

CURRICULM VITAE

Prof. Dr. Ahmed Mohamed El-Garhy

PERSONAL DATA

NAME: Prof. Dr. Ahmed Mohamed El-Garhy
DATE OF BIRTH: April 28, 1961.
PLACE OF BIRTH: Cairo, Egypt.
NATIONALITY: Egyptian.
WORK ADDRESS: Helwan University, Faculty of Engineering,
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ACADEMIC QUALIFICATINS

- **Ph. D., Automatic Control**, Cairo University, 2000. "Development of an Integrated Neural Scheme for Sensor Failures Diagnosis and Disturbance Absorption in MIMO Systems".
- **M. Sc., Automatic Control**, Cairo University, 1996. "Development of Fault Diagnostic Expert Systems for Distributed Control".
- **Diploma of Higher Studies, Control Engineering**, Cairo University, 1990. **Project:** "Design of a Reliable Controller with Application in Power Systems".
- **B. Sc., Electronics and Telecommunications Engineering**, Cairo University, 1983. **Project:** "Design of E10 Electronic Exchange".

CURRENT JOB

- **Dean, Faculty of Engineering at Helwan, Helwan University.**

HISTORY OF EMPLOYMENT

- 24/12/2016, **Dean, Faculty of Engineering at Helwan, Helwan University, Republican Presidential Decree, No. 592 in 2016.**
- [2/9/2014-24/8/2016], **Vice Dean for education and student affairs, Faculty of Engineering at Helwan, Helwan University.**
- [2/9/2014-24/8/2016], **Chairman of Electronics, Computers and Telecommunications Engineering Department, Faculty of Engineering at Helwan, Helwan University.**
- [19/5/2014-Now], **Principal Coordinator of Information and Communication Technologies Engineering Co-operative Program between International Telematic University (UNINETTO) and Helwan University.**
- [28/1/2014-Now], **Full Professor of Automatic Control, Department of Electronics, Computers and Telecommunications Engineering, Faculty of Engineering at Helwan, Helwan University.**
- [27/3/2007-27/1/2014], **Associate Professor of Automatic Control, Department of Electronics, Computers and Telecommunications Engineering, Faculty of Engineering at Helwan, Helwan University.**
- [30/9/2001-NOW], **Assistant Professor of Automatic Control, Department of Electronics, Computers and Telecommunications Engineering, Faculty of Engineering at Helwan, Helwan University.**
- [1/1/1998-29/9/2001], **Head of Computer, Control and Electronics Training Department, Arab Institute for Advanced Technology, Arab Organization for Industrialization.**
- [1/1/1994-31/12/1997], **Computer, Control and Electronics Training Chief Engineer, Arab Institute for Advanced Technology, Arab Organization for Industrialization.**
- [1/1/1990-31/12/1993], **Computer, Control and Electronics Training Senior Engineer, Arab Institute for Advanced Technology, Arab Organization for Industrialization.**
- [26/4/1987-31/12/1989], **Computer, Control and Electronics Training Engineer, Arab Institute for Advanced Technology, Arab Organization for Industrialization.**
- [1/4/1986-1/4/1987], **Electronic Instruments Maintenance Engineer, National Center for Research and Radiation Technology, Atomic Energy Authority.**
- [1/10/1983-31/3/1986], **Military Service.**

INTERNAL AND EXTERNAL SECONDMENTS

- *1/9/2005 to 31/8/2008 - Internal Secondments to the College of Engineering - Misr University for Science and Technology.*
- *1/9/2008 to 8/31/2011 - External Secondments - Head of Quality and Performance Evaluation Unit - Research Chairs Program - King Saud University - Riyadh, Saudi Arabia.*

MEMBERSHIPS IN NATIONAL COMMITTEES

- *Member of the Committee "Establishing Levels and Specifications of the National Skilled Technicians for Electronic Industries" - Federation of Egyptian Industries since 1999.*
- *Member of the Committee "Establishing the Scientific Educational Contents for Electronics and Control Branches" - Project of the Egyptian Technical Colleges - Projects Management Unit - Ministry of Higher Education -, 2005.*
- *Member of the Committee "Establishing Laboratories / Workshops for the Disciplines of Electronics, Power and Control Specifications" - Project of the Egyptian Technical Colleges - Projects Management Unit - Ministry of Higher Education -, 2005.*
- *Member of the Committee "Decide on the Presentations in the Field of Electricity, Electronics and Control of the Project Egyptian technological colleges" - Project of the Egyptian Technical Colleges - Projects Management Unit - Ministry of Higher Education -, 2006.*
- *Member of the Committee, "Establishing the Development Plan for the Arab Institute for Advanced Technology (AIAT)" – Human Resources Development Sector. Arab Organization for Industrialization (AOI)- 2006.*

