CURRICULUM VITAE

For

Prof. Dr. Moutaz Mohamed Hegazy
Vice Dean for Education Affairs
AASTMT- College of Engineering- Smart Village

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Prof. Dr. Moutaz Mohamed Hegazy

PERSONAL DETAILS

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Tel.: Hom. +2023456335 Mob. 01000306168

Date of birth: 21 July 1968

Marital Status: Married with three childs

EDUCATION & QUALIFICATIONS:

- Postdoctoral (Visiting Scholar) From June to December 2010, Department of Mechanical Engineering, North Western Poly technique University, Shian, China
- Doctor of Philosophy in Mechanical Engineering (Structural Mechanics), February 2002

  Cranfield University, Bedford, United Kingdom

  Thesis Title:

  "Finite Element Analysis of Fatigue Damage of Composite Laminated Structures"
- Master of Science in Mechanical Engineering (Structural Dynamics and Control), February 1997

  Military Technical College (MTC), Cairo, Egypt

  Thesis Title:

  "Modeling and Control of Flexible Robot Manipulators"
- Bachelor of Science in Mechanical Engineering, July 1990

  Military Technical College (MTC), Cairo, Egypt.

  Grade: *Excellent*

WORK EXPERIENCE

- Instructor at Military Technical College, Department of Mechanical Engineering 1991-96
- Teacher Assistant at Military Technical College, Department of Mechanical Engineering 1996-97
- Ph.D. Student at Cranfield University, Department of Mechanical Engineering 1999-2001
- Lecturer at Military Technical College, Department of Mechanical Engineering 2001- 2010
- Postdoctoral (Visiting Scholar), Department of Mechanical Engineering, North Western Poly Technique University, Shian, China 2010-2011
- Associate Professor at MTC, Department of Mechanical Engineering 2011 –2019
- Professor at MTC, Department of Mechanical Engineering 2019 –2020

- Part time Professor at AAST, Department of Mechanical Engineering Jan 2020 – Jan 2021
- Full time Professor at AAST, Department of Mechanical Engineering Feb. 2021 – Oct. 2021
- Vice Dean for education affairs Nov. 2021 – till now.

TEACHING COURSES:

- **Undergraduate Courses**

  - Mechanics I (Static-Dynamic)
  - Mechanics II (Kinematics and Kinetic)
  - Mechanics of Materials I & II (stress analysis)
  - Mechanics of Machinery
  - Theory of Machine
  - Mechanical Vibration
  - Finite Element Method
  - Robotics & Applications

- **Post Graduate Courses**

  - Finite Element Method For Engineering
  - Strength Elasticity & Plasticity
  - Advanced Dynamic
  - Modals Analysis of structure
  - Introduction to Robotic
  - Advanced Robot Dynamic
  - Robot Controller
  - Advanced Dynamics

POSTGRADUATE STUDENTS UNDER MY SUPERVISION:

- ***Completed***

- M. Sc. "Crack Detection in Shafts Using Vibration Technique"
- M. Sc. " Application of Computational Techniques in Dynamics Analysis of Mechanical Systems"
- M. Sc. " Structural Fatigue Analysis of Composite Structures Due to Stochastic Loadings"
- M. Sc. "Dynamic Analysis of Isotropic and Composite Plates Using Finite Element Method"
- M. Sc. "Condition Robot Monitoring using Multivariate analysis Techniques"
- M. Sc. "Static and Dynamic Analysis of Submerged Vessels"
- M. Sc. "Design of Special Concrete Mixture to Resist Penetration of Hyper-Velocity Objects"
- M. Sc. "Dynamic Modeling and Control of Robotic Manipulator"
- M. Sc. “structure analysis of flexible satellite panel”
- Ph. D. " Investigation into Dynamics of Industrial Robot Manipulators"
- Ph. D. “Investigating the Performance of Satellite Attitude Determination and Control System”
- Ph. D. “stress analysis on satellite structure”

SKILLS & INTERESTS

Languages: Arabic English (very Good) French (Currently Studding)

Computer: software; Matlap, ANSYS, ABAQUS, *Programming;* Matlap, Fortran Language

PUBLICATIONS:

1. Amir M. Wagih, Moutaz M. Hegaze & M. A. Kamel "Satellite Finite Element Model Validation for Coupled Load Analysis using Super-element Concept" SPACE Conferences and Exposition 11 - 15 Jane 2021, Long Beach, California, AIAA 2021, accepted for presentation.

