. He is interested in many research areas such as: distributed generation, control engineering, renewable Energy, power system optimization problems and power system protection.

Personal Data

Nationality	:	Egyptian.
Date of Birth	:	15 November 1975
Military Service	:	Completed.
Marital status	:	Married.
Driving license	:	Valid.

Qualifications

Professor (from Standing Committee for Promotions of Power Engineering and Electrical Machines Department, Egypt) **2023**

Associate Professor (from Standing Committee for Promotions of Power Engineering and Electrical Machines Department, Egypt) **2018**

Ph.D , Electrical Power and Machines Engineering
Faculty of Engineering- Ain Shams University. **2008**

Thesis point: *Protection for Flexible Alternating-Current Transmission Systems.*

Previous education:

Master of Science, Electrical Power and Machines Engineering
Faculty of Engineering- Ain Shams University. **2003**

Thesis point: Intelligent Adaptive Distance Protection for Power Networks.

Bachelor of Science, Electrical Power and Machines Engineering
Faculty of Engineering- Ain Shams University.

Graduation date : **1998**
Graduation grade : **Very good with distinct honor.**
Graduation Project : **Electrical power distribution in residential and industrial areas.**
Project Grade : **Excellent.**

Experience

Electrical engineer: ABB (Industrial Systems) 1998: 1999

Consultant in electrical work for a ceramic factory 1999:2001

Teaching assistant: Faculty of Engineering –Ain Shams University 1998: 2008

Teaching assistant (part time): Al-Obour Academy 2001: 2002

Teaching assistant (part time): Arab Academy for Science and Technology and Maritime Transport 2002: 2006

Assistant Professor (part time): Arab Academy for Science and Technology and Maritime Transport September 2008: 2015

Assistant Professor (part time): New Cairo High Institute September 2008: 2009

Assistant Professor (part time): Misr International University September 2010: 2013

Assistant Professor: Faculty of Engineering at Egyptian Chinese University (ECU) January 2015: 2018
Associate Professor: Egyptian Chinese University September 2018: 2020
Head of Energy and Renewable energy engineering department at Faculty of Engineering at ECU September 2017 – 2019

Vice Dean for Environmental affairs and community development at Faculty of Engineering at ECU September 2020: now

Board member at the Higher Institute of Engineering and Technology in New Cairo September 2023 : now

Skills

Languages : Arabic…Mother tongue
English…excellent (spoken and written).
Programming Languages : Basic , C , Assembly and Matlab.
Software Utilities : MSWord , Excel and Power point.
Simulation Software : EMTDC.

Teaching Materials

1- Energy Conversion
2- Electric Circuits
3- Electrical Power and Machines
4- Measurement Instruments
5- DC Machines
6- Power System Protection

7- Transmission Lines; Design and performance
8- Introduction to Marketing

Supervision on the following projects

- Application of Artificial Intelligence in Compensated Transmission Line Protection
- Artificial Intelligence Applications in Power system Protection
- Dynamic Behavior of DFIG-based Wind Turbines during Severe Symmetrical Voltage Dips
- Hybrid wavelet -Artificial Intelligence based approach for transmission line outage detection
- Artificial Intelligence Applications in Protection of Power Networks with FACTS

List of Publications

1] Hilmy Awad, **Amr M. Ibrahim**, Michele De Santis, and Ehab H. E. Bayoumi, "Unity Power Factor Operation in Microgrid Applications Using Fuzzy Type 2 Nested Controllers", **Applied Sciences Journal**, Published Online, 2023. https://doi.org/10.3390/app13095537

2] Hilmy Awad, Ehab H. E. Bayoumi, Hisham M. Soliman, and **Amr M. Ibrahim,** "Invariant-Set Design of Robust Switched Trackers for Bidirectional Power Converters in Hybrid Microgrids", **Ain Shams Engineering Journal (Elsevier),** Published Online, 2023. https://doi.org/10.1016/j.asej.2023.102123

3] Ahmed Abd El Baset Abd El Halim, Ehab Hassan Eid Bayoumi, Walid El-Khattam and **Amr Mohamed Ibrahim,** "Effect of Fast Charging on Lithium-Ion Batteries: A Review", **SAE International Journal of Electrified Vehicles**, Vol. 12, Issue 14-12-03-0018, 2023.

