

Dr. Mohamed Abdelfattah El-Gohary

Faculty : Engineering, Mechanical Department, Alexandria University

Position : Associated professor , Full time-BAU

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1. Education : Professor in Applied Mechanics from March 2025

Associate professor in Solid Mechanics and Mechatronics From 2019

Ph.D., Mechanical Engineering, University of Alexandria, Egypt, 2011.

: M.S., Mechanical Engineering, University of Alexandria, Egypt, 2002.

: B.S., Mechanical Engineering, University of Alexandria, Egypt, 1996.

2. Academic experience

- Beirut Arab University, Associate professor Mechanical engineering Department, from September 2017 till now, full time, on leave from Alexandria university.
- Coordinator of mechatronics department for ABET Accreditation.
- Collaboration with LaRochelle university in PHD Program from spring 2020 till now.
- Alexandria University, Egypt, Assistance Professor, 2011- August 2017, full time.
- Alexandria University, Egypt, Lecture , 2002- August 2006, full time
- Alexandria University, Egypt, Teaching Assistance, 1997- August 2002, full time
- Arab Academy for Science and Technology, Egypt AAST, Assistance professor in Mechatronics 2001- May 2017 Part time
- Pharos University, Egypt, Assistance professor in Mechatronics 2011- May 2017 Part time.

3. Nonacademic experience.

- Work as **Assistance for the Alexandria Governor 2014- October 2015, part time.**
- Work **Consultant for Alexandria Municipality for Electromechanical and Mechanical** projects from 2014 – to August 2017, Part time.
- Member of Alexandria university Central Anti-Corruption committee 2014 – August 2017, Part time.
- Consultant for mechanical engineering project:
 - Valley of King Company, SAN STEFANO hotel with Valley of King Company. May 2003 – 2004
 - Marsa Alam airport, Mubarak grand studio in 6th October city and Meridian Hotel Cairo (December 2000 to September 2004).
 - Elalamia company Install a complete design office for cranes including overhead crane and jib crane, 2003-006.
 - Ezz steel company, design for Burn Scrap 2007.

- Al Amria petrol company, complete as built drawing for oil& phenol unit the unit (capacity 40% of all oil production in Egypt) 2011.

4. Certification or professional Registration. 240125, Egypt.

5. Current membership in professional organizations

- **ASME** Member #000100830756.

6. Honors and Awards:

- Graduated with High distinction From Alexandria University, 1996.

7. Service activities.

- 2013-2015 Member of SMOT (Sustainable Mediterranean Old Towns) project Team <http://www.smotproject.eu/> funded with EU, 2013-2015.
- 2016 - present Judge, Egyptian Engineering day
- 2012 Leader of Alexandria formula student Team Hockenheim Germany
- 2015 Leader of R.O.V. Team from 2012 to 2015 (1st of Egypt 3rd of international USA 2015).

8. Principal publications and presentations.

8.1 Textbook

Chapter on Springer.

- <https://www.springerprofessional.de/understanding-the-dilemma-of-the-municipal-solid-waste-managemen/12288184>.

8.2 Journal Publications.

1. Riad El Abed , Ali Hammoud , M.A. El-Gohary , Bilal Taher “ Recent optimization methods and techniques in residential home energy management systems” Journal Results in Engineering, E-ISSN:2590-1230 Accepted 3 January 2026 Results in Engineering 29 (2026) 108974 Available online 3 January 2026.
<https://doi.org/10.1016/j.rineng.2026.108974>
2. M. H. Chamas, S. Amine, E. G.Hanna , M.A.El-Gohary “ AI-Driven Kinematics and Experimental Control of 3-SRR Mechanism for UAV Stabilization” Journal Results in Engineering, E-ISSN:2590-1230 Accepted 25 April 2025 Results in Engineering 26 (2025) 105131 Available online 27 April 2025
<https://doi.org/10.1016/j.rineng.2025.105131>

