



Curriculum Vitae

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OBJECTIVE

This will develop my knowledge in the fields of power electronics applications, electric machines and drives, energy management, renewable energy resources, specially, photovoltaic, wind and fuel cell energy applications, and optimization of hybrid renewable energy sources and storage systems. Moreover, it will be very valuable to my experience that helps me in my research studies.

PERSONAL INFORMATION

Date of Birth: 1/1/1979

Gender: Male

Marital Status: Married

Religion: Muslim

Nationality: Egyptian

Place of Birth: Bani Helal, Elmaragha, Sohag, Egypt.

Military Service: Exempted

EDUCATION

B. Sc. in Electrical Engineering (Power and Machines)

Faculty of Engineering, Assiut University, Egypt

2001 **Graduation Degree:** Very Good with honor degree.

Graduation Project: Detection of weak points in power system

Project Degree: Excellent

2013 **Master's degree** in Renewable Energy Resources Engineering

Master Topic: A Hybrid Fuel Cell-Battery Generation for Electric Vehicles.

2016 **PhD Degree in Renewable Energy Resources Engineering.**

PhD Topic: Optimum Design of Grid-Independent Hybrid Renewable Electrical Power Generation System at Different Load Distribution Scenarios

Sept.,2015 to **Researcher student at Tokyo Institute of Technology (TIT),**
March 2016 **Tokyo, Japan**

ACADEMIC POSITIONS

Demonstrator at Assiut University, Faculty of Engineering, Electrical Engineering Department.

2011

Master student at Faculty of Engineering Assiut University

2011-2013

Assistant Lecturer at Faculty of Engineering, Assiut University

April 2013-Sep.2013

PhD student at Egypt- Japan University of Science and Technology (E-JUST)

2013 - 2016

Assistant Professor at Faculty of Engineering, Assiut University

2016 -Oct. 2021

Associate Professor at Faculty of Engineering, Assiut University

Nov. 2021 till now

TEACHING EXPERIENCE

Teaching the following subjects at Assiut University – Faculty of Engineering:

- **Power Electronics** (power diodes - diode rectifier circuits – thyristor - GTO thyristor – power transistor - controlled rectifier circuit - AC voltage controllers - choppers – inverters – UPS – static switches)
- **Electric Machines-1** (DC motor and generator, AC single/three phase transformer, speed control and load characteristics of DC motor.... etc.)
- **Electric Machines-3** (special machines; single-phase induction motor, 2-Phase servomotor, 3-phase reluctance motor, stepper motor and linear machines ...etc.)
- **PV Energy Technologies**
- **Power System Analysis**
- **High Voltage Engineering**
- **Electric Power Distribution Systems**
- **Power Electronics and Applications for Renewable Energy**
- **Electric Machines-2** (3- phase induction and synchronous machines; construction, principle of operation, circle diagram, starting, and speed control.... etc.)
- **Electric Machines Design**
- **Electric Circuit Theory**
- **Electrical Testing (A)**
- **Electrical Testing (B)**
- **Power System Quality**
- **Power System Protection**
- **Power System Management and Electricity Markets**
- **Electrical Engineering**
- **Computer/Introduction on MATLAB**
- **Seminar**

RESEARCH SPECIALISTS

1. **Power Electronics:**
 - Design of single and three phase inverter/converter
 - Control techniques of three phase inverter such as SPWM, sliding mode, vector space, ANN.... etc.
 - Design of buck, boost, and buck/boost DC/DC converters.
 - Application of power electronics in renewable energy systems.
2. **Electric Machines:**
 - Machine drives.
 - Double feed induction generator in wind energy conversion system.
 - Permanent magnet synchronous/Brushless DC motors for electric vehicles.
 - Linear permanent magnet synchronous generator in wave energy conversion system.
3. **Renewable Energy Systems:**
 - Effect of dust and temperature on the performance of PV module.
 - Utilization of Nano- materials for coating the PV module.
 - Optimal sizing and energy management of hybrid renewable power generation systems.
 - Solar water pumping system.
 - Smart irrigation system using internet of thinks (IoT).
 - Floating and canal top PV system.
 - Green hydrogen; generation, storage, and transportation.
 - Electric, fuel cell and hybrid-electric vehicles

PROJECTS

- **Smart Monitoring System for Distribution Power Grid Project**

I was a member of funded project of "**Smart Monitoring System for Distribution Power Grid**" which based on installation of monitoring system for our university distribution network via implementation of Phasor Measurement Units (PMUs) and communication network to study and analysis the data collected from the system, which leads to improving and developing our university distribution network.

