

Curriculum Vitae of:

Prof. Ayman Al-Naggar (Ayman A. Aly)

**Prof. of Mechatronics Engineering and Robotics, Mechanical Eng. Dept.,
College of Engineering, Taif University, kingdom of Saudi Arabia.**

- **Ayman A. Aly** is the director of E-Learning and distance education unit at college of engineering, Taif university, Saudi Arabia which (accredited by USA ABET board). Prior to joining Taif University, He is one of the team who established the “Mechatronics and Robotics Engineering” educational program in faculty of engineering, Assiut University which is the first nationally accredited faculty of engineering in Egypt.
- **Ayman A. Aly** was the academic supervisor and keynote speaker of the 6th international Arab conference for robotics and artificial intelligence engineering, 2019, Saudi Arabia.
- **Ayman A. Aly** was selected in the top **2%** list of the most cited scientists in the world in scientific publishing according to the American Stanford University classification for the year 2023, which selects the most cited researchers every year for scientific research according to precise scientific standards.
- **Ayman A. Aly** was nominated and selected for inclusion in Marquis Who's Who in the World, 30th Pearl Anniversary Edition, 2013. He is the author of more than **200** scientific papers and **7** textbooks in Refereed Journals and International Conferences. He supervised and examined some of MSc. and PhD. Degree Students. His main areas of research are intelligent control of robotics systems, internet of things, artificial intelligence applications, modeling and control of renewable energy systems and energy saving.

The full list of publications is available at: •

- https://scholar.google.com/citations?hl=en&user=arkG9MMAAAAJ&view_op=list_works&sortby=pubdate



Personal Website

- <https://draymanelnaggar.wixsite.com/ayman>



• Personal Data:

- **Name:** Ayman Abdel-Hamid Aly AbdAlla El-Naggar
- **Material state:** Married
- **Date of Birth:** 1969-07-19
- **Place of Birth:** Cairo
- **Work Address:**
 - Mechanical Engineering Department – Faculty of Engineering, Taif University, 888, Saudi Arabia
- **Emails:**
 - *draymanelnaggar@yahoo.com /*
 - *aymanaly@tu.edu.sa /*
 - *draymanelnaggar@gmail.com*
- **Tel. & WhatsApp:**
 - + 966532809277 (Saudi Arabia)
 - +201154029529 (Egypt)



Scientific and professional societies of which a member

- ✚ Japan Society of Mechanical Engineers (JSME), 1999.
- ✚ Engineering Consultations and Studies Centre, Faculty of Engineering, Assiut University, Egypt, since 2003.
- ✚ Egyptian Engineering Syndicates since 1991 until now.
- ✚ Coordinator of the Artificial Intelligence Applications in Mechanical Engineering (AIAME) research group, Taif University.
- ✚ Member of the Institute of Electrical and Electronics Engineers, IEEE (Member #92196631)
- ✚ IEEE Computational Intelligence Society Membership
- ✚ IEEE Robotics and Automation Society Membership
- ✚ IEEE Control Systems Society Membership
- ✚ Academic Community Member of Journal of Automatic Control and System Engineering (ICGST).

<http://www.icgst-amc.com/institute/Community.aspx?aid=2394>

- ✚ **Editorial member** of International Journal of The International Journals of Engineering and Sciences (IJENS)

<https://www.ijens.org/EditorialBoardIJMME.html>

- ✚ **Associate Editor** of International Journal of Intelligent Systems and Applications (IJISA).

<https://www.mecs-press.org/ijisa/board.html>

- ✚ **Guest editor** of Special Issue: "Intelligent Control in Industrial Processes"

[Journal: Applied Sciences \(http://www.mdpi.com/journal/applsci\)](http://www.mdpi.com/journal/applsci)

Prizes and Scholarship Awarded

- Scholarship, Government of Egypt, (undergraduate study from Oct. 1986- June 1991) due to obtain top student.
- The prize of Prof. Dr. Ramadan Sadek in Mechanical Engineering 1989.
- The prize of Prof. Dr. Talet hafez in Mechanical Design 1990.
- Egyptian Government Scholarship 1999-2000.
- Japanese Government Scholarship (Monbusho) 2001-2003.
- Japanese Government Scholarship (Jasso) 2011.
- Taif university prize of scientific research 2012.
- Taif university prize of excellence in scientific publication 2013.
- Taif university prize of excellence in scientific publication 2014.
- Taif university prize of excellence in scientific publication 2015.
- Taif university prize of excellence in scientific publication 2021.

