



**Name: Tarek Hassan Mohamed Hassan**

**Current Title (including department and university): Professor at Department of Electrical Engineering – Faculty of Energy Engineering Aswan University**

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### **FIELDS OF SPECIALIZATION**

Electrical Engineering and Control of Smart Power Systems

### **DEGREES**

- **Ph.D.**, Degree (Electrical Engineering. Minia University 2012, Control of Electrical Machines)
- **M.S.**, Degree (Electrical Engineering. Minia University 2012, Control of Electrical Machines)
- **B.S.C**, Degree (Electrical – Automatic Control Engineering) 1997 Menoufia University.

### **ACADEMIC AND INDUSTRIAL POSITIONS**

**Start date - end date, position title, organization/company**

Responsibilities:

Professor : Electrical Engineering, 03/2022 till now.

Associate Professor : Electrical Engineering, 03/2017.

Faculty of Energy Engineering, Aswan University.

Lecturer, 02/2012 to 03/2017

Faculty of Energy Engineering, Aswan University.

Assistant Lecturer, 04/2007 to 02/2012

Faculty of Energy Engineering, Aswan University.

Demonstrator, 08/2003 to 04/2007

Faculty of Energy Engineering, Aswan University.

Tarek worked as visiting researcher in Kumamoto University– Japan (March 2009-September 2011)

Tarek worked as visiting researcher in Kyushu Institute of Technology – Japan (March 2013-September 2013)

Tarek is working as Time Part Professor in Arab Academy for Science , Technology and Maritime Transport.

### **Start date - end date, position title, organization/company**

Responsibilities:

- Elevator Maintenance Engineering ( Hanz Left Company Cairo Egypt 1998- 2003)

### **RESEARCH PROJECTS**

**Tarek is the manager of two projects funded by STDF &SRA :**

- 1- DC Home Applications of PV Renewable Source 2019
- 2- Conversion of Tri-Cycle to Hybrid electric vehicle 2018
- 3- Control of Evacuated Tube of Direct Use of Solar Energy 2020
- 4- Control of renewable energy sources and smart grids 2021
- 5- Applications of Direct Transmission of Solar Energy from a Remote Source: Design and Performance of a Direct Solar Day-Lighting System for Residential and Commercial Buildings 2020
- 6- Tarek is a member in project funded by Erasmus+:  
“Geothermal Energy Capacity Building in Egypt/GEB” <https://www.geb-project.info/about-team#aswan> 2021

### **CONSULTANT**

- Year, job title, location, responsibilities...
- Year, job title, location, responsibilities...

### **AWARDS**

- Aswan University Award of scientific Publication of years : 2015/2016/2017/2019/2020/2021

### **PROFESSIONAL RECOGNITION**

### **PATENTS, PUBLICATIONS**

**Patents and disclosures:**

**Usufruct registration No. 1234/2021 and 1235/2021**

**Journal papers:**

2011

[1] **Tarek Hassan Mohame**, H. Bevrani, A.A.Hassan, and T. Hiyama, "Decentralized model predictive based load frequency control in an interconnected power system", Energy Conversion and Management , Vol. 52, pp.1208–121, 2011.

[2] Tarek Hassan MohamemedAbdelraheemd, A. A. Hassan, and T. Hiyama, "wide area oscillation damping using model predictive control technique", IEEJ trans. of power and energy, Vol. 131, No. 7, pp. 536-541, 2011.

2012

[3] **Tarek Hassan Mohame**, J. Morel, H. Bevrani, A.A.Hassan, Yehia S. Mohamed and T. Hiyama, "Decentralized model predictive based load frequency control in an interconnected power system concerning wind turbines", IEEJ Journal, Tran. of Electrical and Electronic Eng., Vol. 7, No. 5, September 2012.

[4] **Tarek Hassan Mohame**, J. Morel, H. Bevrani, and T. Hiyama, "Model predictive based load frequency control design concerning wind turbines", Electrical Power and Energy Systems 43 (2012) 859–867.