- **Korea-tech and Assiut University Co-project**

Member of Equipment and Facility Improvement Committee (EFIC)

Responsibility:

1. Setup the manual with the terms and conditions for the equipment and facility improvement.
2. Check the location for the lab.
3. Setting up a manual for the maintenance of the equipment and facility including nominating responsible participant professor and maintenance plan.
4. Check the current situation of the labs.
5. Purchasing plan for the equipment and facility.
6. Request for Three quotations to the public.
7. Select one quotation & select the supplier.
8. Make a contract paper and review and finalize contract's terms and conditions.
9. Delivery and installation of the equipment and material.
10. Inspection for equipment and facility improvement.

- **Currently submitted project:**

A proposal of project titled “Stand Alone Green Hydrogen Generation and Storage for a House Electric and Thermal Use” is submitted to **Academy of Scientific Research and Technology (ASRT)**. My role in the project will be the Co-PI. The expected budget of the project is about 3 million EGP.

- **Student Graduate Projects**

- ✓ Optimal Design of Hybrid Renewable Power Generation System for Islanded Areas in Egypt (2017/2018).
- ✓ Design of Generation and Distribution Network for Isolated Community in Hadabit Assiut Area Using Renewable Energy Resources (2018/2019).
- ✓ Optimal Design of Generation and Distribution Network for Electrical Power and Freshwater Based on Renewable Energy Resources: A Case Study of a Tourist Village in North Coast (2019/2020).
- ✓ Design and Optimization of Solar Pump System for Irrigation in Egypt (2020/2021). **This project is funded from Academy of Scientific Research and Technology (ASRT).**

PREVIOUS WORK EXPERIENCE

- September 1, 2015, to February 29, 2016: **Ph.D. visiting researcher at Tokyo Institute of Technology (TIT), Tokyo, Japan.**
 - **Name and address of employer:** Prof. Shinichi Ookawara, Ookawara Lab, Dept of Chemical Science and Engineering, Tokyo Institute of Technology, Tokyo, Japan.
<http://www.chemeng.titech.ac.jp/~labokawa/index-e.html>
 - **Research activities:** Renewable energy and energy management engineering studies. Study the optimal hybridization of PV/wind power generation system using the PSIM software package which was available in the Prof. Ookawara Lab at TIT. Conducting a regular weekly meeting in the Lab. Scientific co-operation among the members of the Lab.
 - **Social activities:** Sharing on the week-end activities in the Tokyo International Exchange Center (TIEC) such as photography of Koto city news, workshop for making Dorayaki and Shiratama, Japanese Traditional Entertainment class "RAKUGO-show", International Junior Mini Soccer event, Bus tour to Yokohama and Visiting Tsurumi Incineration Factory / Nissan Yokohama Factory, Japanese traditional culture class "NOH", The 37th TIEC Cross-Cultural Seminar, Singing Contest at "Love Our Home" event, The Global Understanding workshop, Study Tour, The 50th TIEC Research and Presentation, bus tour for visiting Konnyaku Park and the world heritage "Tomioka Silk Mill".

- March 2003 _ Feb. 2011: **Middle Egypt Electricity Distribution Company (MEEDCO)**
Position: **SCADA Control Engineer**
Responsibilities:
 - Design and installation of control center LV distribution system, air conditioning systems, lighting systems, UPS and fire alarm systems.
 - Testing and commissioning of Control Center Master station hardware, software, communication system hardware, outstation Hardware and software, SCADA language, RTU software, and power management systems.
 - Installation of digital relays, digital Meters, Remote Terminal Unit (RTU).
 - Installation of SCADA system project (Installation works in Substations, distribution points and distribution transformers, control room and UPS systems).
 - Distribution Management System (DMS) operation Engineer, protection, maintenance, and reporting activities related to distribution power system.
 - Participate in revenue recovery program for Middle Egypt Electricity Company, this program includes protection coordination, loss minimization and load flow study.
 - Substation automation and Micro-SCADA systems.
 - Background in power application software for supervisory control and data acquisition, SCADA/Distribution Management System (DMS) applications, load management systems, dispatcher training simulator (DTS) and switching management systems.