Training courses by me

- Electromechanical system modeling and control (Taif technical college, Taif , Saudi Arabia, 2020)
- Introduction to Artificial Intelligence applications (STERA company, Jeddah, Saudi Arabia, March 2020)
- Error analysis in measurements Systems (STERA company, Jeddah, Saudi Arabia, March 2021)
- Control of Electrohydraulic System (Assiut Cement factory, Assiut, Egypt, April 2012)
- Electrohydraulic circuit design (Deshna Sugar can factory, Qena, Egypt, November 2006)

ACADEMIC QUALIFICATIONS

Degree:	(PhD)	Date degree awarded:	2003-03-25
Faculty of Engineering		University of Yamanashi -JAPAN	
Record of Subject List	Advanced Robotics (Excellent), Advanced Design for Production (Excellent), Advanced Control System (Excellent), Advanced Optimal Control (Excellent), Advanced Intelligent Sensor (Excellent), Information System Engineering I (Excellent) and Information System Engineering II (Excellent).		
Major:	Mechatronics Engineering (Intelligent Control /Robotics)		
Title of Thesis:	“Model Reference Adaptive Fuzzy Control of an Electro-Hydraulic Six-Axis Motion Base”		

Preceding University Degree: (<i>M SC.</i>)			
Degree:	M SC.	Date degree awarded:	1996-12-1
Faculty of Engineering		Assiut University - EGYPT	
Record of Subject List	Advanced Engineering Mathematics (good), Applied Electronics of Computer (Very good), Advanced Automatic Control (Excellent), Optimal Control (Excellent) and System Analysis (Excellent)		
Major:	Process control systems		
Title of Thesis:	“ Robust control of A Tank Level Process Using Variable Structure Systems ”		

Preceding University Degree: (BA)			
Degree:	Bachelor (Distinction with honor's degree)	Date degree awarded:	1991-7-15
Faculty of Engineering		Assiut University – EGYPT	
Major:	Mechanical Engineering		
Title of graduate project:	“Design and Implementation of an Experimental System for Measuring the Thermal Conductivity of Agricultures Seeds”		

Employment History

University/Institution (Employer)	From	To	Job Title/Rank (Position)	Inclusive duties (teaching, research, administration)
Assiut University	1991	1996	Research assistant	Teaching & Research
Assiut University	1997	1999	Teaching Assistant	Teaching & Research
University of Yamanashi - JAPAN	1999	2000	Researcher	Research
University of Yamanashi - JAPAN	2000	2003	PhD candidate	Research& Research
Assiut University	2003	2005	Assistant Professor	Teaching & Research
Omer-Elmukhtar University-Libya	2005	2008	Assistant Professor	Teaching & Research
Taif University Saudi Arabia	2008	June, 2011	Associate Professor	Teaching & Research
University of Yamanashi - JAPAN	June, 2011	October, 2011	Researcher	Research
Taif University Saudi Arabia	October, 2011	2014	Associate Professor	Teaching & Research
Taif University Saudi Arabia	2014	-	Full Professor	Teaching & Research

CONTRIBUTIONS

Research Projects

- Management and Implementation Team Member of The Project of **Designing a hydraulic system for unloading cane containers**, Assiut University- Sugar Cane Manufacturing Company, 1996-1998, Egypt.
- Management and Implementation Team Member of The Project of **Technical supervision on the installation of the new production unit in Assiut Cement Factory**, Assiut University-Cement Assiut Company, 1997-1999, Egypt.
- Management and Implementation Team Member of The Project of **Development of Mechatronics undergraduate courses (HEEP Grant- A 085-10)**, Assiut University- Bath University, 2004-2006, Egypt-UK.
- Management and Implementation Team Member of the Project of **Technicians Training in Assiut University (HEEP Grant- A 083-10)**, Assiut University- 2004-2006, Egypt.

