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EDUCATION

**1- PhD. in Electrical Engineering, Faculty of Engineering , El- Minya University ,Egypt
Specialization: Automation of Electrical Power System “Renewable Energy” 2014-2018**

**2- M.Sc. in Electrical Engineering , Faculty of Engineering , El- Minya University ,Egypt
Specialization: Advanced Control Techniques for Wind Driven Doubly Fed Induction Generator “Renewable Energy” 2010-2013**

3- B.Sc., Electrical Power and Machine Engineering, Faculty of Engineering , El- Minya University ,Egypt. (Very Good - 81.63 %) 2003-2008

RESEARCH INTERESTS

- 1- Integration of Renewable energy sources into power grids.
- 2- Electrical power systems (Distributed power systems, Smart Grids).
- 3- Energy storage techniques.
- 4-Optimization Techniques.
- 5- The economic impacts of renewable energy sources and it's polices.

RESEARCH EXPERIENCE

My research experience on Wind Energy can be concluded as following:

The dynamic behavior of electrical power systems under abnormal conditions with interconnection of wind power plants, and it was concluded that reactive power compensation devices are essential elements needed for preserving the emerged WPs into power system within the safety margins as it wanted from grid codes. STATCOM is one of FACTS devices that can assist the dynamic performance of grid connected wind power plants. For both the RSC and GSC of a DFIG WT an improved control strategy system has been proposed to enhance low voltage ride through capability. The proposed control strategy introduces simple structure technique which can be implemented easily without using the transient feed-forward compensation. The previous approach can improve the FRT capability of the DFIG under moderate voltage sags and they cannot solely limit the rotor inrush currents during the deep voltage sags, hence external LVRT techniques are required. From this context STATCOM device can be introduced to

provide an adequate LVRT for a wind driven DFIG connected to power grid keeping the WT-DFIG tracking grid code requirements. Meta-heuristic methods are adapted for tuning STATCOM PI controller's parameters to provide rapid active power recovery, reactive power compensation, and obtain voltage regulation support for grid connected wind power plants (WPs) during deep voltage sags. These methods can be harnessed to obtain better dynamic response and saving both time and effort for designing an adequate technique that keeps the WT-DFIGs tracking the grid code requirements, so as to make the integration of large scale wind farms into the electrical power grids more reliable and safe.

TEACHING AND MENTORING EXPERIENCE

As a Teaching Assistant (since OCT -2008 to Jan-2018)			
Course	code	Course	code
Electrical Machines	EEI 170	AUTOCAD (2D)	EEC 272
Electromagnets	EET 111	Electronic Measurements Lab.	EEL 121
Power Electronic Lab.	EEC 222	Electrical Engineering Basics	EET 113
As an Assistant Professor (since Feb-2018, till now)			
Course	code	Course	code
Electrical Machines	EEI 170	AUTOCAD (2D)	EEC 272
Industrial Control Process	EEI 164	Transmission Lines	EET 162
Control system Components	EEI 120	Electromagnets	EET 111

TEACHING AND MENTORING EXPERIENCE CONTINUED

- **Supervisor for Master degree students.**
- **I supervised the following projects for undergraduate students:**

1- Design and implementation of car sterilization based on GSM.

2-Smart Electric Car based on advanced communication system.

3- Design of DC-power supply.

4- Production line control system using PLC.

5- Automatic car parking system.

6-Colors detection and making for painting industry

7-Error inspection and quality assurance using RFID

Participating in the following competitions such as (Egypt IOT challenge 2018, INDAC Egypt 2010).

PUBLICATIONS

Books:

1- Master thesis book " Direct Torque Control of a Wind Driven Doubly fed Induction Generator" Authors: **Omar Makram Kamel**, Ahmed Abd El-Tawab Hassan, Ahmed Mohamed El-Sawy. Published by El-Minya University.

2- PhD thesis book: " Analysis and Control for Doubly Fed Induction Generator Wind farms Using Optimized Control Techniques" **Omar Makram Kamel**, G.E.Ahmed, Y.S.Mohmed. Published by El-Minya University.

(a) Journals

1- Omar Makram Kamel , Ahmed A. Zaki Diab , Mohamed Metwally, Ameena Saad Al-Sumaiti, and Hamdy M. Sultan , "Enhancing Performance of an Islanded Microgrid with the Presence of Electrical Vehicle Systems" MPDI- ENERGIES, 4 February 2023

2- Mohamed Metwally Mahmoud , Yahia M. Esmail, Basiony Shehata Atia ,**Omar Makram Kamel**, Kareem M. AboRas , Mohit Bajaj , Syed Sabir Hussain Bukhari, and Daniel Eutyche Mbadjoun Wapet "Voltage Quality Enhancement of Low-Voltage Smart Distribution System Using Robust and Optimized DVR Controllers: Application of the Harris Hawks Algorithm" International Transactions on Electrical Energy Systems: November 2022

3- Omar Makram Kamel , Almoataz Y. Abdelaziz & Ahmed A. Zaki Diab "Damping Oscillation Techniques for Wind Farm DFIG Integrated Into Inter-Connected Power System" Electric Power Components and Systems, 0(0): 1–20, 2021.