2. A A Abdelghany, Moutaz M Hegazy and A Badawy "Passive vibration attenuation: a comparison study" AMME-19 2020 - IOP Conference Series Materials Science and Engineering 973 (2020) 012024 doi:10.1088/1757-899X/973/1/012024

3. A A El-Aal, M Roustom, Moutaz M. Hegazy "Modeling and control of unstable mechanical systems using control moment gyro (CMG)" October 2019 - IOP Conference Series Materials Science and Engineering 610:012053

4. Amr Ali, Moutaz M. Hegaze & Ahmed Elrodesly "Maximizing the Onboard Capability of the Spacecraft Attitude Control System Based on Optimal Use of Reaction Wheels" Journal Européen des Systèmes Automatisés Vol. 52, No. 4, August, 2019, pp. 397-407

5. Amr Ali, Moutaz M. Hegaze & Ahmed Elrodesly "In-flight Correction of the Satellite Orientation Parameter during Target Mode" Mathematical Modelling of Engineering Problems Vol. 6, No. 2, June, 2019, pp. 249-262

6. Amir M. Wagih, Moutaz M. Hegaze & M. A. Kamel "Combined Loading Analysis of Satellite's Critical Structure Components" 2018 AIAA SPACE and Astronautics Forum and Exposition 17-19 September 2018, Orlando, FL

7. S. Almbrok, Moutaz M. Hegaze, M. Kamel & Mostafa Asfoor "STRUCTURAL DESIGN OPTIMIZATION OF A MEDIUM ALTITUDE LONG ENDURANCE (MALE) UAV WING" Article 36, Volume 18, 18th International Conference on Applied Mechanics and Mechanical Engineering., Spring 2018, Page 1-16.

8. Amr AbdelAzim Ali, G. A. Elsheikh, Moutaz M. Hegaze "Coupled Spacecraft Orbital and Attitude Modeling and Simulation in Multicomplex Modes" ICAMAME London 2017: 19th International Conference on Aerospace, Mechanical, Automotive and Materials Engineering

9. Shady Sayed, Samer Wagdy, Ahmed Badawy, Moutaz M. Hegaze "Symmetrical In-Plane Resonant Gyroscope with Decoupled Modes" ICAMAME London 2017: 19th International Conference on Aerospace, Mechanical, Automotive and Materials Engineering

10. Amir M. Wagih, Moutaz M. Hegaze & M. A. Kamel "FE modeling of Satellite's Honeycomb Sandwich Panels Using Shell Approach and Solid Approach" AIAA SPACE and Astronautics Forum and Exposition, 12 - 14 Sep 2017, Orlando, FL

11. Amir M. Wagih, Moutaz M. Hegaze & M. A. Kamel "Satellite FE Model Validation for Coupled Load Analysis using Conventional and Enhanced Correlation Criteria" AIAA SPACE and Astronautics Forum and Exposition, 12 - 14 Sep 2017, Orlando, FL

12. Amir M. Wagih, Moutaz M. Hegaze & M. A. Kamel "Pre-testing Analysis of large remote sensing satellite's Structure" AIAA SPACE 2016, 13 - 16 September 2016, Long Beach, California.