LONG TERM CONINUING TRAINING PROGRAMS ATTENEDED (ABROAD)

- *[January 1, 1994-December 31, 1994], Professional Certified Program in Computer Based Management of Information Systems, Embury Riddle Aeronautical University, Daytona Beach, FL, USA .*

SHORT TERM TRAINING PROGRAMS ATTENDED (ABROAD)

- *[May 26, 1993-July 28, 1993], Optics and Blueprints Instructor Training, Lockheed Company, Fort Worth, TX, USA.*

MANAGEMENT TRAINING ATTENDED (in EGYPT)

- [14/1/2014-16/1/2014], **Credit Hours Systems**, Helwan University.
- [8/1/2014-9/1/2014], **University Management**, Helwan University.
- [4/1/2014-6/1/2014], **Modern Technology in Teaching**, Helwan University.
- [2/1/2014-3/1/2014], **Communications Skills**, Helwan University.
- [28/12/2013-30/12/2013], **Scientific Publishing**, Helwan University.
- [24/12/2013-26/12/2013], **Financial and Legal Aspects in Universities**, Helwan University.
- [4/3/2007-6/3/2007], **Quality Assurance and Accreditation in Educational Institutions**, Helwan University.
- [25/2/2007-27/2/2007], **Design of University Courses**, Helwan University.
- [18/2/2007-20/2/2007], **Economics, Marketing and Financing of Scientific Researches**, Helwan University.
- [26/1/2003-30/1/2003], **Preparing Educators for University Teaching**, Helwan University.
- [29/3/1998-3/4/1998], **Loss Control Training Program**, Arab Institute for Advanced Technology, Cairo, Egypt & Sustainable Development Technologies Corporation, Ontario, Canada.
- [22/3/1998-26/3/1998], **Total Quality Management Training Program**, Arab Institute for Advanced Technology, Cairo, Egypt & Sustainable Development Technologies Corporation, Ontario, Canada.
- [21/12/1997-25/12/1997], **Marketing Policies Training Program**, Arab Institute for Advanced Technology.
- [11/5/1997-15/5/1997], **Internal Quality Auditors Training Program**, Arab Institute for Advanced Technology.
- [2/3/1997-27/2/1997], **Strategic Development Training Program**, Arab Institute for Advanced Technology.
- [23/2/1997-27/2/1997], **Managerial Development Training Program**, Arab Institute for Advanced Technology.
- [1/11/1993-11/11/1993], **Managerial Problem and Decision Making Training Program**, Arab Institute for Advanced Technology.

- [2/10/1993-13/10/1993], *Management of Engineering Projects Training Program*, International Center for Systems.

TECHNICAL TRAINING ATTENDED (in EGYPT)

- [28/12/1996-30/12/1996], *CNC Machining Process Training Program*, Arab Institute for Aerospace Technology, Cairo, Egypt & MIT, MA, USA.
- [23/12/1991-26/12/1991], *Modern Processing Techniques and Their Industrial Applications Training Program*, Arab Institute for Aerospace Technology.
- [15/10/1991-24/10/1991], *Computer Based Project Planning and Management Training Program*, Arab Institute for Aerospace Technology.
- [3/12/1989-14/12/1989], *Engineering Technology Training Program*, Arab Institute for Aerospace Technology.
- [14/8/1989-22/8/1989], *Data Base Programming Training Program*, Arab Institute for Aerospace Technology.
- [9/2/1987-19/2/1987], *Egyptian German Seminar on Quality Assurance*, Atomic Energy Authority, Cairo, Egypt.
- [27/8/1983-13/10/1983], *FORTRAN Programming Training Program*, Scientific & Statistical Computation Center, Cairo University.

