

## سيرة ذاتية

### ١- المعلومات الشخصية



الاسم	أحمد عبد التواب حسن محمد		
تاريخ الميلاد	١٢ / ١١ / ١٩٥٤	مكان الميلاد	مصر - بنى سويف
الجنسية	مصري	البريد الإلكتروني	<a href="mailto:aahsn@yahoo.com">aahsn@yahoo.com</a>
العمل الدائم	أستاذ متفرغ بقسم الهندسة الكهربية - كلية الهندسة - جامعة المنيا - مصر		
العنوان	ش الصفا والمروة - الهرم - الجيزة		
رقم الجوال	٠١٠٠٢٦٦٦٩٥٠ مصر		

### ٢- المؤهلات العلمية

الدرجة	سنة التخرج	اسم الجامعة	التخصص	موضوع الرسالة
البكالوريوس	١٩٧٦	أسيوط	هندسة كهربية	_____
الماجستير	١٩٨٢	المنيا	هندسة كهربية	تصميم محرك خطى لباب منزلق
الدكتوراه	١٩٨٨	المنيا	هندسة كهربية	تصميم متمم وقاية مسافيا باستخدام الميكروبروسيسور

### ٣- الرتب العلمية

المرتبة العلمية	سنة الحصول عليها	اسم الكلية
معيد	١٩٧٨	كلية الهندسة - جامعة أسيوط
مدرس مساعد	١٩٨٢	كلية الهندسة - جامعة أسيوط
مدرس	١٩٨٨	كلية الهندسة - جامعة المنيا
أستاذ مساعد	١٩٩٥	كلية الهندسة - جامعة المنيا
أستاذ	٢٠٠١	كلية الهندسة - جامعة المنيا

## ٤- الخبرات الإدارية والأكاديمية

١	رئيس قسم الهندسة الكهربية - كلية الهندسة - جامعة المنيا ٢٠٠٥-٢٠٠٦
٢	استاذ بقسم الهندسة الكهربية - كلية الهندسة - جامعة عمر المختار ليبيا ٢٠٠٦-٢٠٠٨
٣	عميد كلية الحاسبات والمعلومات - جامعة المنيا من ٢٠٠٩/٤/١ حتى ٢٠١٠/٧/٣١
٤	رئيس قسم الحاسب الآلى بكلية العلوم والآداب بالرس- جامعة القصيم ٢٠١١-٢٠١٢
٥	عضو المجلس العلمى ولجنة الترقيات ممثلا لكلية العلوم والآداب بالرس فجامعة القصيم من ٢٠١٢-٢٠١٤.
٦	رئيس اللجنة العلمية ولجنة الجودة ومدير برنامج علوم الحاسب- كلية العلوم والآداب بالرس - جامعة القصيم ٢٠١٢-٢٠١٥.
٧	الاشراف على العديد من طلاب الدراسات العليا (ماجستير ودكتوراه) - جامعة المنيا - مصر .
٨	تحكيم العديد من الأبحاث فى المجلات المحلية والعالمية .
٩	عضو تحكيم للجنة ترقية الاساتذة والأساتذة المساعدين بمصر ٢٠٠٨-٢٠١٢

## ٦- الاهتمامات العلمية الحالية :

### Current Research Interests

#### ▪ Advanced Control Of Electrical Machine Drives:

- 1- Vector Control of Electrical Machines.
- 2- Direct torque control of Electrical Machines.
- 3- Sliding mode control of Electrical Machines.
- 4- Linear Quadratic Gaussian control of Electrical Machines.
- 5- Parameter Estimation of Electrical Machines.
- 6- Modeling and simulation of Electrical Machines using Matlab/Simulink software package.
- 7- Intelligent control of Electrical Machines using neural networks.
- 8- Model Predictive Control of Electrical Machines.
- 9- Double fed induction generator.

#### ▪ Wind Energy Systems

- 1- Linear Quadratic Gaussian control of wind energy systems.
- 2- H-∞ control of wind energy systems.

## (٧) المقررات التي قمت بتدريسها :

### Teaching Courses

#### ▪ Undergraduate Students

- 1- Electrical Machine Drives.
- 2- Power Electronics.
- 3- Design of Electrical Machines.
- 4- Electrical Testing.
- 5- Mathematics.
- 6- Matlab/ Simulink Programming.
- 7- Assembly language course.
- 8- Microprocessor systems.
- 9- Signal Analysis.
- 10- Logic circuit design.