4] Ahmed Abd El Baset Abd El Halim, Ehab Hassan Eid Bayoumi, Walid El-Khattam and **Amr Mohamed Ibrahim**, "Electric vehicles: a review of their components and technologies", **International Journal of Power Electronics and Drive Systems,** Vol. 13, No. 4, pp. 2041-2061, 2022. **DOI:** 10.11591/ijpeds.v13.i4.pp2041-2061

5] Hisham M. Soliman, Ehab H. E. Bayoumi, Farag Ali El-Sheikhi, and **Amr M. Ibrahim,** "Ellipsoidal-Set Design of the Decentralized Plug and Play Control for Direct Current Microgrids", **IEEE Access Journal**, Vol. 9, pp. 96898 – 96911, 2021. **DOI:** 10.1109/ACCESS.2021.3094896

6] Mohamed Z. Kamh, Mohamed R. Younis**,** and **Amr M. Ibrahim,** "Globally Optimal Phasor Measurement Unit Placement Using Branch and Bound Algorithm", **Ain Shams Engineering Journal (Elsevier),** Vol. 12, Issue 3, pp. 2789 – 2798, 2021. https://doi.org/10.1016/j.asej.2021.03.001

7] Hazem F. Feshara, **Amr M. Ibrahim**, Noha H. El-Amary, and Soliman M. Sharaf, "Performance Evaluation of Variable Structure Controller Based on Sliding Mode Technique for a Grid-Connected Solar Network", **IEEE Access Journal**, Vol. 7, pp. 84349 – 84359, 2019. **DOI:** 10.1109/ACCESS.2019.2924592

8] **Amr M. Ibrahim**, Sanaa A. Gawish, Noha H. El-Amary, and Soliman M. Sharaf, "STATCOM Controller Design and Experimental Investigation for Wind Generation System", **IEEE Access Journal,** Vol. 7**,** pp. 150453 – 150461, 2019. **DOI:** 10.1109/ACCESS.2019.2946141

9] Hazem H. Mostafa, **Amr M. Ibrahim,** and Wagdi R. Anis, "A Performance Analysis of a Hybrid Golden Section Search Methodology and a Nature-Inspired Algorithm for MPPT in a Solar PV System", **Archives of Electrical Engineering journal**, Vol. 68, No. 3, pp. 611– 627, 2019. **DOI:** 10.24425/aee.2019.129345

10] Hazem H. Mostafa, **Amr M. Ibrahim**, "Design and Analysis of DC-DC Converters with MPPT Controller based on Salp Swarm Algorithm for a Grid-Connected PV System", **21st International Middle East Power Systems Conference (MEPCON)**, Tanta University, Egypt, 17-19 December 2019. **DOI:** 10.1109/MEPCON47431.2019.9008173

11] Hazem H. Mostafa, **Amr M. Ibrahim**, "Performance Investigation for Tracking GMPP of Photovoltaic System Under Partial Shading Condition Using Coyote Algorithm", **21st International Middle East Power Systems Conference (MEPCON),** Tanta University, Egypt, 17-19 December 2019. **DOI:** 10.1109/MEPCON47431.2019.9008012

12] Yousef Y. Zakaria, Noha H. El-Amary, R. A. Swief and **Amr Ibrahim**, "Optimal Distributed Generation Placement and Sizing to Reduce Active Power Loss Using GA and ACO Algorith", **Journal of Al Azhar University Engineering Sector,** Vol. 14, No. 52, pp. 909-925, 2019.

13] **Amr M. Ibrahim**, Rania A. Swief, "Comparison of modern heuristic algorithms for loss reduction in power distribution network equipped with renewable energy resources", **Ain Shams Engineering Journal**, Vol. 9, Issue 4, pp. 3347-3358, 2018. https://doi.org/10.1016/j.asej.2017.11.003

14] **Amr M. Ibrahim**, Noha H. El-Amary, "Particle Swarm Optimization trained recurrent neural network for voltage instability prediction", **Journal of Electrical Systems and Information Technology**, Vol. 5, Issue 2, pp. 216-228, 2018. https://doi.org/10.1016/j.jesit.2017.05.001

15] **Amr M. Ibrahim,** "Performance comparison between optimal controller based on system identification and fuzzy logic controller for a boiler-turbine unit", **Nineteenth International Middle East Power Systems Conference (MEPCON),** Cairo, Egypt, 19-21 December 2017. DOI: 10.1109/MEPCON.2017.8301162

16] **Amr M. Ibrahim,** "Modeling of energy market prices using truncated distribution functions based on maximum likelihood parametric estimator", **Nineteenth International Middle East Power Systems Conference (MEPCON),** Cairo, Egypt, 19-21 December 2017. DOI: 10.1109/MEPCON.2017.8301213