- March 2007 _ Jan. 2010 **Dubai Electricity and Water Authority (DEWA- UAE)**
Position: **Operation Engineer**
Responsibilities:
 - Field operation (132/33/11/6.6 KV), operation of all types of Remote Terminal Units (RMUs) and all types of Circuit Breakers (CBs)
 - Coordinating with Master Control Center during all kinds of circuit outages and during tripping feeders
 - Working in all circuits outages (Tripping feeder, Commissioning and Introducing new Substations (132/11kv & 11/6.6/0.4kV), Transformers outages, circuit modification, cable relocation, and system converging etc)
 - Installation and Commissioning new substations (132/11kv & 11/6.6/0.4kV)

TRAINING

1- Attended the following Workshops in Middle Egypt Electricity Distribution Company (MEEDCO)

- Training in Middle Egypt Electricity Distribution Company on Operating and Maintenance Distributors, Substations, MV Protection Equipment and MV Fault Detection Systems.
- Training on Remote Terminal Unit (RTU).
- Training in IT Center of Assiut University on Networking
- System Integrator Engineer for SCADA Project
- On Job Training for SCADA Control Project by Invensys Foxboro SCADA Team.
- On Job Training for DMS Control Project by Invensys Foxboro DMS Team.
- On Job Training for DTS Control Project by Invensys Foxboro Team.

2- Attended the following Workshops in Assiut University Faculty and Leadership Development Center (FLDC).

- Communication Skills
- Effective Thinking
- Effective Teaching
- Effective Presentation
- Credit Hours Program
- Organizing Scientific Conferences
- E-Learning
- Strategic Planning
- How to activate E-Course
- Design and conduct scientific research
- Analytical and creative thinking

3-Ansys fluent software training course at E-JUST in 2013.

4- Trnsys software training course at E-JUST in 2014.

5- Energy audit course.

- Energy audit methodology
- Auditing tools
- Lighting
- Controls
- Reviewing auditing Reports
- Energy audit instrumentation
- Building systems
- Heating, ventilation, and air conditioning (HVAC)
- Boilers and steam systems

6- Energy audit training

7- Faculty and leadership Development

8- Training on “Energy Management Systems (ISO 50001)” by TUV Rheinland at E-JUST in 2015.

MEMBERSHIPS

- Member of Egyptian Engineers Syndicate.
- Member of Community Service and Environmental Development Committee.

SKILLS

Language Skills:

- Fluent in Arabic Language
- Very good in English (Spoken and Written) Language, TOEFL iBT79
- Good in French Language

Computer knowledge:

- Matlab programming, Matlab Simulink.
- Microsoft Office (Word, Excel, Access, PowerPoint).
- PSIM software.
- COMSOL software
- Visual Basic.
- Computational Fluid Dynamics (CFD)
- Transys software

RESEARCH and SCIENTIFIC ACTIVITIES

Master and Ph. D. Supervision:

- Three Master's degrees have been awarded from Faculty of Engineering, Assiut University.
- One Ph. D. degree has been awarded from Faculty of Technology and Education, Sohag University.
- Six Master's degrees not yet awarded at Faculty of Engineering, Assiut University.
- Two Ph. D. degrees not yet awarded at Faculty of Engineering, Assiut University

Conference Organization:

A member of organization, technical, and publication committees of the 22nd International Middle East Power Systems Conference, 2021 (MEPCON2021).

Reviewer at International Journals and Conferences:

- Solar Energy (Elsevier),
- Eclectic Power System Research (Elsevier),
- Journal of Cleaner Production (Elsevier),
- Computers and Electrical Engineering (Elsevier),
- International Journal of Photoenergy (Hindawi).
- International Middle East Power Systems Conference (MEPCON)

Quality Assurance and Accreditation of Education:

- Member of Quality Management and Development Standard Committee.
- Member of Student and Alumni Standards Committee.
- Preparing a course report and course specification of some courses during the second accreditation of the Faculty of Engineering, Assiut University.
- Member of the electronic correction committee at Faculty of Engineering, Assiut University.