#### ▪ Postgraduate Students

- 1- Variable Speed Motors.
  - 2- Special Machines.
  - 3- Microprocessors.
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## (٨) عناوين رسائل الماجستير والدكتوراه التي أجزيت تحت اشرافى

### Theses under Supervision:

#### M.Sc. Theses:

- 1- Operation of A 3-phase Induction Motor Fed from Single Phase Supply.
- 2- Simulation of A DC Machine by Active Networks.
- 3- A Digital Signal Processor Based Parameter Estimation of Nonlinear System.
- 4- Speed Control of a Permanent magnet synchronous motor.
- 5- Speed and Position Control of An Electrical Elevator Moved By Linear Induction Motor Drive.
- 6- Direct torque control of a wind driven double fed induction generator
- 7- Fault detecting in induction motor using neural network.

8- Control of a Wind Driven Doubly Fed Induction Generator During Grid Faults.

**Ph.D. Theses:**

9- Advanced control techniques for regulating the voltage and frequency of a wind driven induction generator.

10- Intelligent Control of a Permanent magnet synchronous motor.

11- Model Predictive Control of Linear Induction Motor Drive.

10- DESIGNS AND ANALYSIS OF ULTRA-WIDEBAND (UWB) PRINTED ANTENNAS WITH NOTCHED-BANDS CHARACTERISTICS FOR Wireless Communications.

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**(٩) عناوين مشاريع البكالوريوس التي نفذت تحت اشرافى**

**B.Sc. Projects under My Supervision**

- 1) A Microprocessor Based Speed Control of a DC Motor.
  - 2) Solid State Speed Control of a Repulsion Motor.
  - 3) Solid State Speed Control of Universal Motors.
  - 4) Solid State Speed Control of single phase Induction Motor.
  - 5) Design of a Rolling Coaster Using Linear Induction Motor.
  - 6) Design of a Modular Electrical Elevator Using Linear Induction Motor.
  - 7) Design of a Linear Induction Motor for Moving Curtains.
  - 8) Design of a Linear Induction Motor for Moving a Rotary Treadmill.
  - 9) Design and performance of hybrid diesel / photovoltaic/battery electrical distribution system for a typical village.
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**(١٠) تحكيم الابحاث وعضوية اللجان**

**Papers Reviewing and Membership:**

1) Proceedings of CATAEE'99, IEE, Philadelphia University, Jordan, 19-20 October 1999.

2) IEEE MEPCON'2006 Conference, ELMinia, Egypt. Dec. 2006.

3) IEEE MEPCON'2009 Conference, Assiut, Egypt. Dec. 2006.

4) Journal of the Engineering Sciences, Assiut University.

5) Journal of the Engineering & Tech., Minia University.

6) Membership of promotion committee for Egyptian staff, from 2008 -2012.

7) Elsevier journal (International Journal of Electrical Power and Energy Systems),

Title: "Multi-objective Distribution Feeder Reconfiguration considering Loss, Reliability and Voltage and Transient Stability at presence of Distributed Generation and Static VAR Compensator"

8) Elsevier journal (Control Engineering Practice – Control of Electrical Machines), Jan. 2012.

Title: Predictive Expert Control Optimization for a Steam Turbine Start-up.

9) Wind Energy journal (John Wiley and Sons Ltd.), 26-Dec-2012

Manuscript WE-12-0061 entitled : Direct Power Control of Wind Turbine Driven DFIG during Transient Grid Voltage Unbalance.

10) Indian Journal of Science and Technology, 1/ 2 / 2014

Title: Speed Control of Linear Induction Motor

11) International Journal of Power Electronics and Drive Systems, 12/1/ 2015.

Title: "Experimental Evaluation of Torque Performance of Low Pass Filter and Extended Kalman Filter with Measured Torque for Induction Motor Drives,"

12) Elsevier journal (Control Engineering Practice), 19/6/2015.

Title: "Real-Time Neural Position Control of an Induction Motor with External Disturbances".

13) Electric Power Components and Systems Journal, 31/1/2016.