17] **Amr M. Ibrahim**, M. Ezzat and Almoataz Y. Abdelaziz, "Performance comparison of classification methods for line outage detection", **Eighteenth International Middle East Power Systems Conference (MEPCON),** Cairo, Egypt, 27-29 December 2016. DOI: 10.1109/MEPCON.2016.7836867

18] **A. M. Ibrahim**, W. El-Khattam, M. ElMesallamy and H. A. Talaat, "Adaptive protection coordination scheme for distribution network with distributed generation using ABC," **Journal of Electrical Systems and Information Technology (Elsevier)**, Vol. 3, Issue 2, pp. 320–332, 2016. https://doi.org/10.1016/j.jesit.2015.11.012

19] Ahmed K. Ali, Noha H. El-Amary, **A. M. Ibrahim** and Said F. Mekhamer, "Voltage instability detector based on Phasor Measurement Units using artificial neural network", **Workshop on Engineering Applications - International Congress on Engineering (WEA),** Bogota, Colombia, 28-30 October 2015. DOI: 10.1109/WEA.2015.7370151

20] M. F. Abdelkarim, L. S. Nasrat, S. M. Elkhodary, A. M. Soliman, **A. M. Hassan** and S. H. Mansour, "Volume Resistivity and Mechanical Behavior of Epoxy Nanocomposite Materials", **Engineering, Technology & Applied Science Research Journal,** Vol. 5, Issue 2, pp. 775-780, 2015. https://doi.org/10.48084/etasr.536

21] M. F. Abdelkarim, L. S. Nasrat, S. M. Elkhodary, A. M. Soliman, **A. M. Hassan** and S. H. Mansour, "Effect of Nano Fillers on Electrical Performance of Epoxy Composite Insulators", **International Journal of Engineering and Technical Research,** Vol. 2, Issue 7, pp. 60 – 65, 2014.

22] H. E. Talaat, N. M. Bastawy and **A. M. Ibrahim,** "Modern Approaches for Protection of Transmission Line Compensated With UPFC", **16th International Middle- East Power Systems Conference (MEPCON'2014),** Ain Shams University, Cairo, Egypt, 2014.

23] Hossam Talaat, **Amr Ibrahim** and Khaled Abd Elwahab, "Smart Current Differential Protection for Transmission Lines", **16th International Middle- East Power Systems Conference (MEPCON'2014),** Ain Shams University, Cairo, Egypt, 2014.

24] AY Abdelaziz, **Amr M Ibrahim,** "A Hybrid Wavelet-ANN-Based Protection Scheme for FACTS Compensated Transmission Lines", **International Journal of Intelligent Systems and Applications**, Vol. 3, pp. 23-31, 2013.

25] AY Abdelaziz, **Amr M Ibrahim,** "Protection of Thyristor Controlled Series Compensated Transmission Lines Using Support Vector Machine", **International Journal of Intelligent Systems and Applications**, Vol. 5, pp. 11-18, 2013.

26] **Amr Hassan**, Hossam Talaat Mostafa El-Mesallamy and Waild El-Khattam, "Coordination of Directional Overcurrent Relays Using Artificial Bee Colony", 22nd **International Conference on Electricity Distribution- CIRED'2013**, Stockholm, Sweden, 2013.

27] Almoataz Y Abdelaziz, **Amr M Ibrahim** and Zeinab G Hasan, "Transient stability analysis with equal-area criterion for out of step detection using phasor measurement units", **International Journal of Engineering, Science and Technology,** Vol. 5, Issue 1, pp. 1-17, 2013.

28] Almoataz Y Abdelaziz, **Amr M Ibrahim** and Zeinab G Hasan, "Phasor Measurement Units for Out-of-Step Detection of A Multi-Machine System Using System Reduction", **Journal of Science and Engineering,** Vol. 1, Issue 2, pp. 103-120, 2013.

29] AY Abdelaziz, **Amr M Ibrahim** and Reham H Salem, "Power System Observability with Minimum Phasor Measurement Units Placement", **International Journal of Engineering, Science and Technology,** Vol. 5, Issue 3, pp. 1-18, 2013.

30] Hossam Eldin Abdallah Talaat, Noha M Bastawy and **Amr M Ibrahim**, "Fault Detection and Classification Based on DWT and Modern Approaches for TL Compensated with FACTS", **American Journal of Electrical Power and Energy Systems,** Vol. 2, No. 6, pp. 149-155, 2013.

31] H Abdelaziz, **A Ibrahim**, M Asim and A Abdel Razek, "Dynamic Behavior of DFIG Based Wind Turbines during Symmetrical Voltage Dips", **Electrical and Electronics Engineering: An International Journal,** Vol. 2, Issue 2, pp. 47-55, 2013.