Citations and H-index

- **Google scholar:** Total publications: 20, Total Citations 183, h-index: 6, i10-index: 3.
Website: <https://scholar.google.com/citations?user=wvdNhiwAAAAJ&hl=en>
- **Scopus profile:** Total publications: 16, Total Citations 126, h-index: 4.
Website: <https://www.scopus.com/authid/detail.uri?authorId=56458962400>

PUBLICATIONS

Journal Papers:

- (1) **Ahmed Elnozahy**, H.S. Ramadan, and Farag K.Abo-Elyousr "Efficient Metaheuristic Utopia-based Multi-Objective Solutions of Optimal Battery-Mix Storage for Microgrids," *Journal of Cleaner Production*, Vol. 303, pp. 1-26(p. 127038), June 2021. (**Web of Science: Q1, JIF: 7.246, ISSN: 0959-6526**), <https://doi.org/10.1016/j.jclepro.2021.127038>
- (2) Hamdy A.Ziedan, Hegazy Rezk, Mujahed Al-Dhaifallah, and **Ahmed Elnozahy** "An experimental implementation and testing of the corona discharge in wire-duct electrostatic precipitators affected by velocities of incoming flow gases," *Measurement*, Vol. 177, pp. 1-21, March 2021. (**Web of Science: Q1, JIF: 3.364, ISSN: 0263-2241**)
<https://doi.org/10.1016/j.measurement.2021.109296>
- (3) B. Saleh, Ali M. Yousef, Mohamed Ebeed, Farag K. Abo-Elyousr, **Ahmed Elnozahy**, Moayed Mohamed, Saad A. Mohamed Abdelwahab "Design of PID Controller with Grid Connected Hybrid

- Renewable Energy System Using Optimization Algorithms,” *J. Electr. Eng. Technol.*, pp. 1-15, 2021. (Web of Science: Q4, JIF: 0.736, ISSN: 1975-0102) <https://doi.org/10.1007/s42835-021-00804-7>
- (4) **Ahmed Elnozahy**, Ali M. Yousef, Sherif S. M. Ghoneim, Saad A. Mohamed Abdelwahab, Moayed Mohamed, Farag K. Abo-Elyousr, “Optimal Economic and Environmental Indices for Hybrid PV/Wind-Based Battery Storage System,” *J. Electr. Eng. Technol.*, pp. 1-16, 2021. (Web of Science: Q4, JIF: 0.736, ISSN: 1975-0102) <https://doi.org/10.1007/s42835-021-00810-9>
- (5) **Ahmed Elnozahy**, Ali M. Yousef, Farag K. Abo-Elyousr, Moayed Mohamed, and Saad A. Mohamed Abdelwahab, “Performance improvement of hybrid renewable energy sources connected to the grid using artificial neural network and sliding mode control,” *Journal of Power Electronics*, pp. 1-14, 2021. (Web of Science: Q4, JIF: 0.83, ISSN: 1598 - 2092) <https://doi.org/10.1007/s43236-021-00242-8>
- (6) Bahaa Saleh, Ali M. Yousef, Farag K. Abo-Elyousr, Moayed Mohamed, Saad A. Mohamed Abdelwahab & **Ahmed Elnozahy**, “Performance Analysis of Maximum Power Point Tracking for Two Techniques with Direct Control of Photovoltaic Grid -Connected Systems,” *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects*, pp. 1-23, 2021. (Web of Science: Q3, JIF: 1.184, ISSN: 1556-7036) <https://doi.org/10.1080/15567036.2021.1898496>
- (7) Ali Mohamed Yousef, Farag K. Abo-Elyousr, **Ahmed Elnozohy**, Moayed Mohamed and Saad A. Mohamed Abdelwahab, “Fractional Order PI Control in Hybrid Renewable Power Generation System to Three Phase Grid Connection,” *International Journal on Electrical Engineering and Informatics*, Vol. 12, No. 3, pp. 470-493, Sep. 2020. (SCIMAGO: Q2, SJR 2019=0.19, ISSN: 2085-6830), DOI: [10.15676/ijeei.2020.12.3.5](https://doi.org/10.15676/ijeei.2020.12.3.5)
- (8) M. Abdel-Salam, **A. Elnozahy** and M. Elgamal, "Minimum power loss based design of SMES as influenced by coil material," *Journal of Energy Storage*, Vol. 30, pp. 1-12, 2020. (Web of Science: Q2, JIF: 6.583, ISSN: 2352-152X), <https://doi.org/10.1016/j.est.2020.101461>
- (9) Ali M. Yousef, Mohamed Ebeed, Farag K. Abo-Elyousr, **Ahmed Elnozohy**, Moayed Mohamed and Saad A. Mohamed Abdelwahab " Optimization of PID controller for Hybrid Renewable Energy System using Adaptive Sine Cosine Algorithm," *International Journal of Renewable Energy Research*, Vol.10, No.2, pp. 669-677, 2020. (SCIMAGO: Q3, SJR 2019=0.29, eISSN: 1309-0127), <https://www.ijrer.com/index.php/ijrer/article/view/10685>
- (10) Hatem R. Alamri, Hegazy Rezk, Heba Abd-Elbary, Hamdy A. Ziedan and **Ahmed Elnozahy**, " Experimental Investigation to Improve the Energy Efficiency of Solar PV Panels Using Hydrophobic SiO₂ Nanomaterial," *Coatings*, Vol. 10, Issue 5, pp. 1-14, 2020. (Web of Science: Q2, JIF: 2.436, ISSN: 2079-6412), [doi:10.3390/coatings10050503](https://doi.org/10.3390/coatings10050503)
- (11) Farag K. Abo-Elyousr and **Ahmad Elnozahy**, "Bi-objective Economic Feasibility of Hybrid Micro-Grid Systems with Multiple Fuel Options for Islanded Areas in Egypt", *Renewable Energy*, Vol. 128, Part A, pp. 37-56, 2018. (Web of Science: Q1, JIF: 6.274, ISSN: 0960-1481), <https://doi.org/10.1016/j.renene.2018.05.066>
- (12) Mohamed Abd-El-Hakeem Mohamed, **Ahmed Elnozahy** and Almoataz Y. Abdelaziz " Optimal Energy Saving of Photovoltaic Distributed Generation System with Considering Environment