Title: "Artificial intelligence controller for Power Quality Improvement".

14) Majlesi Journal of Electrical Engineering , Iran, 5/3/2016,

Title: "Fuzzy sliding mode controller for slip control of antilock brake systems".

15) Journal of Electrical Engineering(ELEN) <em@editorialmanager.com>Springer, Germany , 3/8/2016 .

Title : " Implementation of a Novel Full Order Observer for Speed Sensorless Vector Control of Induction Motor Drives", manuscript ELEN-D-16-00289 for Electrical Engineering.

16) International Journal of Power Electronics and Drive Systems (JPEDS).ISSN : 2088- 8694, 5/1/2017.

"Novel Compensation method to reduce Rotor Position Estimation Error andTorque reduction in Signal Injection based PMSM Drives,"

17) IET Electric Power Applications, " Simplified Two-vector Model Predictive FluxControl of High-Altitude Ventilator InductionMotor with Extended Minimum StatorCurrent Operation" ISSN 1751-8644

(٨) الانتاج العلمى :

**List of Publications**

- 1) "Direct torque control of an induction motor drive integrated with sliding mode control and space vector modulation", AASCIT ; American Association for Science & Technology, Engineering and Technology, Vol. 2, No. 3, 2015, pp. 159-165.
- 2) " Robust sliding direct torque control of induction motor drive", Advances in Computer Science and Engineering, India, Volume 14, Number 1, ISSN 0973-6999, 02/2015, PP 19-34.
- 3) "External Faults Detection in Three-Phase Induction Motor using Artificial Neural Network", The 16<sup>th</sup>International Middle East Power Systems Conference MEPCON'14,Ain Shams University, Cairo, Egypt, Dec. 23-25, 2014.
- 4) " Modeling, Simulation and Performance Improvements of a PMSM Based on Functional Model Predictive Control" , Arabian Journal for Science and Engineering 38 (11) PP. 3071 - 3079 , 2013, doi: 10.1007/s13369-012-0460-6.
- 5) " Adaptive Voltage Control of an Autonomous Wind-Generation Unit Based on Radial Basic Functional Neural Network and Programmable Logic Controller", Journal of Bioinformatics and Intelligent Control, Vol. 2, No. 2, pp. 92–99, 2013.

- 6) "Power System Quality Improvement Using Flexible AC Transmission Systems Based on Adaptive Neuro-Fuzzy Inference System “, WSEAS, Transactions on Power Systems, Issue 2, Volume 8, pp. 65-73, Jan 2013.
- 7) " Performance Improvements of a Permanent Magnet Synchronous Machine via Functional Model Predictive Control", Hindawi Publishing Corporation, Journal of Control Science and Engineering, Volume 2012, Article ID 319708, 8 pages, doi:10.1155/2012/319708.
- 8) " Direct Torque Control of Doubly fed Induction Generator Driven By Variable Speed Wind Turbine" , Journal of the Engineering Sciences, Assiut University, Vol. 41, No. 1, pp 199-216, Jan. 2013.
- 9) " High performance direct torque control schemes for an IPMSM drive", Electric Power Systems Research 89 ,Elsevier , pp. 171– 182, 2012, doi: 10.1016/j.epsr.2012.02.017.
- 10) "Decentralized model predictive-based load-frequency control in an interconnected power system concerning wind turbines", IEEJ Transactions on Power and Energy, Japan, No. 7, pp. 487-494 , 2012.
- 11) " Power System Quality Improvement Using Flexible AC Transmission Systems Based on Adaptive Neuro-Fuzzy Inference System" , International Journal of Innovation in Electrical Power Systems, Vol. 4, Issue 2, 2012.
- 12) " Wide area power system oscillation damping using model predictive control technique" , IEEJ Transactions on Power and Energy, Japan, Vol. 131, No. 7, pp. 536-541 , 2011,doi: 10.1541/ieejpes.131.536.