4-Mahmoud A. Mossa, **Omar Makram Kamel**, Hamdy M. Sultan, Ahmed A. Zaki Diab "Parameter estimation of PEMFC model based on Harris Hawks' optimization and atom search optimization algorithms" Neural Computing and Applications, Springer-Verlag London Ltd., part of Springer Nature 2020.

5- Ahmed A. Zaki Diab, Hamdy M. Sultan, Ton Duc Do, **Omar Makram Kamel**, Mahmoud A. Mossa "Coyote Optimization Algorithm for Parameters Estimation of Various Models of Solar Cells and PV Modules" IEEE Access 2020. Volume: 8, ISSN: 2169-3536.

6- Omar Makram Kamel, Ahmed Diab , Ton Duc Do, Mahmoud Mossa "A Novel Hybrid Ant Colony-Particle Swarm Optimization Techniques Based Tuning STATCOM for Grid Code Compliance" IEEE Access, DECEMBER 2020, Vol :8, Issue:1, ISSN: 2169-3536.

7- A.A.Hassan, A.M.El-Sawy ,O.M.Kamel “ Direct Torque Control of a Doubly Fed Induction Generator Driven by Variable speed Wind Turbine” Journal of Engineering Science (JES), Assuit University, Vol.41 No1, PP.199-216-January 2013, ISSN 1687-0530.

8- A.M.El-Sawy A.A.Hassan, O.M.Kamel “ Direct Torque Control Using Direct Matrix Converter for Doubly fed Induction Generator Driven by Variable Speed Wind Turbine” Minia Journal of Engineering and Technology (MJET) , Minia University, Vol.32,No1,PP.109-January 2013.

(b) International Conference Papers

1- Mahmoud A. Mossa , Najib El Ouanjli, Olfa Gam, Omar Makram Kamel “Performance improvement of a hybrid energy system feeding an isolated load” 2022 ,23rdInternational Middle East Power Systems Conference

2- Omar Makram Kamel , Mahmoud A.Mossa, Ahmed A. Zaki Diab, “Evaluating Dynamic Performance of DTC under Grid Disturbance for a Wind Driven DFIG” 2019 International Middle-East Power Systems Conference, 978-1-7281-5289-9/19/\$31.00 ©2019 IEEE.

3- Mahmoud A.Mossa, Omar Makram Kamel, Silverio Bolognani, “Explicit Predictive Voltage Control for an Induction Motor Drive” 2019 International Middle-East Power Systems Conference, 978-1-7281-5289-9/19/\$31.00 ©2019 IEEE.

4- G.E.Ahmed, Y.S.Mohmed, O.M.Kamel “Optimal STATCOM Controller For Enhancing Wind Farm Power System Performance Under Fault Conditions”. 2016 International Middle-East Power Systems Conference, 978-1-4673-9063-7/16/\$31.00 ©2016 IEEE.

5- G.E.Ahmed, H.A.Mohmed, **O.M.Kamel**. “Mitigation Impacts of Non-Severe Unbalanced Grid Faults Based Wind Driven DFIG”. 2016 International Middle-East Power Systems Conference, 978-1-4673-9063-7/16/\$31.00 ©2016 IEEE.

PROFESSIONAL EXPERIENCE

- **Currently, I am the supervisor of Electrical and Computer department at MHIET.**

1-Students Evaluation and Exam systems. (Quality Assurance Unit, El-Minia University, Jun-2017)

2-International data base searching system and references organizations. (Computer Center, El-Minia University, AUG-2017)

3- Programs and courses specifications for Faculties and Higher Institutes (Egyptian National Organization for Quality Assurance Accreditation, “NAQAAE” , 2019)

4-Self - Evaluation for Faculties and Higher Institutes (Egyptian National Organization for Quality Assurance Accreditation, “NAQAAE” , 2019)

5- I am a member of quality assurance unit at EL-MINYA H.I.E.T. (responsible for the strategic plane)

6- I have been chosen as a member of the team that participates in arranging and preparation laboratories of electrical and computer Dep. at EL-MINYA H.I.E.T.

7- I have been chosen as a member of the team that is responsible for the exam preparation (Exam Control Unit)

TECHNICAL SKILLS

1- Programming with MATLAB/SIMULINK , Homer , PSCAD , DigSilent and ETAP.

2-PLC software programming (LG, siemens) and hardware implementation.

3-PIC software programming (proteus, mplab) and hardware implementation.

4-Programming with PSPICE, MAPLE10, DLUX, and AUTOCAD (2D).

LANGUAGES

Arabic: Fluent

English: Proficient

REFERENCES

1- Gaber Elsaady Ahmed Taha

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2- Dr. Nasser gamal Hemdan

e-mail: eng.ngamal@yahoo.com

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3- Prof. Ahmed Abdel-tawab Hassan

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4- Assistant Professor Ahmed Abd ELhamid Zaki Diab

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