TEACHING ACTIVITIES

- ***Under Graduate:***
 - *Linear systems and control courses.*
 - *Control system design courses.*
 - *Automatic control courses.*
 - *Measurement courses.*
 - *System engineering courses.*
 - *Electronic circuits courses.*
 - *Digital electronics courses.*
 - *Artificial intelligence courses.*
 - *Exert systems courses.*
 - *Systems modeling and dynamics courses.*

- *Microprocessors in control applications.*
- *Power electronics.*
- *Graduation projects.*
- ***Post Graduate:***
 - *Simulation of control systems using SIMULINK/MATLAB.*
 - *Adaptive control.*
 - *Industrial electronics.*
 - *System engineering.*

RESEARCH INTERESTS

- *Control Theories.*
- *Failure Detection, Identification and Accommodation in Control Systems.*
- *Neural Fuzzy Systems.*
- *Control Optimization Based on Random Search Techniques.*
- *Design of Intelligent Controllers.*
- *Machine Learning.*
- *Modeling and Process Control.*

PUBLISHED PAPERS

- 1- **A. M. EL-GARHY**, A. M. KAMEL and H. T. DORRAH, "Detecting Sensors Failures in MIMO System with Structured Disturbances", **Journal of Engineering and Applied Science, Faculty of Engineering, Cairo University**, Vol. 44, No. 5, PP. 989-1003, Oct. 1997.
- 2- **A. M. EL-GARHY** and H. T. DORRAH, "Artificial Neural System for Sensors FDI in MIMO System", **Journal of Engineering and Applied Science, Faculty of Engineering, Cairo University**, Vol. 46, No. 6, PP. 1125-1143, Dec. 1999.
- 3- **A. M. EL-GARHY**, " Genetic Approach for Tuning PI Controller with Minimization of the Integral Square Error ", **Journal of Engineering and Applied Science, Faculty of Engineering, Cairo University**, Vol. 50-Number 5, PP. 981- 998, Oct. 2003.

- 4- **A. M. EL-GARHY**, " Identifying the Fuzzy Model of Highly Nonlinear Process Using Adaptive Neuro-Fuzzy Network ", **Journal of Engineering and Applied Science, Faculty of Engineering, Cairo University**, Vol. 51-Number 2, PP. 377- 391, Apr. 2004.
- 5- M. E. EL-SHIMY, **A. M. EL-GARHY** and H. T. DORRAH, " Development of Gain Scheduling Scheme Using Radial Basis Function Neural Network Controllers", **Journal of Engineering Science, Faculty of Engineering, University of Assiut**, Vol.32-Number 3- Part B, PP. 1403- 1423, July 2004.
- 6- **A. M. EL-GARHY** and M. E. EL-SHIMY, " Development of Gain Scheduling Scheme Based on Group of Fuzzy Inference Systems ", **Journal of Engineering Science, Faculty of Engineering, University of Assiut**, Vol. 32-Number 4, PP. 1713- 1733, September 2004.
- 7- Mohamed I. El-Adawy, **Ahmed M. El-Garhy** and Besada A. Anees, " Failure Accommodation of Optical Fiber Current Sensors Using Integrated Adaptive Neuro-Fuzzy Inference Scheme ", **Alexandria Engineering Journal, Faculty of Engineering, Alexandria University**, Vol. 44- No. 4, PP. 569- 578, July 2005.
- 8- Hesham W. Gomma, Ahmed S. Aly and **Ahmed M. El-Garhy**, " Derivative Derived Generalized Predictive Control (DDGPC) For Unreliable Communication Links In Networked Control Systems ", **Journal of Engineering Science, Faculty of Engineering, University of Assiut**, Vol. 33-Number 6, PP. 2245- 2255, Nov. 2005.
- 9- Mohamed I. El-Adawy, **Ahmed M. El-Garhy**, Hesham W. Gomma and Besada A. Anees, " Development of Neuro-Fuzzy Scheme for Detecting, Identifying and Classifying Multiple Failures in Sensors ", **Alexandria Engineering Journal, Faculty of Engineering, Alexandria University**, Vol. 45, No. 2, PP. 185- 196, March 2006.
- 10- H. T. DORRAH, **A. M. EL-GARHY** and M. E. EL-SHIMY, "Decoupling of MIMO Process Using Particle Swarm Optimization Technique", **Ain Shams Engineering Journal, Faculty of Engineering, Ain Shams University**, Vol.41-No. 1, Part II, Electrical Engineering, PP. 719- 748, March 31, 2006.