- Implementation Team Member of The Project **Curricula development of Sugar Industry Institute in Assiut University** (HEEP Grant- A 084-10), Assiut University- 2004-2006, Egypt.
- Management and Implementation Team Member of the Project **Design A Measurement System for Measuring the Resistance of Engineering Material for Wearing**, Taif University, 2008-2009, Saudi Arabia.
- **PI** of the Project **Heat Treatment of Polymers**, Taif University, 2009-2010, Saudi Arabia.
- Management and Implementation Team Member of the Project of **Using Solar Energy for Extracting Water from Atmospheric Air**, Taif University, 2009-2010, Saudi Arabia.
- Management and Implementation Team Member of the Project of **The Solar Energy Application in Condition Air in Wet Areas**, Taif University, 2009-2010, Saudi Arabia.
- **PI** of the Project **ABS Control for Saudi Road Surfaces**, Taif University, 2010-2011, Saudi Arabia
- **PI** of the Project **Friction and Wear of Polymer Composites Filled by Nanoparticles**, Taif University, 2011-2012, Saudi Arabia.
- Management and Implementation Team Member of the Project of **Modeling of Nanofluids Pressure Drop under A Turbulent Flow Regime Using Artificial Neural Network**, Taif University, 2012-2013, Saudi Arabia .
- **PI** of The Project **Active Suspension Control of a Vehicle System using Artificial Intelligence Technique**, Taif University, 2013-2014, Saudi Arabia.
- Management and Implementation Team Member of the Project of **Fast Quality Inspection of Food Products using Computer Vision**, Taif University, 2013-2014, Saudi Arabia.
- **PI** of The Project **Improving the Performance of Efficient Electro-Hydraulic circuit in Energy Saving**, Taif University, 2014-2015, Saudi Arabia.
- **Management and Implementation Team Member** of The Project of **Working fluids for a combined Rankine-refrigeration cycle driven by renewable energy**, Taif University, 2016-2017, Saudi Arabia.
- Member of the research group of **Renewable Energy Systems Strategy and Applications**, Taif University, 2017-2018, Saudi Arabia.
- **Head of the research group** of **Artificial Intelligence Applications in Energy Saving and Renewable Energy Systems** Taif University, 2018-2019, Saudi Arabia.
- Member of the research group of **Solar Driven Transportable Refrigerator for Postharvest Crops Handling Form Desert Areas Farms**, Research, and Innovation at the Ministry of Education RDO, 2020-2023, Saudi Arabia.
- **Head of the research group** of **Designing a self-propelled chair for people with special needs using artificial intelligence technique**, King Salman Center for Disability Research, Riyadh, 2022-2023, Saudi Arabia

Curriculums Development:

- Development the Curricula of Mechatronics Section, Faculty of Engineering – Assiut University, Assiut, 2004, Egypt.
- Development the Curricula of Mechanical Engineering Department At Omer El-Mukhtar University, 2006, Libya.
- Development the Curricula of Mechatronics Section, College of Engineering – Taif University, 2008, Saudi Arabia.
- Development the Curricula of Mechatronics Department, College of Engineering – Taif University, 2013, Saudi Arabia.
- Development the Curricula of Mechatronics Track, College of Engineering – Taif University, 2017, Saudi Arabia.
- Development the Higher studies Curricula of Renewable Energy Master, College of Engineering – Taif University, 2018, Saudi Arabia.
- Referee of the Higher studies Curricula of Mechatronics Engineering Master, College of Engineering – King Abdul-Aziz University, 2020, Saudi Arabia.
- Development the Curricula of Mechanical Engineering, College of Engineering – Taif University, 2023, Saudi Arabia.