2013

[5] Michael Bernard, Raheel Ali, Yaser Soliman Qudaih, Yasunori Mitani and **Tarek Hassan Mohame**, "PI-MPC Frequency Control of Power System in the Presence of DFIG Wind Turbines ", Engineering, 2013, 5, 43-50 <http://dx.doi.org/10.4236/eng.2013.59B008>  
Published Online September 2013 (<http://www.scirp.org/journal/eng>)

2014

[6] Raheel Ali, **Tarek Hassan Mohamed**, Yaser Soliman Qudaih, and Yasunori Mitani, "A new load frequency control approach in an isolated small power systems using coefficient diagram method, International Journal of Electrical Power & Energy Systems, 01/2014; 56:110–116.

[7] Michael Bernard, **Tarek Hassan Mohamed**, Yaser Soliman Qudaih, and Yasunori Mitani, "Decentralized load frequency control in an interconnected power system using Coefficient Diagram Method", International Journal of Electrical Power & Energy Systems, 06/2014; 63:165–172.

[8] **Tarek Hassan Mohamed** and et. "PID-MPC Based Automatic Voltage Regulator Design in Wide-Area Interconnect Power System" International Journal of Emerging Technology and Advanced Engineering Website: [www.ijetae.com](http://www.ijetae.com) (ISSN 2250-2459, ISO 9001:2008 Certified Journal, Volume 4, Issue 8, August 2014).

2015

[9] **Tarek Hassan Mohamed** and Y. Mitani "ROBUST LOAD FREQUENCY CONTROL APPROACH FOR SMART POWER SYSTEMS CONCERNING ELECTRIC VEHICLES AND HEAT PUMP WATER HEATERS ", Journal of Engineering Sciences, Assiut University, Faculty of Engineering. Invited paper 1, Vol. 43, No. 1, January 2015, PP. 33 – 44.

[10] **Tarek Hassan Mohamed**, Mahmoud M. Hussien and Ahmed Diab. "Application of Linear Quadratic Gaussian and Coefficient Diagram Techniques to

Distributed Load Frequency Control of Power Systems” Appl. Sci. 2015, 5(4), 1603–1615; doi:10.3390/app5041603

#### 2016

- [11] **Tarek Hassan Mohamed**, Hossam Ali and G. Shabib. “Distributed load frequency control in an interconnected power system using ecological technique and coefficient diagram method”, International Journal of Electrical Power & Energy Systems, Volume 82, November 2016, Pages 496–507.
- [12] Yaser Soliman Qudaih, Ibrahim Mokhtar, **Tarek Hassan Mohamed**, Y. Mitani, and et. “Parallel PI/CDM Frequency Controller to Support V2G Plan for Microgrid”, Energy Procedia 100(100C):342–351 · November 2016. (impact factor 0.47)

#### 2020

- [13] T. H. Mohamed, H. Abubakr, M. A. M. Alamin and A. M. Hassan, “Modified WCA based Adaptive Control Approach Using Balloon Effect: Electrical Systems Applications,” in IEEE Access, 2020.
- [14] Y. A. Dahab, H. Abubakr and T. H. Mohamed, “Adaptive Load Frequency Control of Power Systems Using Electro–Search Optimization Supported by the Balloon Effect” IEEE Access, vol. 8, pp. 7408–7422, 2020.
- [15] Tarek Hassan Mohamed and et. “Adaptive position control of a cart moved by a DC motor using integral controller tuned by Jaya optimization with Balloon effect” Computers & Electrical Engineering, Vol. 87, October 2020.

#### 2021

- [16] Tarek Hassan Mohamed and et. “A novel adaptive load frequency control in single and interconnected power systems” Ain Shams Engineering Journal, Vol.12, June 2021.
- [17] Tarek Hassan Mohamed and et., “ Adaptive frequency regulation strategy in multi-area microgrids including renewable energy and electric vehicles supported by virtual inertia, International Journal of Electrical Power & Energy Systems, 07/2021; vol. 129

#### 2022

- [18] Tarek Hassan Mohamed and et. “Adaptive LFC Incorporating Modified Virtual Rotor to Regulate Frequency and Tie-Line Power Flow in Multi-Area Microgrids”, IEEEaccess, Vol 10, 2022
- [19] Tarek Hassan Mohamed and et. “The concept of direct adaptive control for improving voltage and frequency regulation loops in several power system applications” International Journal of Electrical Power & Energy Systems, Volume 140, September 2022, 108068

#### Conference publications:

#### 2006

- 1) A.A. Hassan, Y. S. Mohamed and **Tarek Hassan Mohamed**"ROBUST CONTROL OF A FIELD ORIENTED LINEAR INDUCTION MOTOR DRIVE", 11<sup>th</sup> Middle East Power Systems Conference, MEPCON' 2006, El-MiniaUniversity, Egypt, 2006.