- 13) "Sensorless Sliding Mode Torque Control of an Interior Permanent Magnet Synchronous Motor Drive Based on Active Flux Concept", Alexandria Engineering Journal, 51 (1) pp. 1-9, 2012, doi: 10.1016/j.aej.2012.07.001
- 14) "Power System Quality Improvement Using Flexible AC Transmission Systems Based on Artificial Neural Network", International Journal of Innovation in Electrical Power Systems, Vol. 3, no. 2, pp. 93-108, 2011.
- 15) "Sliding Mode Torque Control of an IPMSM as Influenced by Iron Loss" Journal of Engineering science, Assiut University, Vol. 39, No. 1, pp. 161-177, January 2011.
- 16) "New Direct Torque Control Schemes Of An Interior PMSM Drive Taking Iron Loss Into Account " Journal of Engineering science, Assiut University, Vol. 39, No. 1, January 2011.
- 17) "Design of A Recurrent Neural Controller for PMSM Drive Based on Sliding Mode Torque Control" International Review of Automatic Control Journal (IREACO), Italy, Vol. 4, No. 1, pp. 78-85 January 2011.
- 18) "Decentralized Model Predictive Based Load Frequency Control in an Interconnected Power System", Energy Conversion and Management, Elsevier, Vol. 52, issue 2, Feb. 2011, p. 1208-1214 , doi: 10.1016/j.enconman.2010.09.016.
- 19) "Control of a Wind Driven DFIG Connected to the Grid Based on Field Orientation", Wind Engineering, Vol. 35, No. 2, 2011, pp. 127-143, doi: 10.1260/0309-524X.35.2.127.

- 20) "A Neural Network Based Speed Control of a Linear Induction Motor Drive", IEEE TENCON 2010, Fukuoka International Congress Center, Fukuoka, Japan, Nov. 21-24, 2010, p. 1385-1392.
- 21) "Model Predictive Control of a Speed Sensorless Linear Induction Motor Drive", IEEE MEPCON'2010 Conference, Cairo University, Egypt, December 19-21, 2010, Paper ID 173.
- 22) "Model Predictive Based Load Frequency Control Design", 16<sup>th</sup> international conference on Electrical Engineering, July 11-14, 2010, Bousan, Korea.
- 23) "Robust control of a Linear Induction Motor Drive using Model Predictive Controller", 16<sup>th</sup> international conference on Electrical Engineering July 11-14, 2010, Bousan, Korea.
- 24) "Model Predictive Control of a Linear Induction Motor Driving an Electrical Elevator", IEEE MEPCON'2010 Conference, Aswan, Egypt.
- 25) " Model predictive control of a wind driven induction generator connected to the utility grid", AEJ- Alexandria Engineering Journal, Vol. 49, No. 1, pp. 27-35, 2010.
- 26) "Sliding Mode Control of a Field Oriented Linear Induction Motor Drive", IEEE MEPCON'2009 Conference, Assiut, Egypt, p. 329-336, Dec. 2009.
- 27) "Model Predictive Control Of A Wind Driven Induction Generator Connected to the Utility Grid", IEEE MEPCON'2009 Conference, Assiut, Egypt, p. 401-406, Dec. 2009.

- 28) "Model Predictive Speed Control of a Field Oriented Linear Induction Motor Drive", IEEE MEPCON'2009 Conference, Assiut, Egypt, p. 322-328, Dec. 2009.
- 29) " A New Switching Pattern For Direct Torque Control Of A Permanent Magnet Synchronous Motor Drive ", Journal of the Engineering Sciences, Assiut University, Vol. 37, No. 5, p.1181-1192, Sept. 2009 .
- 30) " A Novel Direct Torque Fuzzy Controller For Permanent Magnet Synchronous Motor Drive " , Journal of the Engineering Sciences, Assiut University, Vol. 37, No. 5, p.1157-1167, Sept. 2009 .
- 31) "Model Predictive Control of Linear Induction Motor Drive", 17th IFAC World Congress, Seoul, Korea, July 6-11, pp. 10904-10909, 2008.
- 32) "Vector Control Of A Linear Induction Motor Driving An Electrical Elevator", Higher Institute of Energy Conference, Aswan, Egypt, Dec. 2008.
- 33) "Cascade Sliding Mode Torque Control of a Permanent Magnet Synchronous Motor ", Proceedings of the IEEE International Conference on Industrial Technology ICIT' 2006 Conference, Bombai, India, p. 465-470, Dec. 2006.  
doi: 10.1109/ICIT.2006.372216.
- 34) "Direct Torque Control of an IPMSM drive Based on Sliding Mode Technique ", IEEE MEPCON'2006 Conference, ELMinia, Egypt, p.10-17, Dec. 2006.
- 35) "A Novel Sliding Torque Control of an IPMSM drives", IEEE Proceedings of the 11th International Middle East Power Systems Conference, MEPCON'2006 , V 1, PP. 18 - 24 , ELMinia, Egypt. Dec. 2006.