Laborites Setup

- Construct and Setup the Mechatronics Section Laboratories, Assiut University- 2003-2005, Egypt.
- Construct the Engineering Education Center, Assiut university, 2004, Egypt
- Construct and Setup a Process Control and Engineering Measurements Laboratories At Omer El-Mukhtar University, 2005-2008, Derna, Libya.
- Construct and Setup the Mechatronics Section Laboratories, Taif University. 2008-2013, Saudi Arabia.
- Set the technical specifications for Robotics laboratory, Mechanical Engineering Dept., Taif University, 2015, Saudi Arabia.
- Set the technical specifications CNC laboratory, College of engineering, Taif University, 2019, Saudi Arabia.

Institutional and professional service

- Member of the organization Committee of MEATIP3, 3rd Assiut University International Conference on Mechanical Engineering Advanced Technology for Industries, December 24-26, (2002), Assiut University, Assiut, Egypt.
- Member of the organization Committee of INES2003, IEEE 7th International Conference on Intelligent Engineering Systems, Assiut-Luxor, Egypt, March 4-6, (2003), Assiut University, Assiut, Egypt.
- Member of the organization Committee of the 1st International Workshop of the Mechatronics Education, 2004, Egypt.
- The academic supervisor of Mechatronics Section, Taif University, 2008-2017, Saudi Arabia.
- Member of ABET-Program Accreditation Committee Taif University, 2008-Now, Saudi Arabia.
- Member of Students affairs committee Taif University, 2008-2015, Saudi Arabia.

- Faculty of Engineering coordinator of the for the 1st Student research conference, Taif University, 2010, Saudi Arabia.
- Head of the ABET-Assessment & Continuous Improvement Committee (ACIC-MECT), Mechanical Engineering Dept., Taif University, 2014, Saudi Arabia.
- Coordinator of the 1st International workshop on Mechatronics Education, Saudi Arabia, March 11-12, 2015.
- Academic Supervisor and keynote speaker of the 6th International Arab Conference for Robotics and Artificial Intelligence engineering, 2019, Saudi Arabia.
- Member of the organization Committee of the 2nd International Robotics and Automation Engineering Conference Robotics-2020 Virtual, December 02, 2020.
- Member of NCAAA-Program Accreditation Committee Taif University, 2021-Now, Saudi Arabia.

Training programs of

- ✓ **How to Write a Research Project**, 22-23 April 2004, Assiut University.
- ✓ **Management's Skills Development**, 15-18 August 2005, Assiut University.
- ✓ **Teaching Using Technology**, 2-4, September 2006, Assiut University.
- ✓ **Courses Design**, 9-11, September 2006, Assiut University.
- ✓ **Ethics of Teaching**, 9-11, September 2006, Assiut University.
- ✓ **Teaching Evaluation**, 25-27, July 2007, Assiut University.
- ✓ **International Research Prepare and Publication**, 25-26, July 2007, Assiut University.
- ✓ **Quality Management in High Education Systems, Sigma 6**, march, 2009, Taif University.
- ✓ **Electronic Education**, May 2009, Fahd University of minerals and petroleum.
- ✓ **Using ABET Instruction for Preparing the Mechanical Engineering Courses**, 2010-2013, Taif University.
- ✓ Training course of "**PID control Panel Trainer**", Lab-Tech company, 2012, Taif university
- ✓ Training course of "**Hot water Solar panel Trainer**", Lab-Tech company, 2012, Taif university.
- ✓ Training course of "**Robot Hardware & software**", Amatrol company, March 2014, Indiana, USA.
- ✓ Training course of "**Process control**", Hampden company, March 2014, Boston, USA.
- ✓ Training course of "**Lab-View data acquisition system**", Lab-View Company, March 2017, Jeddah, Saudi Arabia.
- ✓ Training course of "**Automation Studio software**", Prince Mgren University, December 2018, Almadina Almnawra, Saudi Arabia.