#### 2009

- 2) A.A. Hassan, Y. S. Mohamed and **Tarek Hassan Mohamed**"Sliding Mode Control of a Linear Induction Motor Drive", 13<sup>th</sup> Middle East Power Systems Conference, MEPCON' 2009, Assiut University, Egypt, December 20-23,2009.
- 3) A.A. Hassan, Y. S. Mohamed and **Tarek Hassan Mohamed**"Model predictive speed control of a field oriented Linear Induction Motor Drive ", 13<sup>th</sup> Middle East Power Systems Conference, MEPCON' 2009, Assiut University, Egypt, December 20-23,2009.

#### 2010

- 4) A.A. Hassan, Y. S. Mohamed, T. Hiyama and **Tarek Hassan Mohamed**"Model Predictive Control of A Speed Sensorless Linear Induction Motor Drive ", 14th International Middle East Power Systems Conference (MEPCON'10), Cairo University, Egypt, December 19-21, 2010.
- 5) **Tarek Hassan Mohamed**, H. Bevrani, A.A.Hassan, and T. Hiyama, " Model predictive based load frequency control design"ll, 16th international conference of electrical engineering, Busan, Korea, July 2010.
- 6) A.A. Hassan, T. Hiyama and **Tarek Hassan Mohamed**, " ROBUST CONTROL OF A LINEAR INDUCTION MOTOR DRIVE USING MODEL PREDECTIVE CONTROLLER ", 16th international conference of electrical engineering, Busan, Korea, July 2010.
- 7) A. A. Hassan, Yehia S. Mohamed , Adel A. Elbaset, T. Hiyama, and **Tarek Hassan Mohamed**. "A Neural Network Based Speed Control of A Linear Induction Motor Drive". The International IEEE Region 10 Conference (TENCON2010) , 2010 November 21-24, Fukuoka- Japan, 2010.

#### 2012

- 8) Yaser Soliman Qudaih, DikprideDispa, YasunoriMitani and **Tarek Hassan Mohamed** and et. "Modiefied Oscillation Damping Controller Using RobustllTechnique", 15th Middle East Power Systems Conference, MEPCON' 2012, AlexandriaUniversity, Egypt, December 22-25, 2012.

#### 2013

- 9) Essam E. M. Mohamed, Mahmoud A. Sayed and **Tarek Hassan Mohamed**, "Sliding Mode Control of Linear Induction MotorsUsing Space Vector Controlled Inverter",

2nd International Conference on Renewable Energy Research and Applications(ICRERA 2013), Madrid, Spain, 20-23 October 2013.

- 10) Raheel Ali, Yaser Soliman Qudaih, Yasunori Mitani and **Tarek Hassan Mohamed**. "A Robust Load Frequency Control of Power System with fluctuation of renewable energy sources", 2nd International Conference on Renewable Energy Research and Applications (ICRERA 2013), Madrid, Spain, 20-23 October 2013.
- 11) Raheel Ali, Yaser Soliman Qudaih, Yasunori Mitani and **Tarek Hassan Mohame**, "MPC based Frequency Control Method Utilizing Electric Vehicles and Heat Pump for Smart Power Grid", IEEJ Conference , Japan, KIT, August, 24-26, 2013.
- 12) Michael Z. Bernard, Yaser Soliman Qudaih, Yasunori Mitani and **Tarek Hassan Mohame**, "CDM Application on Power System as a Load Frequency Controller", Electrical Power and Energy Conference (EPEC), Canada, 2013.