- 36) "Robust Control of a Field Oriented Linear Induction Motor Drive", IEEE MEPCON'2006 Conference, ELMinia, Egypt., p. 18-23, Dec. 2006.
- 37) "Voltage and Frequency Control of An Isolated Wind Driven Induction Generator Based On  $H_{\infty}$  Approach", Fourth Saudi Technical Conference & Exhibition (STCEX2006), to be held in Riyadh, Saudi Arabia, on December 02-06, 2006.
- 38) "Robust Control of A Stand Alone Wind Energy Conversion System Using Linear Quadratic Gaussian Approach", Fourth Saudi Technical Conference & Exhibition (STCEX2006), to be held in Riyadh, Saudi Arabia, on December 02-06, 2006.
- 39) "Robust Control Based on  $H_{\infty}$  Approach for a Wind Driven Induction Generator Connected to the Utility Grid", Journal of the Engineering Sciences, Assiut University, Vol. 34, No. 2, March 2006 .
- 40) "Robust Control of a Wind Driven Induction Generator Connected to the Utility Grid", Journal of the Engineering Sciences, Assiut University, Vol. 34, No. 1, p.107-121, Jan 2006 .
- 41) "Robust Control of A Speed Sensorless Permanent Magnet Synchronous Motor" ICTA'05 Conference, IEEE, Thessaloniki, Greece, p. 252-257, 15-16 October 2005.
- 42) "A Speed Sensorless Direct Torque Control of Interior Permanent Magnet Synchronous Motor", MEPCON'2005, IEEE, Port said, Egypt, p. 199- 205, Dec. 13-15, 2005.

- 43) "Robust Position Control Of A Field Oriented Linear Brushless DC Motor", Proceedings - 2004 International Conference on Electrical, Electronic and Computer Engineering, ICEEC'04 PP. 736 - 741 , Ain Shams University, Sept. 5-7, 2004, Cairo, Egypt.
- 44) " A Neural Voltage Regulator For A Wind Driven Self Excited Induction Generator", MEPCON'2003, IEEE, Shebin EL-Kom, , 9<sup>th</sup> international Middel-East Power Systems Conference, Dec. 16-18, 2003, p. 691 .
- 45) "A Novel Approach For Estimating The Speed and Parameters Of Induction Motor Drives", Journal of the Engineering Sciences, Assiut University, Vol. 31, No. 3, p.631-642, July 2003.
- 46) "A Modified Gain Rotor Flux Observer For Vector Controlled Induction Motor Drives", Journal of the Engineering Sciences, Assiut University, Vol. 31, No. 3, p.619-630, July 2003.
- 47) "Improving the Power Efficiency Of A Rotor Flux Oriented Induction Motor Drive", Electric Power Components and Systems Vol. 30 No. 5, PP. 431 - 442 , 2002. Published online: 30 Nov 2010. doi: 10.1080/15325000252888399
- 48) " Performance Of A Modified Direct Torque Control For Induction Motor Drives ", AEJ - Alexandria Engineering Journal Vol. 40 , No. 1 , PP. 45 - 54, 2001 .
- 49) " Vector Control of the Repulsion motor", AEJ - Alexandria Engineering Journal 40 (2) PP. 159 - 168, Vol. 40 , No. 2 , March 2001 , p. 211.