13. Mohamed Bennaya, Wenping Zhang& Moutaz M. Hegaze “Estimation of the Induced Hydrodynamic Periodic Forces of Marine Propeller under Non-Uniform Inflow via CFD”Applied Mechanics and Materials Vol. 467 (2014) pp 293-299

14. Mohamed Bennaya,Wenping Zhang, Moutaz M. Hegaze and Yipeng Cao “PROPELLER RADIATED NOISE DUE TO WAKE FIELD OF THE SHIP BASED ON CFD, FEM AND BEM” The 21st International Congress on Sound and Vibration13-17 July, 2014, Beijing/China.

15. Mohamed Bennaya, Jingfeng Gong& Moutaz M. Hegaze, Wenping Zhang “Numerical Simulation of Marine Propeller Hydrodynamic Performance in Uniform Inflow with Different Turbulence Models” Applied Mechanics and Materials Vol. 389 (2013) pp 1019-1025

16. Y. Elkoteshy, Y. Shuyuan & Moutaz M. Hegaze “RBF based adaptive backstepping neural control of a dual-axis motion platform” 32nd Chinese control conference, July 26-28 2013, Xian China

17. Moutaz M. Hegaze "Geometrical Nonlinearity and Stability Analyses of Stiffened and Unstiffened Laminated Composite Plates Using High Order Element" 14th International Conference on Aerospace Sciences & Aviation Technology, Cairo, May , 2011.

18. W. Eldreny, G. Elnashar, Moutaz M. Hegaze and A. Badawy “DYNAMIC MODEL AND ANALYSIS OF A HEXAPOD ROBOT” 16th AMME, Cairo, May , 2011.

19. Moutaz M. Hegaze " Failure analysis of generally loaded composite laminated structures using finite element method" 14th International Conference on Aerospace Sciences & Aviation Technology, Cairo, May , 2011

20. Moutaz M. Hegaze & M. Abo Eldahab " Finite Element Analysis of Fatigue Damage of Composite Laminated Structures Under Stochastic Loading" 14th International Conference on Applied Mechanics and Mechanical Engineering Conference, Cairo, May, 2010

21. A. M. El-Nady, Moutaz M. Hegaze & Imam Morgan "Dynamic Analysis of Slider Crank mechanism and Two-Link Manipulator Using Constraint Technique" 14th International Conference on Applied Mechanics and Mechanical Engineering Conference, Cairo, May, 2010

22. Moutaz M. Hegaze "Nonlinear Dynamic Analysis of Stiffened and Unstiffened Laminated Composite Plates Using High Order Element" Journal of Composite Materials, Vol. 44 No. 3, pp 327-346, February 2010

23. G. Elnashar, T. Elbayoumi, A. Eldsoky & Moutaz M. Hegaze "An Assessment between classical and Fuzzy Learning Controller Design of Electro-Optical Pointing and Tracking" 3rd International Scientific Conference of the Military Technical College (Cairo), May 2006

24. G. Elnashar, T. Elbayoumi, A. Eldsoky & Moutaz M. Hegaze " A Comparison Between Conventional and Fuzzy Controller Design of A Gyro Stabilized Electro-Optical Sight System " 3rd International Scientific Conference of the Military Technical College (Cairo), May 2006

25. Moutaz M. Hegaze & A. El-Zafrany LARGE DEFLECTION AND STABILITY ANALYSIS OF COMPOSITE LAYERED PLATE USING A NEW HIGH-ORDER ELEMENT" Article 38, Volume 9, ASAT Conference, 8-10 May 2001, Spring 2001, Page 1-13

26. Moutaz M. Hegaze, S. Keryako & A. El-Zafrany "The Use of Hermitian Timoshenko Finite Element for the Dynamic Analysis of a Lightweight Manipulator" 8th International Conference on Aerospace Sciences & Aviation Technology (Cairo), May 1999

27. Moutaz M. Hegaze & A. S. Abd El-Mohsen " Dynamic Modeling of a Single Link Flexible Manipulator " 7th International Conference on Aerospace Sciences & Aviation Technology (Cairo), May 1997