- 11- A. M. EL-GARHY and M. E. EL-SHIMY, "Development of Decoupling Scheme for High Order MIMO Process Based on PSO Technique", APPLIED INTELLIGENCE: The International Journal of Artificial Intelligence, Neural Network and Complex Problem-Solving Technologies, Vol. 26- No. 3, PP. 217- 229, June 2007.
- 12- A. T. Azer, A. H. Kandil, K. M. Wahba, A. M. Elgarhy and W. A. Massoud," NEURO-FUZZY SYSTEM FOR POST-DIALYSIS UREA REBOUND PREDICTION ", Proceedings of IEEE 4th Cairo International Biomedical Engineering Conference , CIBEC'08, Cairo, Egypt, PP. 1-5, 18-20th December 2008.
- 13- A. M. EL-GARHY, E. M. KONSOWA, "Collision-Free Path Planning Algorithm For Two-Link Robotic Arm Based On Geometric Modeling", Journal of Engineering and Applied Science, Faculty of Engineering, Cairo University, Vol. 55-Number 6, PP. 513 - 529, December. 2008.
- 14- A. A. LASHEEN, A. M. EL-GARHY, E. M. SAAD and S. M. EID, "Development of Decoupling Scheme for Higher Order MIMO Process Based on Hybrid Genetic and Nelder-Mead Algorithm", Proceedings of the 11th WSEAS International Conference on Automatic Control, Modelling and Simulation (ACMOS' 09), Istanbul, Turkey, PP. 544-556, May 30- June 1, 2009.
- 15- Atef A. Lasheen, Ahmed M. El-Garhy, Elsayed M. Saad, and Saad M. Eid, " Using hybrid genetic and Nelder-Mead algorithm for decoupling of MIMO systems with application on two coupled distillation coloumns process ", International Journal of Mathematics and Computers in Simulation, Issue 3, Volume 3 PP. 146-157, 2009.
- 16- A. A. Lasheen, A. M. El-Garhy, E. M. Saad, and S. M. Eid, "Tuning PID controllers using hybrid genetic and Nelder-Mead Algorithm", Journal of Engineering Science, Faculty of Engineering, University of Assuit, Vol. 38-Number 4, PP. 979- 987, July 2010.
- 17- Hassen T. Dorrah, Ahmed M. El-Garhy, and Mohamed E. El-Shimy, "PSO-BELBIC scheme for two-coupled distillation column process", Journal of Advanced Research, Vol. 2, PP. 73-83, November 2010.

- 18- Hassen. T. Dorrah, **Ahmed M. El-Garhy**, and Mohamed M. El-Shimy, "Design of PSO-based optimal fuzzy PID controllers for the two-coupled distillation column process", **Proceedings of the 14th International Middle East Power Systems Conference (MEPCON'10), Cairo University, Egypt, PP. 181-188, December 19-21, 2010.**
- 19- S. M. Rashad, F. Z. Amer, **A. M. El-Garhy**, M. Awadalla, and A. K. Abdien, "Development of thermal hydraulic mathematical model and faults analysis of (UTSG) of PWR, **Arab Journal of Nuclear Science and Applications**, Vol. 44-Number 1, PP. 286- 294, January 2011.
- 20- Ali S. Al-Ghamdi, Mohamed A. M. Wadaan, **Ahmed M. El-Garhy**, Mohamed E. El-Shimy, and Essam F. Abou-Swan, "Quantitative approach for research chairs evaluation in king saud university", **Asian Journal of Business Management**, Vol. 3-Number 3, PP. 228-234, August 20, 2011.
- 21- Fathy Z. Amer, **Ahmed M. El-Garhy**, Medhat H. Awadalla, Samia M. Rashad, and Asmaa K. Abdien, "A real-valued genetic algorithm to optimize the parameters of support vector machine for classification of multiple faults in NPP", **NUKLEONIKA**, Vol. 56-Number 4, PP. 323-332, October 2011.
- 22- Abou-Bakr M. Ramadan, **Ahmed M. El-Garhy**, Fathy Z.Amer, and Mazhar M. Hefnawi, "Forecasting gamma radiation levels using digital image processing", **Life Science Journal** 2012; 9(1):701-710.
- 23- Abou-Bakr Ramadan, **Ahmed El-Garhy**, Fathy Zaky, and Mazhar Hefnawi, "New environmental prediction model using fuzzy logic and neural network", **IJCSI International Journal of Computer Science Issues**, Vol. 9, Issue 2, No. 3, PP. 309-313, March 2012.
- 24- Abou-Bakr Ramadan, **Ahmed El-Garhy**, Fathy Z.aky, and Mazhar Hefnawi, "Digital radiation image", **IJCSI International Journal of Computer Science Issues**, Vol. 9, Issue 2, No. 1, PP. 319-322, March 2012.