3. **M.A.EL-Gohary** , M.S. Elksas , A. E. Banna , and S.G. Ahmad “ Three-Rigid-Link Manipulator Robot Inverse Dynamic Model Using ANN Based on PID Controller ” Journal of Engineering Research (JER), Vol. 8 – No. 5, 2024 ISSN: 2356-9441 e ISSN: 2735-4873 Tanta University, Faculty of Engineering **Accepted : 5 December ,2024.**
4. B. N. Zakher , I. M. El Fahham , M. Elhadary and M. El-Gohary “ The Effect of Road Profile on the Performance of a Full Car Suspension Model Ride Comfort” Journal of Engineering Research (JER), Vol. 8 – No. 4, 2024 ISSN: 2356-9441 e ISSN: 2735-4873 Tanta University, Faculty of Engineering Accepted : 25 September,2024.
5. M. F. Yakhni , S. Cauet , A.s Sakout, H. Assoum , E. Etien , L. Rambault, M. Ali , and M.A. El-Gohary “ Induction motor tacholeless fault detection in transient speeds using adaptive generalized Vold Kalman filter “ journal Results in Engineering, E-ISSN:2590- 1230 Accepted : 20 September 2024.
6. M.A. El-Gohary, R. El-Abed and O. Omar “ Prediction of an Efficient Energy-Consumption Model for Existing Residential Buildings in Lebanon Using an Artificial Neural Network as a Digital Twin in the Era of Climate Change “ Journal of Buildings, 2023, 13, 3074. E-ISSN : 2075-5309. Accepted : 5 December 2023.
7. M.A.El-Gohary Mohammad F. Yakhni , Housseem Hosni , Sebastien Cauet, and Anas Sakout. “Variables peed induction motors’ fault detection based on transient motor current signatures analysis: A review “ Journal of Mechanical Systems and Signal Processing, Volume 184(2023)109737. ISSN 08883270, 10961216
8. M.A.El-Gohary Mohammad F. Yakhni , Housseem Hosni , Sebastien Cauet, and Anas Sakout. “ Design of a Digital Twin for an Industrial Vacuum Process: A Predictive Maintenance Approach” Journal of Machines , Volume10(8),686 August 2022. ISSN 2075-1702.
9. M.A.El-Gohary, Bassem, Nashaat Zakher, M. Elhadary,and Ibrahim M. El Fahham “ Comparison Between Experimental Life Road Simulation and Computational Fluid Dynamics and Fluid Structure Interaction for Sedan Car “ CFD Letters14, Issue2(2022)81- 97
10. M.A.Elghohary and Riad Elabd “ Smart Building Energy Model using Artificial Intelligence Smart Building Energy Model using Artificial Intelligence Smart Building Energy Model using Artificial Intelligence Smart Building Energy Model using Artificial Intelligence” BAU Journal – Science and Technology , Volume 2, Issue 1, ISSN 2706-784X.
11. M. F. Yakhni, M. A. El-Gohary and M. N. Ali “ Magnetorheological Damper Voltage Control Using Artificial Neural Network for Optimum Vehicle Ride Comfort “ Journal of Mechanical Engineering and Sciences (JMES) ISSN: 2289-4659 e-ISSN:2231-8380 VOL. 15, ISSUE 1, 7648 – 7661 DOI: <https://doi.org/10.15282/jmes.15.1.2021.03.0603>
12. M. F. Yakhni, M. A. El-Gohary and M. N. Ali “ CONTROL OF MR DAMPER USING ANFIS AND PID CONTROLLER FOR OPTIMUM VEHICLE RIDE COMFORT “

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Journal – Science and Technology , Volume 2, Issue 1, ISSN 2706-784X.

13. Mohamed A El-Gohary, Ahmed M Ellakany, Mohamad Ali, and Mohamed Elkholy “ Lumped system model for elastic steel-concrete beams with partial interaction “ Multidiscipline Modeling in Materials and Structures, ISSN: 1573-6105, Publication date: 6 September 2019.
14. Mohamed El –Gohary, Mahesh P. Nagarkar, Yogesh J. Bhalerao , Gahininath J. Vikhe and Rahul N. Zaware Pati “ Artificial neural network predication and validation of optimum suspension parameters of a passive suspension system.” Received: 5 November 2018 / Accepted: 30 April 201, published on line 15 May, 2019 , SN Applied Sciences (2019) 1:569, <https://doi.org/10.1007/s42452-019-0550-0>
15. M.A.El-Gohary, Tawfik Elemam Mohamed, and T.Awad “ Ship Roll Damping Via Direct Inverse Neural Network Control System” AEJ , Elsevier Volume 57, Issue 4, December 2018, Pages 2951-2960
16. M.A.El-Gohary,A.E.Geweda, A. M.El-Nabawy and T.Awad " Improvement of Vehicle Ride Comfort using Genetic Algorithm Optimization and PI Controller" AEJ , Elsevier Volume 56, Issue 4, December 2017, Pages 405-414
17. M.A.El-Gohary, A.Abd_Elsalam, and H.A.El-Gamal “Simulation of Nonlinear Quarter Car Suspension System with and without Tire Damping" IJAST Issue 6 volume6, November-December 2016 ISSN 2249-9954.
18. M.A.Elghohary, B.N.Zaker, I.M.Elfaqham, and H.A.EL-Gamal " Computational Fluid Dynamics Results For Ahmed's Car Model" IJAST Issue 6 volume6, November-December 2016 ISSN 2249-9954.
19. M.A.El-Gohary, E.M.Attia ,N..M.Elsodany and H..A.Elghamal " Theoretical and Experimental Study of Magneto-rheological Fluid Disc Brake" AEJ , Elsevier Volume 56, Issue 2, June 2017, Pages 189-200
20. M.A.El-Gohary, A.Abd_Elsalam, and H.A.El-Gamal " Modal Analysis on Tire With Respect to Different Parameters " AEJ , Elsevier Volume 56, Issue 4, December 2017, Pages 345-357.
21. M.A.El-Gohary, E.M.Attia ,N..M.Elsodany and H..A.Elghamal "Magneto-rheological Fluid Disc Brake Design and performance" IJAST Issue 6, volume 3, May-June 2016 ISSN 2249- 9954.
22. M.A.El-Gohary, M. Elzouka, and Abdelhamid Attia "Control of Heat Integrated Distillation Employed by Cryogenic Air Separation Using Decentralized Simple PID Controllers" ASME 2015 International Mechanical Engineering Congress and Exposition, Volume 6A: Energy, Houston, Texas, USA, November 13–19, 2015.
23. M.A.El-Gohary, B. M. El-Souhily , S.F. Rezek , and T. Awad “Generalized Neural Inverse Dynamics Model for Front-Wheel Mid-Size Passenger Car ” International Review of Mechanical Engineering (I.R.E.M.E.), Vol. 5 (3), 474-482.
24. M.A.El-Gohary, B. M. El-Souhily , S.F. Rezek , and T. Awad” Generalized Model for Front-Wheel Mid-Size Passenger Car “ European Journal of Scientific Research ISSN 1450-216X Vol.52 No.3 (2011),pp. 413-429 <http://www.eurojournals.com/ejsr.htm>
25. M.A.El-Gohary, S.F. Rezek , and T. Awad “Control of Aircraft Maneuvers Using Neural Network “ Alexandria Engineering Journal, Vol. 45 (2006), No. 5, 509-515 509.

