

CURRICULUM VITAE

Personal Data

Name: Ahmed Mahmoud Ali Agwa

Date of Birth: December 15, 1979

Marital Status: Married

Religion: Muslim

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Qualifications

Dr. Ahmed received the B.Sc. degree in electrical engineering (Electrical Power & Machines) from Al-Azhar University, Cairo, Egypt, in 2003.

Dr. Ahmed received the M.Sc. degree in Electrical Power & Machines Engineering from Al-Azhar University, Cairo, Egypt, in 2009.

Thesis Title: “New Control Methods of Nonlinear and Time-Varying Systems”

Dr. Ahmed received the Ph.D. in Electrical Power & Machines Engineering from Al-Azhar University, Cairo, Egypt, in 2012.

Thesis Title: “Using Wind Energy and Fuel Cells to Construct an Autonomous Energy System”

Dr. Ahmed has more than 13 years’ experience in academic work. He has performed some electrical designs of strategic plans for electricity ministry in new cities.

Academic Experience

- Demonstrator in the Department of electrical engineering at Faculty of engineering, Al-Azhar University, Cairo, Egypt. (2004-2009)
- Assistant lecturer in the Department of electrical engineering at Faculty of Engineering, Al-Azhar University, Cairo, Egypt. (2009-2012)

- Assistant professor in the Department of electrical engineering at Faculty of Engineering, Al-Azhar University, Cairo, Egypt. (2012-2017)
- Associate professor in the Department of electrical engineering at Faculty of Engineering, Al-Azhar University, Cairo, Egypt. (since 2019)
- Supervisor postgraduate's students (4 M.Sc. students and 3 Ph.D. students).
- Currently associate professor in the Department of electrical engineering at Faculty of Engineering, Northern Border University, Arar, Saudi Arabia. (since 2018)
- Dr. Ahmed research interests include renewable energy and applications of artificial intelligence in electrical engineering.

Personal Skills

English Language: Fluent spoken and written.

Computer skills: programmer using MATLAB, Visual BASIC, C++, FORTRAN and AutoCAD.

Teaching Experience

● Al-Azhar University Cairo, Egypt

Taught the following courses:

1. Electrical Power Engineering.
2. Computer Programming.
3. Numerical Analysis.
4. Electromechanical Energy Conversion.
5. Electric Circuits.
6. Automatic Control.
7. Digital Control.
8. Electrical Machines.
9. Engineering Mathematics.

● Higher Technological Institute, 10th of Ramadan city, Egypt.

Taught the following courses:

1. Electrical Circuits.
2. Computer Programming.

● NBU, Arar, Saudi Arabia

Taught the following courses:

1. Electrical Circuits.
2. Electrical Measurements.

3. Electrical Machines.
4. Protection of Power Systems.
5. Transmission and Distribution of Electrical Energy.

List of Publications

1.	A. M. Agwa and A. A. El-Fergany, "Protective Relaying Coordination in Power Systems Comprising Renewable Sources: Challenges and Future Insights," <i>Sustainability</i> , vol. 15, no. 9, p. 7279, Apr. 2023, doi: 10.3390/su15097279
2.	Ahmed M. Agwa , Yehya I. Mesalam, Mohamed H. Hassan, Mahmoud A. El-Dabah, Anas M. El-Sherif, Salah Kamel, "Improved Gradient-Based Optimizer for Modelling Thermal and Hydropower Plants," <i>International Transactions on Electrical Energy Systems</i> , vol. 2022, 3990226, doi: 10.1155/2022/3990226.
3.	A. M. Agwa , S. K. Elsayed, and E. E. Elattar, "Extracting the Parameters of Three-Diode Model of Photovoltaics Using Barnacles Mating Optimizer," <i>Symmetry</i> , vol. 14, no. 8, p. 1569, Jul. 2022, doi: 10.3390/sym14081569.
4.	Ahmed M. Agwa , Mohamed Abdeen, Shaaban M. Shaaban, "Optimal FOPID Controllers for LFC Including Renewables by Bald Eagle Optimizer," <i>Computers, Materials & Continua</i> , vol. 73, no. 3, 2022, doi: 10.32604/cmc.2022.031580.
5.	A. H. A. Elkasem, M. Khamies, M. H. Hassan, A. M. Agwa , and S. Kamel, "Optimal Design of TD-TI Controller for LFC Considering Renewables Penetration by an Improved Chaos Game Optimizer," <i>Fractal and Fractional</i> , vol. 6, no. 4, p. 220, Apr. 2022, doi: 10.3390/fractalfract6040220.
6.	A. Ramadan, S. Kamel, I. Hamdan, and A. M. Agwa , "A Novel Intelligent ANFIS for the Dynamic Model of Photovoltaic Systems," <i>Mathematics</i> , vol. 10, no. 8, p. 1286, Apr. 2022, doi: 10.3390/math10081286.
7.	F. Daqaq, S. Kamel, M. Ouassaid, R. Ellaia, and A. M. Agwa , "Non-Dominated Sorting Manta Ray Foraging Optimization for Multi-Objective Optimal Power Flow with Wind/Solar/Small- Hydro Energy Sources," <i>Fractal and Fractional</i> , vol. 6, no. 4, p. 194, Mar. 2022, doi: 10.3390/fractalfract6040194.
8.	Mohamed F. Kotb, Attia A. El-Fergany, Eid A. Gouda, Ahmed M. Agwa , "Dynamic Performance Evaluation of Photovoltaic Three-Diode Model-Based Rung-Kutta Optimizer," <i>IEEE Access</i> , vol. 10, pp. 38309-38323, 2022, oi: 10.1109/ACCESS.2022.3165035.
9.	Mohamed Farhat, Salah Kamel, Ahmed M. Atallah, Mohamed H. Hassan, Ahmed M. Agwa , "ESMA-OPF: Enhanced slime mould algorithm for solving optimal power flow problem," <i>Sustainability</i> , vol. 14, no. 4, 2022. doi.org/10.3390/su14042305.

10.	Ashraf Ramadan, Mohamed Ebeed, Salah Kamel, Ahmed M. Agwa , Marcos Tostado-Véliz, "The probabilistic optimal integration of renewable distributed generators considering the time-varying load based on an artificial gorilla troops optimizer," <i>Energies</i> , vol. 15, no. 4, 2022. doi.org/10.3390/en15041302.
11.	Ephraim B. Agyekum, Christabel Nutakor, Ahmed M. Agwa , Salah Kamel, "A critical review of renewable hydrogen production methods: factors affecting their scale-up and its role in future energy generatio," <i>Membranes</i> , vol. 12, no. 2, 2022. doi.org/10.3390/membranes12020173.
12.	Ahmed Agwa , Salah Elsayed, Mahrous Ahmed, "Design of optimal controllers for automatic voltage regulation using Archimedes optimizer," <i>Intelligent Automation & Soft Computing</i> , vol. 31, no. 2, 2021. doi:10.32604/iasc.2022.019887.
13.	Salah K. Elsayed, Ahmed M. Agwa , Mahmoud A. El-Dabbah, Ehab E. Elattar, "Slime mold optimizer for transformer parameters identification with experimental validation," <i>Intelligent Automation & Soft Computing</i> , vol. 28, no. 3, 2021. doi:10.32604/iasc.2021.016464.
14.	Salah K. Elsayed, Ahmed M. Agwa , Ehab E. Elattar, Attia A. El-Fergany, "Steady-state modelling of PEM fuel cells using gradient-based optimizer," <i>Dyna</i> , vol. 96, no. 5, 2021. doi.org/10.6036/10099
15.	Ahmed M. Agwa , Shaaban M. Shaaban, "Siting hydropower plant by rough set and combinative distance-based assessment," <i>Przegląd Elektrotechniczny</i> , vol. 97, no. 3, 2021. doi:10.15199/48.2021.03.03.
16.	Ahmed M. Agwa , "Equilibrium optimization algorithm for automatic generation control of interconnected power systems," <i>Przegląd Elektrotechniczny</i> , vol. 96, no. 9, 2020. doi:10.15199/48.2020.09.30.
17.	Ahmed M. Agwa , "Interior search optimization algorithm for modeling power curve of wind turbine," <i>International Journal of Renewable Energy Research</i> , vol. 10, no. 3, 2020.
18.	Ahmed M. Agwa , Attia A. El-Fergany, Hady A. Maksoud, "Electrical characterization of photovoltaic modules using farmland fertility optimizer," <i>Energy Conversion and Management</i> , vol. 217, 2020. doi:10.1016/j.enconman.2020.112990.
19.	Ahmed Agwa , Zaky Matter, Ezzat Eisawy, Hamdy Hassan, "Electrical grid reliability assessment by fault tree analysis," <i>Indonesian Journal of Electrical Engineering and Computer Science</i> , vol. 17, no. 3, 2020. doi: 10.11591/ijeecs.v17.i3.pp1127-1134.
20.	Attia A. El-Fergany, Hany M. Hasanien, Ahmed M. Agwa , "Semi-empirical PEM fuel cells model using whale optimization algorithm," <i>Energy Conversion and Management</i> , vol. 201, 2019. doi:10.1016/j.enconman.2019.112197.
21.	Ahmed M. Agwa , Attia A. El-Fergany, Gamal M. Sarhan, "Steady-state modeling of fuel cells based on atom search optimizer," <i>Energies</i> , vol. 12, no. 10, 2019. doi:10.3390/en12101884.
22.	A. M. Agwa , H. M. Hassan, "Onsite power system risk assessment for nuclear power plants considering components ageing, <i>Progress in Nuclear Energy</i> , vol. 110, 2019. doi.org/10.1016/j.pnucene.2018.10.020.