Condition via Hyper-Spherical Search Algorithm ", *WSEAS Transactions on Power Systems*, Vol. 13, pp. 311-325, 2018. (JIF: 0.72, ISSN: 1790-5060)

<http://www.wseas.org/multimedia/journals/power/2018/a625916-029.php>

- (13) **A. Elnozahy**, Ali K. Abdel Rahman, Ahmed Hamza H. Ali, Mazen Abdel-Salam, and S. Ookawara, "Thermal/Electrical Modeling of a PV Module as Enhanced by Surface Cooling", *Journal of Clean Energy Technologies*, Vol. 4, No. 1, pp. 1-7, January 2016. DOI: [10.7763/JOCET.2016.V4.245](https://doi.org/10.7763/JOCET.2016.V4.245)
- (14) **Ahmed Elnozahy**, Ali K. Abdel Rahman, Ahmed Hamza H. Ali, Mazen Abdel-Salam, and S. Ookawara, "Performance of a PV module integrated with standalone building in hot arid areas as enhanced by surface cooling and cleaning," *Energy and Buildings*, Vol. 88, 1 Feb. 2015, pp. 100–109. (Web of Science: Q1, JIF: 4.867, ISSN: 0378-7788)
<https://doi.org/10.1016/j.enbuild.2014.12.012>

Conference Papers:

- (1) **A. Elnozahy** and M. Abdel-Salam, "Financial Feasibility of Grid-Connected PV/Wind Renewable Power Generation Systems in Egypt," *IEEE Conference on Power Electronics and Renewable Energy (CPERE'19)*, Aswan City, Egypt, 2019, pp. 206-211.
[doi: 10.1109/CPERE45374.2019.8980033](https://doi.org/10.1109/CPERE45374.2019.8980033)
- (2) **A. Elnozahy**, K. Sayed and M. Bahyeldin, "Artificial Neural Network Based Fault Classification and Location for Transmission Lines," *IEEE Conference on Power Electronics and Renewable Energy (CPERE'19)*, Aswan City, Egypt, 2019, pp. 140-144.
[doi: 10.1109/CPERE45374.2019.8980173](https://doi.org/10.1109/CPERE45374.2019.8980173)
- (3) Mazen Abdel-Salam, **Ahmed Elnozahy**, and M. Elgamal " Optimization of Power Loss in Nb-Ti Superconductor Magnetic Energy Storage Coil," *13th International Conference on Mining, Petroleum and Metallurgical Engineering (MPM'13)*, Suez, Egypt, October 25 -27, 2019.
- (4) M. Abdel-Salam, **A. Elnozahy** and M. Elgamal, "Power Loss in SMES Coil as Influenced by its Material," *2019 21st International Middle East Power Systems Conference (MEPCON'19)*, Cairo, Egypt, 2019, pp. 484-490. [doi: 10.1109/MEPCON47431.2019.9007994](https://doi.org/10.1109/MEPCON47431.2019.9007994)
- (5) **Ahmed Elnozahy**, Ali K. Abdel Rahman, Mazen Abdel-Salam, and S. Ookawara, "Optimum Sizing of Standalone Hybrid PV/Wind Power Generation System in Egypt", *15th International Conference on Sustainable Energy Technologies (SET2016)*, National University of Singapore (NUS), Singapore, 19-22 July 2016.
- (6) **A. Elnozahy**, Ali K. Abdel Rahman, Ahmed Hamza H. Ali, Mazen Abdel-Salam, and S. Ookawara, "Thermal / Electrical Modeling of a PV Module as Enhanced by Surface Cooling", *International Conference on Clean and Green Energy (ICCGE2015)*, Amsterdam, Netherlands, February 14-15, 2015.
- (7) **Ahmed Elnozahy**, Ali K. Abdel Rahman and Ahmed Hamza H. Ali, and Mazen Abdel-Salam, "A Cost Comparison between Fuel Cell, Hybrid and Conventional Vehicles," *Proceedings of the 16th*

International Middle East Power System Conference (MEPCON'14), Ain Shams University, Cairo, Egypt, December 23-25, 2014.

- (8) Mazen Abdel-Salam, Adel Ahmed, **Ahmed Elnozahy** and Ahmed Eid, "Modeling and Simulation of Fuel Cell Electric Vehicles ", Proceedings of the *15th International Middle East Power System Conference (MEPCON'12)*, Alexandria University, Alexandria, Egypt, pp. 1-6, Dec. 23-25, 2012.

Published Thesis Books:

- (1) **Ahmed Elnozahy**, Mazen Abdel-Salam and Ali K. Abel-Rahman "Optimum Design of Grid-Independent Hybrid Renewable Power Generation," LAP LAMBERT Academic Publishing, October 15, 2019.
- (2) **Ahmed Elnozahy** and Mazen Abdel-Salam, "A Hybrid Fuel Cell-Battery Generation for Electric Vehicles" LAP LAMBERT Academic Publishing, March 10, 2016.

INTERESTS

Reading, Studying, Football, Table Tennis Ball and Walking.

REFERENCES

- 1- Mazen Abdel-Salam, Professor, Fellow of IEEE (USA), Fellow of IET (UK), Fellow of IOP (UK), Fellow of AVH (Germany), Fellow of JSPS (Japan), Electric Engineering Department, Assiut University, Assiut, Egypt, mazen2000as@yahoo.com.
- 2- Gaber El-Saady, Professor, Electrical Engineering Department, Faculty of Engineering, Assiut University, Assiut, Egypt, gaber1@yahoo.com.
- 3- Prof. Shinichi Ookawara, Ookawara Lab, Dept of Chemical Science and Engineering, Tokyo Institute of Technology, Tokyo, Japan, sokawara@chemeng.titech.ac.jp.
<http://www.chemeng.titech.ac.jp/~labokawa/index-e.html>

LINKS

Assiut University: http://www.aun.edu.eg/membercv.php?M_ID=4897

Google scholar: <https://scholar.google.com/citations?user=wvdNhiwAAAAJ&hl=en>

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=56458962400>

ResearchGate: <https://www.researchgate.net/profile/Ahmed-Elnozahy>