#### 2014

- 13) Raheel Ali, Yaser Soliman Qudaih, Yasunori Mitani and **Tarek Hassan Mohame**, "A new load frequency control approach utilizing electric vehicles and heat pump water heater in smart power system using coefficient diagram method", 16<sup>th</sup> Middle East Power Systems Conference, MEPCON' 2014, Ain Shams University, Egypt, December 23-25, 2014.
- 14) **G. Shabib, Tarek Hassan Mohamed**, and Hossam Ali, "A Real Time Simulation Based New Robust Load Frequency Control System", 16<sup>th</sup> Middle East Power Systems Conference, MEPCON' 2014, Ain Shams University, Egypt, December 23-25, 2014.
- 15) **Tarek Hassan Mohamed**, Essam Haez Abdelhameed, and Ammar Mostafa Hassan "Real Time Robust Position Controller for a Cart Moved by a DC Motor through MATLAB", 16<sup>th</sup> Middle East Power Systems Conference, MEPCON' 2014, Ain Shams University, Egypt, December 23-25, 2014.

#### 2015

- 16) **Tarek Hassan Mohamed** and et. "Robust Frequency Control of Power System in the Presence of DFIG Wind Turbines", 17<sup>th</sup> Middle East Power Systems Conference, MEPCON' 2015, Mansoura, Egypt, December 15-17, 2015.
- 17) **G. Shabib, Tarek Hassan Mohamed**, and Hossam Ali, "Load Frequency Control of A Single Area Power System Using Ecological Technique", 17<sup>th</sup> Middle East Power Systems Conference, MEPCON' 2015, Mansoura, Egypt, December 15-17, 2015.
- 18) **Tarek Hassan Mohamed** and Essam Haez Abdelhameed, "Modified Model Predictive Control for a Positioning Mechanism with Harmonic Drive Gear ", 25<sup>th</sup> International Conference on Computer Theory and Applications (ICCTA'2015), Computer Science Society, Alexandria, Egypt, October 25-26, 2015.
- 19) **Tarek Hassan Mohamed** "Smart grid approach utilizing CDM based Load frequency control within conventional network ", 3<sup>rd</sup> International Conference on, ICEE 2015, Aswan University, Egypt, December 28-30, 2015.

20) **Tarek Hassan Mohamed**, Gaber Shabib, Esam H. Abdelhameed, Mohamed Khamies, and Yaser Soliman Qudaih. “Load Frequency Control in single area system using model predictive control and linear quadratic gaussian techniques”, IEEJ Conference , Japan, KIT, September, 10-12, 2015.

#### 2016

21) **Tarek Hassan Mohamed** “Robust Load Frequency Control of A Smart Single Area Power System Considering The Effect of Vehicle-To-Grid V2G scheme”, 1st Future University International Conference on New Energy & Environmental Engineering (ICNEEE 2016), April11-14, 2016, Cairo, Egypt.

22) **Tarek Hassan Mohamed** “Load frequency control of an isolated small power system with contribution of vehicle-to-grid V2G scheme”, 18<sup>th</sup> Middle East Power Systems Conference, MEPCON' 2016, Helwan University, Cairo , Egypt, December - , 2016.

#### 2017

23) **Tarek Hassan Mohamed, Abdel Moamen M. Abdel Raheem** “Single area power system voltage and frequency control using V2G scheme”, 19<sup>th</sup> Middle East Power Systems Conference, MEPCON' 2016, Menoufia University, Cairo , Egypt, December - , 2017.

24) **Tarek Hassan Mohamed and et.** “Power Quality Enhancement Using Shunt Active Power Filter For Three-Phase Four-wire Balanced System”, 4<sup>th</sup> International Conference on, ICEE 2015, Aswan University, Egypt, December 26-28, 2017.

#### 2018

25) **Tarek Hassan Mohamed, Mahmoud M. Hussein**“ Online Gain Tuning of Conventional Load Frequency Controller for Microgrid Power System”, 20th Middle East Power Systems Conference, MEPCON' 2018, Cairo University, Cairo , Egypt, December - , 2018.

26) **Tarek Hassan Mohamed, Heba Ahmed Hassan**“ Terminal Voltage and Power Regulation Using Vehicle-to-Grid (V2G) Schemes Connected to a Two-Area Power System”, 20th Middle East Power Systems Conference, MEPCON' 2018, Cairo University, Cairo , Egypt, December - , 2018.

#### References:

1- Prof. dr: Ahmed Abd Eltawab Hassan, Professor in Electrical Engineering Dept. and Dean of Faculty of Information and Computer science, Minia University, Minia, Egypt.

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