8.2 Conference Proceedings

1. Sallam A. Kouritem; M. A. El-Gohary; Mohamed M.Y.B. Elshabasy” Simulation-Based and Kinematics Analysis of a 5-DOF Robot for Medical Applications” IEEE 2025 Eighth International Conference on Advances in Biomedical Engineering (ICABME) 9-10 Oct. <https://doi.org/10.1109/ICABME66883.2025.11211702>
2. M.A.El-Gohary, Sebastien Cauet, Anas Sakout. Mohammad F. Yakhni, S. and , H. Assoum “Online Condition Monitoring of a Vacuum Process Based on Adaptive Notch Filters” 16th European Workshop on Advanced Control and Diagnosis. held in Nancy, France during November 16-18, 2022
3. Mohamad Ali, Mohamed El –Gohary “Mechanical Characterizations of Furniture Hinges “ November 2018 Conference: 5ième Congrès International Francophone de Mécanique Avancée (CIFMA 2018) At: 31 October, 1 - 2 November 2018. Faculty of Engineering, Lebanese University Hadath, Beirut, Lebanon
4. Mohamed A.EL-Gohary ,Rasha F. Elgazzar,and Rania F. El-Gazzar , "Understanding the Dilemma of the Municipal Solid Waste Management System in Alexandria, Egypt: Could ICT Improve the System?" 14th IFIP WG 9.4 International Conference on Social Implications of Computers in Developing Countries, ICT4D 2017, Yogyakarta, Indonesia, May 22-24, 2017, Proceedings
5. M.A.El-Gohary, [M. Elzouka](#), and [Abdelhamid Attia](#) "Control of Heat Integrated Distillation Employed by Cryogenic Air Separation Using Decentralized Simple PID Controllers" ASME 2015 International Mechanical Engineering Congress and Exposition, Volume 6A: Energy, Houston, Texas, USA, November 13–19, 2015.
6. M.A.El-Gohary, M.Farid Khalil and Ali A.Shaito " Application Of Artificial Neural Network For Prediction Of Trimmed Impeller Size Of a Centrifugal Pump" ICFD11, December 19-21, 2013, Alexandria Egypt

9. Professional development activities in the last five years

- ICFD11, December 19-21, 2013, Alexandria Egypt.
- ASME 2015 International Mechanical Engineering Congress and Exposition, Energy, Houston, Texas, USA, November 13–19, 2015.
- SMOT kick of meeting workshop Jordon March 2014
- SMOT workshop Cordoba Spain June 2014 .
- SMOT workshop Safakes Tunis October 2014 .
- SMOT workshop Ragoza, Italy April October 2015
- SMOT workshop Alexandria,Egypt October 2015
- SMOT Final Meeting Cordoba, Spain December 2015.

10.Teaching Experience.

- Mechatronics System Design.

- Measurements and instrumentations for mechanical systems.
- Dynamic System Analysis and control.
- Dynamic System modeling and simulation.
- Automation.
- Control Systems.
- Robotics.
- Mechanical Vibration.
- Noise analysis and control.
- Applied mechanics.

11. Research Interests :

- Applied Automatic control
- Artificial Neural Network, Fuzzy and genetic Algorithm.
 - Vehicle Dynamics and Control.
 - Robotics.
 - Mechatronics.
 - Wind turbine.
 - Smart Building.

12. Final year Project

- Formula Student Car Model 2012.
- Painting Robot 2013.
- Hydraulic Robots 2013.
- Skyscrapers glass cleaning Robot 2014.
- Quad-copter 2013, 2014.
- Fire fighting system from 2012 till now.
- CNC Machine.
- Smart Bus station.
- Design and control of oil skimmer smart unit.
- Design and control of smart solid waste collecting machine.
- Design and control of disabled assistant robot.
- Water-Jet cutting machine.
- Tennis Ball Launching machine.

13. Engineering Training Course

- [Storage Tanks and Pressure Vessel design.](#)
- Maintenance Technology.
- Predictive and Preventive Maintenance.
- Crane Safety and Design.
- Robotics.
 - Firefighting applications.