32] Almoataz Y Abdelaziz, **Amr M Ibrahim** and Reham H Salem, "Optimal PMU placement for complete observability using heuristic methods", **Proceedings of the 15th International Middle East Power Systems Conference,** Alexandria, Egypt, pp. 23-25, 2012.

33] Almoataz Y Abdelaziz, **Amr M Ibrahim**, Ahmed M Asim, Ahmed H Abdel Razek and YG Hegazy, "Investigation of electrical dynamics of DFIG-based wind turbines during severe symmetrical grid voltage dips", **International Conference on Engineering and Technology (ICET)**, Cairo, Egypt, 2012.
DOI: 10.1109/ICEngTechnol.2012.6396166

34] Almoataz Y. Abdelaziz, **Amr M. Ibrahim and** Zeinab G. Hasan, "Phasor Measurement Units for Out of Step Detection", **The 8th International Conference on Electrical Engineering ICEENG-8**, Military Technical College, Cairo, Egypt, 2012.
DOI: 10.21608/ICEENG.2012.30796

35] **A. M. Ibrahim** and A. Y. Abdelaziz, "Protection Schemes Based on Support Vector Machine for Thyristor Controlled Series Compensated Transmission Line", **The Fifteenth International Middle East Power Systems Conference**, Alexandria, Egypt, 2012.

36] L. S. Nasrat and **A. M. Ibrahim**, "Epoxy Insulators' lifetime Prediction Implementing Neural Network Technique", **American Journal of Engineering and Applied Sciences**, Vol. 5, Issue 2, pp. 157-162, 2012.

37] AY Abdelaziz and **Amr M Ibrahim**, "Classification of transient phenomena in power transformers based on a wavelet-ANN approach", **The Online Journal on Electronics and Electrical Engineering,** Vol. 3, No. 4, pp. 462-467, 2012.

38] **AM Ibrahim**, AY Abdelaziz, SF Mekhamer and M Ramadan, "A Transmission Line Fault Classification Approach by Support Vector Machines", **Journal of Energy and Power Engineering,** Vol. 5, Issue 3, pp. 268-274, 2011.

39] **AM Ibrahim**, MI Marei, SF Mekhamer and MM Mansour, "An Artificial Neural Network Based Protection Approach Using Total Least Square Estimation of Signal Parameters via the Rotational Invariance Technique for Flexible AC Transmission System Compensated Transmission Lines", **Electric Power Components and Systems Journal**, Vol. 39, Issue 1, pp. 64-79, 2011.
https://doi.org/10.1080/15325008.2010.513363

40] M. Ramadan and E.F. El-Saadany S. F. Mekhamer, A. Y. Abdelaziz and **A. M. Ibrahim,** "Fault Classification of Series-Compensated Transmission Lines Using Support Vector Machine", **Proceedings of 2011 Power Engineering Society IEEE General Meeting**, Detroit, Michigan, USA, 2011.

41] AY Abdelaziz, SF Mekhamer, **AM Ibrahim** and M Ramadan, "Transmission line shunt faults detection and classification using support vector machine", **13th Middle East Power Systems Conference (MEPCON'2009)**, Assuit University, Egypt, 20-23 December 2009.

42] S.F. Mekhamer, **A.M. Ibrahim**, M.I. Marei and M.M. Mansour, "ANN Based Approach Using TLS-ESPRIT for Protection of Series Compensated (TCSC) Transmission Lines", **Scientific Bulletin, Faculty of Engineering, Ain Shams University,** 2008.

43] AY Abdelaziz, **AM Ibrahim**, MM Mansour and HE Talaat, "Modern approaches for protection of series compensated transmission lines", **Electric Power Systems Research Journal**, Vol. 75, Issue 1, pp. 85-98, 2005.
https://doi.org/10.1016/j.epsr.2004.10.016

44] M. M. Mansour, H. E. Talaat, A. Y. Abdelaziz, Y. G. Mostafa and **A. M. Ibrahim,** "Protection of Series Compensated Transmission Lines Using Travelling Wave", **Scientific Bulletin, Faculty of Engineering, Ain Shams University, 2004.**

45] M. M. Mansour and H. E. Talaat A. Y. Abdelaziz, Y. G. Mostafa and **A. M. Ibrahim,** "A Neural Network Based Approach for Protection of Series Compensated Transmission Lines", **The Ninth International Middle-East Power Systems Conference MEPCON'2003**, Menofia University, Shebin El-Kom, Egypt, 2003.