Teaching

A) University courses (Undergraduate)

University	Course title	Grade
	Automatic Control	

Assiut University EGYPT	Engineering Measurements	3 rd year Mechanical Eng. Dept.
	Electrohydraulic Servo Systems	4 th Year Mechatronics Eng. Sec.
South Valley University - EGYPT	Robotics and Automation Mechatronics Lab.	
	Thermal and Hydraulic Machines	2 nd year Faculty of Agriculture
	Agriculture Machines	3 rd Year Civil Eng. Dept.
Omer El-Mukhtar University LIBYA	Computer Programming	3 rd year Mechanical Eng. Dept.
	Hydraulics Machines	
	Automatic Control	
	Application of MATLAB in Engineering	5 th Year Mechanical /Electrical Eng. Depts.
	Mechanical Engineering Measurements	3 rd Year Mechanical Dept.
Taif University – SAUDI ARABIA	Automatic Control	4 th Year Mechanical Dept..
	Theory of Machines	
	Computer Programming	1 st Year Mechanical Dept.
	Computation Methods in Engineering	2 nd Year Mechanical Dept.
	Applications of computer programming (Python)	2 nd Year Mechanical Dept.
	Measurements and Instruments	3 rd Year Mechanical Dept.
	Mechanical Vibrations	
	Mechatronics Fundamentals	
	System Dynamics and Control	
	Robotics	
	Electro-Hydraulic systems	4 th Year Mechanical Dept.
	Special topics in engineering	
	Industrial Automation	

B) University courses (graduate)

University	Course title
Assiut University EGYPT	Advanced Automatic Control
	Robotics
Omer El-Mukhtar University Derna-LIBYA	Mini Course of MATLAB Application in Engineering for Faculty of Engineering Staff Members
Taif University – SAUDI ARABIA	Course of Introduction to Mechatronics

C) Computer Experience

Languages Python, C++, FORTRAN-77 and BASIC

Software Packages	MATLAB, Automation Studio, Control Station, Proteus, SolidWork and LabVIEW.
Hardware	Robotics design, Measuring circuits and Real time control.

D) Supervisor of undergraduate student projects

Mechatronics Design of pike and place robot Provided with end Effectors, [Assiut University, 2004.](#)

Mechatronics Design of Rocket Launcher, [Assiut University.](#)

Mechatronics Design of two Axes Manipulator Provided with end Effectors, [Assiut University, 2004.](#)

Programmable Logic Control (PLC) Applications in Mechanical systems “Flow and Level Control”, [Assiut University, 2004.](#)

Control of Watering an Agriculture land using PLC Mechatronics, [Omer El-Mukhtar University, 2006.](#)

PID Control of a Car Suspension System, [Omer El-Mukhtar University, 2007.](#)

Design of XYZ Manipulator, [Winning a prize for the first best Student invention Project, Taif university, 2012](#)

Mechatronics Design of Automatic Motawif, [Winning a prize for the second-best Student invention, Taif university, 2012.](#)

Mechatronics Design of interactive smooth board, [Winning a prize for the third best Student invention, Taif university, 2012](#)

Mechatronics Design of Antilock Brake Control System, [Taif University, 2012.](#)

Mechatronics Design of Automatic Marketing Machine [Winning a prize for the second-best Student invention, Taif university, 2013.](#)

Mechatronics Design of a Color Mixing Machine, [Winning a prize for the third best Student invention, Taif university, 2013.](#)

Mechatronics Design of Automatic Garage door, [2014, Taif University.](#)

Mechatronics Design of RR Manipulator, 2014, [Taif University.](#)

Mechatronics Design of Smart Home Model, [2015, Taif University.](#)

Design of Home Automation, 2016, [Taif University.](#)

Design and [Implementation](#) of PID Control for Level Tank Level using Arduino, 2017, [Taif University.](#)

Design and Implementation of Automatic Solar Tracking System Using Arduino, 2018, [Taif University.](#)

Design and Implementation of Mini CNC, 2019, [Taif University.](#)

Design and Implementation of Material Handling Robotic Arm, 2020, [Taif University.](#)

Design and Implementation of an Automatic Platform for Military Systems, 2021, [Taif University](#)

Design and Implementation of an Automatic Two Axes Rocket Launcher for Military Systems, 2022, [Taif University.](#)

Early Inspection of Agricultural Crops using a Mobile Robot, 2023, [Taif University.](#)

E) Co-supervisor of graduate student thesis

Motion Control of a Skid Steering Mobile Robot (PhD)

Auto Tuning of PID and Fuzzy Controllers for Fire Tube Boiler Using Genetic Algorithm (Master)-awarded, 2005.