23.	A. M. Agwa , E. A. Eisawy, H. M. Hassan, "Assessment of offsite power reliability for nuclear power plants by fault tree analysis," <i>Journal of Al-Azhar University Engineering Sector (JAUES)</i> , vol. 14, no. 50, Egypt, 2019.
24.	A. M. Agwa , N. E. Ghanem, "Observability analysis and state estimation approach of power system," <i>Journal of Al-Azhar University Engineering Sector (JAUES)</i> , vol. 13, no. 46, Egypt, 2018.
25.	A. M. Agwa , "Steady state analysis of self-excited induction generator for isolated system," <i>International Journal of Trend in Research and Development (IJTRD)</i> , vol. 4, no. 4, 2017.
26.	A. M. Agwa , I. Y. Mahmoud, "Photovoltaic maximum power point tracking by artificial neural networks", <i>Journal of Multidisciplinary Engineering Science and Technology (JMEST)</i> , vol. 4, no. 1, 2017.
27.	A. M. Agwa , E. A. Eisawy, H. M. Hassan, "Loss of offsite power probability assessment using fault tree analysis", <i>International Journal of Scientific & Engineering Research (IJSER)</i> , vol. 7, no. 10, 2016.
28.	A. Mabruok Khafagi, A. Mahmuod Agwa , M. Ibrahim El-Sayed, "Loss reduction in electrical distribution systems using artificial intelligence", <i>Nature and Science Journal</i> , vol. 4, no. 4, 2014.
29.	A. M. Agwa , "Performance analysis of a stand-alone photovoltaic-battery power system", <i>Journal of Al-Azhar University Engineering Sector (JAUES)</i> , vol. 9, no. 32, Egypt, 2014.
30.	A. M. Agwa , S. A. Nagy, "Using wind energy and batteries to construct an autonomous power system", <i>Journal of Al-Azhar University Engineering Sector (JAUES)</i> , vol. 7, no. 10, Egypt, 2012.
31.	A. M. Agwa , S. A. Nagy, "Using wind energy and fuel cells to construct an autonomous energy system", <i>Journal of American Science</i> , vol. 7, no. 10, 2011.