- 25- MOHAMED IBRAHIM EL ADAWY, AHMED MOHAMED EL-GARHY, FADY O. SAWAFTA, “ Design of Fuzzy Controller for Supplying Oxygen in Sub-acute Respiratory Illnesses” IJCSI International Journal of Computer Science Issues, Vol. 9, Issue 3, No. 1, PP. 192-206, May 2012.
- 26- Hassen T. Dorrah, Ahmed M. El-Garhy, and Mohamed E. El-Shimy, "PSO based optimized fuzzy controllers for decoupled highly interacted distillation process", Ain Shams Engineering Journal, 2012; 3, 251- 266.
- 27- Mohamed I. El-Adawy, A. M. El-Garhy, and Besada A. Anees, "Conventional and evolutionary control schemes for spring-roll dielectric elastomer actuator ", Journal of Engineering Sciences, Faculty of Engineering, University of Assuit, Vol. 40- Number 4, PP. 1137- 1156, July 2012.
- 28- Ahmed M. El-Garhy, Gamal A. El-Sheikh and Mohamed H. El-Saify, " Fuzzy Life-Extending Control of Anti-Lock Braking System ", Ain Shams Engineering Journal, 2013; 4, 735-751.
- 29- A. Elgarhy, M. T. Alwaked, S. Aboelkheir and A. F. Seddik, “Development of Dental Autoclave Control System Using Fuzzy Logic and Optimized PID Algorithm”, International Journal of Engineering Research & Technology (IJERT), Vol. 2, Issue 8, August 2013, 1002-1008.
- 30- Noha Abdelkarim, Ahmed M. El-Garhy, Amr E. Mahmoud and Hassen T. Dorrah, “Decoupling of distillation column process using bacterial swarm optimization algorithm”, JOKULL Journal, Vol. 64, Issue 5, May 2014, 42-62.
- 31- Mohanad A. Deaf, Mohamed A. A. Eldosoky, Ahmed M. El-Garhy, Hesham W. Gomma and Ahmed S. El-Azab, “ Development of mathematical model for lower urinary tract dysfunctions “, IJIREICE International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering, Vol. 2, Issue 12, December 2014, 2203-2207.

- 32- **Ahmed M. El-Garhy** and Mohamed M. El-Shimy, " BELBIC for MRAS with highly non-linear process ", **Alexandria Engineering Journal**, 2015; 54, 7-16.
- 33- Mohanad A. Deaf, Mohamed A. A. Eldosoky, **Ahmed M. El-Garhy**, Hesham W. Gomma and Ahmed S. El-Azab, " Parasympathetic nervous signal damping using the adaptive Neuro-Fuzzy inference system method to control overactive bladder ", **Journal of clinical engineering**, Vol. 40, Issue 4, October 2014, 197-201.
- 34- Noha Abdelkarim, Amr E. Mohamed, **Ahmed M. El-Garhy** and Hassen T. Dorrah
 "A New Hybrid BFOA-PSO Optimization Technique for Decoupling and Robust Control of Two-Coupled Distillation Column Process". **Journal of Computational Intelligence and Neuroscience**, Volume 2016 (2016), August 2016.
- 35- Acoustic Energy Conversion into Useful Electric Energy from Disk Jockey by Using Piezoelectric Transducers Conference Paper · December 2016.
- 36- Mohamed H. El-Saify, **Ahmed M. El-Garhy** and Gamal A. El-Sheikh " Brain Emotional Learning Based Intelligent Decoupler for Nonlinear Multi-Input MultiOutput Distillation Columns", **Journal of Mathematical Problems in Engineering**, Volume 2017, Article ID 8760351.
- 37- Mohamed Hamdy El-Saify, Gamal Ahmed El-Sheikh and Ahmed Mohamed El-Garhy "Novel Multi-input Multi-output Brain Emotional Learning Based Intelligent Controller for PUMA 560 Robotic Arm" **Proceedings of the International Conference on Advanced Intelligent Systems and Informatics 2017, Springer**.
- 38- Kyrillos K. Selim, Ayman Haggag, Fathy Z. Amer, Wael A. Rady and **Ahmed M. El-Garhy**. "A proposed technique for power extraction from acoustic energy scavenging" , **International Journal of Electronics**, February 2018.

REFERENCES

- **Prof. Dr. Mohamed Ahmed El-Garhy**
Former vice chairman of Atomic Energy Authority.
Nuclear Research Center, Atomic Energy Authority.

- *Prof Dr. Hasan Taher Dorrah*
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Faculty of Engineering, Cairo University, Giza, Egypt.

- *Prof. Dr. Mohamed Ibrahim El-Adawy*
Electronics, Telecomm. and Computer Engineering Dept.
Faculty of Engineering, Helwan University.