Intelligent fuzzy Control of A Flexible Robot Arm (Master) – awarded 2006.

F) Examiner of graduate student thesis

Fault Diagnosis in Electro-hydraulic Systems, Osama Elshazly Hassan Habib, Egypt-Japan University of Science and Technology (EJUST), (PhD), 2015

Development of A Micro Tactile Display Device for Human Soft Tissues' Stiffness, Nader Abdelwahab Ahmed Mansour, Egypt-Japan University of Science and Technology (EJUST), (PhD), 2015.

A novel sort of adaptive complex synchronizations of two indistinguishable chaotic complex nonlinear models with uncertain parameters and its applications in secure communications. Fatimah S. Abood, (MSc.), 2017, Taif University.

Publications

M SC. Publications

1. **Ayman A. Aly** And A. Abo-Ismael, “**Robust Control of A Level Process Using Variable Structure Theory**”, Proceeding of PEDAC97, 6th International Conference on Production Engineering Design and Control, Alex. University, **Egypt**, 1997.
2. **Ayman A. Aly** and A. Abo-Ismael “**Design of Variables structure Controller with Sliding Mode for Two-Capacitance Level Process**”, Proceeding of 10th International Conference on Mechanical Power Engineering, Assiut University, **Egypt**, 1997.
3. **Ayman A. Aly** and A. Abo-Ismael, “**Intelligent Control of A Level Process By Employing Variable Structure Theory**”, Proceeding of International Conference in The Mechanical Production Engineering, Warso, **Poland**, 1998.

PhD. Publications

4. **Ayman A. Aly**, A. Abo-Ismael, H. Ohuchi and S. Dessoki “**Intelligent Position Control for Electro-Hydraulic Cylinder**”, Proceeding of MDP-7, International Conference on Mechanical Design and Production, Cairo University, **Egypt**, 2000.
5. **Ayman A. Aly**, H. Ohuchi and A. Abo-Ismael, “**A Cross Coupled Intelligent Fuzzy Controller of A 2 DOF Electro-Hydraulic Servo System**”, Conference of Fluid Power System, Akita, **JAPAN**, 2000.
6. **Ayman A. Aly**, H. Ohuchi and A. Abo-Ismael, “**Intelligent Fuzzy Controller for positioning Electrohydraulic Cylinder**”, Yamanashi District Conference, **Japan**, 2000/10/28, pp 235-236.
7. **Ayman A. Aly**, and H. Ohuchi “**Fuzzy Hybrid Control Using Indirect Inference Control for Positioning an Electro-Hydraulic Cylinder**”, Conference of Fluid Power Systems, Yamaguchi, **JAPAN**, 2001.
8. **Ayman A. Aly**, and H. Ohuchi, “**Fuzzy Supervisory PID Control in Positing of Electro-hydraulic Servo System**”, Yamanashi District Conference, **Japan**, October 2001, pp 161-162.
9. H. Ohuchi, and **Ayman A. Aly**, “**The Robust Motion Control of Electrohydraulic Servo System Using Smart Cam Application**”, Yamanashi District Conference, **Japan**, October 2001, pp 163-164.
10. **Ayman A. Aly**, and H. Ohuchi “**Adaptive Fuzzy Control of A Stewart Platform Manipulator**”, The 5th International Symposium on Fluid Power, Nara, **JAPAN**, November, 2002.
11. **Ayman A. Aly**, H. Ohuchi and A. Abo-Ismael, “**Model Reference Adaptive Control of An Electro-Hydraulic Servo System Using Fuzzy Logic Technique**”, 3rd International Conference on Mechanical Engineering, Advanced Technology for Industrial Production, **Egypt**, 2002.
12. **Ayman A. Aly**, H. Ohuchi and A. Abo-Ismael, “**Fuzzy Model Reference Learning Control of 6-Axis Motion Base Manipulator**”, 7th IEEE International Conference on Intelligent Engineering Systems, **Egypt**, March 2003.
13. **Ayman A. Aly**, H. Ohuchi and A. Abo-Ismael, “**Fuzzy Model Reference Learning Control for Positioning an Electro-Hydraulic Servo System**”, Transaction of The Japan Fluid Power System Society, Vol. 34, No.3, May