- 50) “ On – Line Rotor Resistance Identification For Indirect Vector Controlled Induction Motor Drive”, MEPCON’2000, IEEE, Ain Shams University, 7<sup>th</sup> international Middel-East Power Systems Conference, March 28-30, 2000, p. 115.
- 51) “A Direct Field Oriented Induction Motor Drive with Robust Flux Estimator”, Mansoura 3<sup>rd</sup> international Engineering Conference, 11-13 April 2000, p. 195.
- 52) “Improving the Power Factor of A Vector Controlled Induction Motor Drive”, Bulletin of the Faculty of Engineering, Assiut University, Vol. 28, No. 3, Sept. 2000.
- 53) “ A Speed Sensorless Vector Controlled Induction Motor Drive”, Electric Machines and Power Systems, USA, Vol. 27, No. 5, May 1999, p.443.
- 54) “ An Improved Voltage Regulation In Power Systems Via Vector Control Of Power Transformers”, Proceedings of CATAEE’99, IEE, Philadelphia University, Jordon, 19-20 October 1999, p. 298.
- 55) “A Simple Approach For Estimating the Rotor Time Constant in Field Oriented Controlled Induction Motor Drives”, Bulletin of the Faculty of Engineering, Assiut University, Vol. 25, No. 1, Jan. 1997.
- 56) “ Solid State Speed Control of A Three Phase Induction Motor Fed From A Single Phase Supply”, Bulletin of the Faculty of Engineering, Assiut University, Vol. 23, No. 1, Jan. 1995.

- 57) “ A New Scheme For Operating A Three Phase Induction Motor From Single Phase Supply”, Bulletin of the Faculty of Engineering, Assiut University, Vol. 23, No. 1, Jan. 1995.
- 58) “Integral Cycle Control of the Repulsion Motor”, Bulletin of the Faculty of Engineering, Assiut University, Vol. 22, No. 1, Jan. 1994.
- 59) “Performance Analysis of the Repulsion Motor Controlled with A Triac in the Rotor Circuit” Bulletin of the Faculty of Engineering, Assiut University, Vol. 22, No. 1, Jan. 1994.
- 60) “ Steady State Operation of A Three Phase Induction Motor Fed From A Single Phase Supply”, Bulletin of the Faculty of Engineering , Assiut University, Vol. 22, No. 2, July 1994.
- 61) “Analysis of a Saturated Chopper-Fed DC Series Motor”, Bulletin of the Faculty of Engineering, Assiut University, Vol. 22, No. 2, July 1994.
- 62) “ Application of the Finite Element Formulation of the Impedance Boundary Condition For Solving the Skin Effect and TM Problems”, Bulletin of the Faculty of Engineering, EL- Minia University, Vol. 13, No. 3, Sept. 1994.
- 63) “ A Triac Control of Universal Motors Based on Integral Cycle Switching”, Bulletin of the Faculty of Engineering, EL-Minia University, Vol. 13, No. 3, Sept. 1994.
- 64) “A Microprocessor Based Speed Control of the Repulsion Motor”, Bulletin of the Faculty of Engineering, Assiut University, Vol. 21, No. 2, July 1993.

- 65) "Transient Simulation of Short Length Transmission Lines by Active Networks", 18<sup>th</sup> Modelling and Simulation Conference, Pittsbrgh, USA, April 1987, p. 611.
- 66) "Transient Simulation of Long Length Transmission Lines by Active Networks", 18<sup>th</sup> Modelling and Simulation Conference, Pittsbrgh, USA, April 1987, p. 605.
- 67) "A Universal Characteristics Microprocessor Based Distance Relay Part 1: Principle of Operation and Design Features "Journal of the Egyptian Society of Engineers, Vol. 26, No.3, 1987.
- 68) "A Universal Characteristics Microprocessor Based Distance Relay Part 2: Software Design and Implementation "Journal of the Egyptian Society of Engineers, Vol. 26, No.4, 1987.
- 69) "A Novel Approach For Discriminating Close-Up Faults by A Universal Characteristics Microprocessor Based Distance Relay", Proceeding of the International IASTED Conference, Cairo University, Feb. 1988, p. 144.
- 70) "A Universal Characteristics Microprocessor Based Distance Relay, Multi-Zone Comparison Approach", Engineering Research Bulletin, Faculty of Eng. and Tech., Helwan University, Vol. 4, 1988.
- 71) "Decomposed Emergency Adjustments to VAR Control Variables", Bulletin of the Faculty of Engineering, Assiut University, Vol. 21, No. 1, Jan. 1993.



- 72) “Adaptive Digital Relaying Using Least Mean Squares Algorithms”,  
MEPCON’94, IEEE, Faculty of Engineering, Cairo University, Jan. 1994, p.  
79.
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