Assistant Prof. Publications

14. Aly S. Abo El-Lail and **Ayman A. Aly**, “On Linearization of Thermocouple Signal Using Analog-To-Digital Converter” Journal of Engineering Science, JES, Vol. 32, No. 3, pp 12161-1268, July 2004.
15. O. I. Hassanin and **Ayman A. Aly** “Genetic PID Controller for a Fire Tube Boiler,” International Conference on Computational Cybernetics 2004 in Vienna, **Austria**.
16. **Ayman A. Aly** “Modeling and control of an electro-hydraulic servo motor Applying velocity feedback control strategy”, International Mechanical Engineering Conference & Expo (IMEC2004), **Kuwait**.
17. Khalil A. Khalil, **Ayman A. Aly** and A. Abo-Ismael, “Dynamic modeling and mode shape analysis of a single flexible arm”, International Mechanical Engineering Conference & Expo (IMEC2004), **Kuwait**.
18. **Ayman A. Aly** and Shehab R., “Intelligent Fuzzy Controller of Tracking A Hard Disk Drive Actuator Using the Approaching Index Switch”, ICGST International Journal on Automatic Control System Engineering, ACSE, Issue V2, **Germany**.
19. **Ayman A. Aly** and Aly S. Abo El-Lail, “Self-Tuning PI Fuzzy Position Control of A Hydraulic Manipulator” Journal of Engineering Science, JES, Vol. 33, No. 1, pp 199-209, January 2005.
20. Khalil A. Khalil, **Ayman A. Aly** and A. Abo-Ismael, “Tip Position Control of A Single Flexible Arm”, International Conference on Mechatronics (ICOM05), **Malaysia**.
21. **Ayman A. Aly**, “Self-Tuning Fuzzy Logic Control of an Electrohydraulic Servo Motor”, ICGST International Journal on Automatic Control System Engineering, ACSE, Issue 4, V5, Dec.2005, **Germany**.
22. Aly S. Abo El-Lail, and **Ayman A. Aly**, “Temperature Control of A Thermoelectric Cooler”, 11th Asian Congress of Fluid Mechanics (11ACFM), May 22 – 25, 2006, at Kuala Lumpur, **Malaysia**.
23. Khalil A.K., **Ayman A. Aly** and Ahmed Abo. Ismail. "Intelligent Control System of Flexible Arm" International workshop on Mechatronics Education, Luxor, **Egypt**, Feb. 13-16, 2006.
24. **Ayman A. Aly** and Aly S. Abo El-Lail, “Fuzzy Temperature Control of A Thermoelectric Cooler”, IEEE International Conference on Industrial Information Technology, (ICIT 2006), Dec. 15-17, 2006, at Mumbai, **India**.
25. **Ayman A. Aly**, “A Non Linear Optimal PID Control of A Hydraulic Crane” Journal of Engineering Science, JES, Vol. 33, No. 1, pp 199-209, Feb. 2007.
26. **Ayman A. Aly**, “Flow Rate Control of Variable Displacement Piston Pump With Pressure Compensation Using Neural Network” Journal of Engineering Science, JES, Vol. 33, No. 1, pp 199-209, Feb. 2007.
27. Khalil A. Khalil, **Ayman A. Aly**, and A. Abo-Ismael, “Adaptive Based Block Fuzzy Controller of Flexible Robot Arm”, IASTED International Conference on Intelligent Systems and Control, Orlando, **USA**, November 16 - 18, 2008.

Associate Prof. Publications**Publications in International Conferences**

28. A. A. Alshennawy, and **Ayman A. Aly**, “Edge Detection in Digital Images Using Fuzzy Logic Technique,” International Conference on Computer Vision and Image Processing, ICCVIP, pp. 178-186, **Hong Kong**, March 23-25, 2009.
29. M.M.M. Salam and **Ayman A. Aly**, "Fuzzy control of a quarter-car suspension system", International Conference in Mechanical Engineering, ICME, pp. 258-263, Tokyo, **Japan**, May 27-29, 2009.
30. **Ayman A. Aly** and A. A. Alshennawy, "An Edge Detection and Filtering Mechanism of Two-Dimensional Digital Objects Based on Fuzzy Inference", International Conference in Mechanical Engineering, ICME, pp. 247-251, Tokyo, **Japan**, May 27-29, 2009.
31. E.B. Zeidan, **Ayman A. Aly**, and A.M. Hamed, " Investigation on the Effect of Operating Parameters on the Performance of Solar Desiccant Cooling System Using Artificial Neural Network ", International Engineering Conference on Hot Arid Regions IECHAR May 2010, **Saudi Arabia**.
32. **Ayman A. Aly**, E.B. Zeidan, and A.M. Hamed, "Performance Evaluation of Open Solar Regenerator Using Artificial Neural Network Technique ", International Engineering Conference on Hot Arid Regions IECHAR May 2010, **Saudi Arabia**.
33. Ahmed M Hamed, Kabeel A. E, Seidan E. Shafei, **Ayman A. Aly**, “A technical Review on The Extraction of Water from Atmospheric Air in Aride Zone,” 7th International Engineering Conference, Faculty of Engineering, Mansoura University, **Egypt**, March 2010.
34. **Ayman A. Aly**, “Intelligent Fuzzy Control for Antilock Brake System with Road-Surfaces Identifier,” 2010 IEEE International Conference on Mechatronics and Automation (ICMA 2010) **China**, August 4-7, 2010.
35. Ali Yousef and **Ayman A. Aly**, “Effect of Non-linearities in Fuzzy Approach for Control A Two –Area

Interconnected Power System", 2010 **IEEE** International Conference on Mechatronics and Automation (ICMA 2010) **China**, August 4-7, 2010.

36. **Ayman A. Aly** and A. Abd Elmotalip, **"Effect of Leading Extended Vanes on a Vertical Axis Wind Turbine Performance."** 5th International Conferences on Energy Research and Development ICERD-5, **Kuwait**, April 9-11, 2012.

37. M. S. Youssef and **Ayman A. Aly**, **"Modeling of Nanofluids Pressure Drop Under A Turbulent Flow Regime Using Artificial Neural Network,"** 5th International Conferences on Energy Research and Development ICERD-5, **Kuwait**, April 9-11, 2012.

38. Farhan, **Ayman A. Aly**, Ashraf Kamel, **"Design of mobile chair for special needs pilgrims"**, International conference of Hajj and Omera, Makkah, Saudi Arabia, May 2014.

Publications in International Journals

39. **Ayman A. Aly** and A. A. Alshennawy, **"An Edge Detection and Filtering Mechanism of Two-Dimensional Digital Objects Based on Fuzzy Inference"**, International Journal of Information Technology and Communication Engineering Vol. 5 No. 8, pp 564-568, **2009**.
<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.192.8200&rep=rep1&type=pdf>

40. A. A. Alshennawy, and **Ayman A. Aly**, **"Edge Detection in Digital Images Using Fuzzy Logic Technique,"** International Journal of Electrical and Computer Engineering, Vol. 4 No. 7, pp 415-423, **2009**.
<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.359.9176&rep=rep1&type=pdf>

41. **Ayman A. Aly** and, M. Salam **"Fuzzy control of a quarter-car suspension system"**, International Journal of Computer and Information Engineering, Vol:3, No:5, **2009**.
<https://publications.waset.org/9091/fuzzy-control-of-a-quarter-car-suspension-system>

42. Mohamed M. K., **Ayman A. Aly** and Ali W., **"Friction Behavior of Natural Fibers Sliding Against Steel"**, Journal of The Egyptian Society of Tribology, **EGTRIB**, Journal Volume 6, No. 3, pp 41–50, July 2009.

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