

Yasser El-Shaer (Ph.D.)

Lecturer



Education

Doctorate of Philosophy (Ph.D.)
UMIST
Manchester, United Kingdom
2000-2003

Master of Science (MSc)
MTC
Cairo, Egypt
1993-1998

Bachelor of Mechanical Engineering
MTC
Cairo, Egypt
1988-1992

Experience

25 years of experience in education and research field

Professional Career Experience

Feb. 2019-Present

Head of Mechanical Engineering Department (Mechatronics)

Arab Academy for science and Technology and Maritime

Teaching and assisting in the delivery of academic education courses for undergraduate and Postgraduate students.

Sept. 2003-2019

MTC, Cairo, Egypt

Mechanical Design and Production Department

Associate Professor

Teaching and assisting in the delivery of academic education courses for undergraduates (Full time at the MTC, and Part time at AAST and MSA) and post graduates (MTC), the courses include:

- Engineering Graphics
- Machine Construction and Production Technology
- Machine and Construction Drawing I.
- Machine and Construction Drawing II
- Computer Aided Design
- Technical Measurement
- Experimental Methods
- AutoCAD, 2D, 3D (AUTODESK)
- Inventor 2018. (AUTODESK)
- Computer Aided Design (Inventor, solid edge or Solid Works)
- Ansys Finite Element Software
- Ceramic Production and Testing
- Plant Engineering Systems
- Power Plant Measurement & Control
- Machine Design
- Mechanical Design Project (Design of a single-Multi stage gearboxes)
- Production Project
- Graduation Projects
 1. Design and Production of a Scissor Lift. (MTC)
 2. Design and production of un-weighing system. (MTC)
 3. Design and production of a continuous passive motion (CPM) apparatus. (AAST)
 4. Hydraulic power pack characterization system. (MTC)
 5. Design and production of a hydraulic lift table. (MTC)

6. Design and manufacturing of a miniature materials testing system. (AASST)
7. Fault detection and condition monitoring of vehicle transmission. (MTC)
8. Hydraulic measurement and control test reg. (MTC)
9. Design and control of a wastewater treatment system (MSA)
10. Design of a 3-axis CNC machine (AASST)
11. Design and control of a smart parking system (AASST)
12. Design of waste-plastic recycling system (AASST)
13. Design and control of an unmanned ground vehicle (AASST)
14. Design and control of a Mapping Robot (AASST)
15. Design and control of a uni-axial testing machine (AASST)

Sept. 1993-2000

MTC, Cairo , Egypt

Mechanical Design and Production Department

Tutor, research fellow

Ph.D. Study

Fracture of ceramic/metal laminates.

MSc. Study

Effect of Autofrettage on crack growth behavior of thick-walled tubes

Courses:

• Selected topics in numerical analysis and ordinary differential equations.	• Technical measurement
• Computer programming with C-languages	• Theoretical and applied plasticity
• Theory of elasticity I	• Engineering fracture mechanics
• Modern fatigue analysis	

▪ Published Papers

- "On Modeling Autofrettage Residual Stresses", (The 8th International Conference On Aerospace Science & Aviation Technology, Cairo, Egypt, (May 1999), SM-9, 327-336)
- "Effect of Autofrettage On Fracture Toughness and Fatigue Crack Growth in Thick-Walled Tubes", (The 8th International Conference on Aerospace Science & Aviation Technology, Cairo, Egypt, (May 1999), SM-10, 337-351)
- "Experimental And Analytical Investigation Of Residual Stresses Induced By Autofrettage", (The 7th International Conference on Mechanical Design and Production, February 2000, Cairo University, Cairo, Egypt, 196-205)
- "Modeling Of R-Curve Behavior in Ceramic-Metal Laminates", (Materials Science And Engineering A365 (2004) 196-201)
- "Design and Manufacturing of New Unweighing System", May 2006 , MTC, Cairo, Egypt
- "A Survey on the Structural Failure Analysis Due to Impact", 13th International Conference on Applied Mechanics and Mechanical Engineering, May 2008, MTC, Cairo, Egypt.
- "The Transition from Single to Multiple Cracking in Ceramic/Metal Laminates", 13th International Conference on Applied Mechanics and Mechanical Engineering, May 2008, MTC, Cairo, Egypt.
- "Optimization of A Satellite Structure", 13th International Conference On AEROSPACE SCIENCES & AVIATION TECHNOLOGY, ASAT- 13, May 2009, MTC, Cairo, Egypt
- "New Trends in Ceramic Processing For Armor Applications " 14th AMME Conference, May 2010, MTC, Cairo, Egypt.
- Optimization of CMC(ZTA)/Composite Armor, Proceedings of The 14th AMME-14 Conference, 25-27 May, 2010.
- "Theoretical Study of Fracture Toughness of Ceramic/Polymer Laminated Composites Using Cohesive Zone Simulations", ASAT-14, May 2011, MTC, Cairo, Egypt.
- "Stress Analysis of A High Fill-Factor Micromachined Bolometer for Thermal Imaging Applications", Proceedings of the 5th WSEAS Int. Conf. on Dynamical Systems and Control.
- "Monitoring the Progression of Micro-Pitting in Spur Geared Transmission Systems Using Online Health Monitoring Techniques", SAE Aerotech Congress, October 2011, Toulouse, France. "Presentation"
- "Experimental and Numerical Investigation of Mechanical Behavior Of Notched Composite Laminates", 15th AMME Conference, May 2012, MTC, Cairo, Egypt.

- “Effect of the Preparation Route on the Mechanical Properties of Yttria–Ceria Doped Tetragonal Zirconia/Alumina Composites”. *Ceramics International*, 39 (2013) 1835–1840
- “FCG Behavior In Perpendicular Direction Of Welded Austenitic Stainless Steel Plate”, *Journal Of El Azhar University Engineering Sector*, Vol. 8, No 27, April 2013 , 639-647
- “Modeling of Mechanical Behavior of Notched Composite Laminates”, *International Journal of Computer Applications*, Volume 71– No.8, 2013.
- Multi-Objective Optimization for Alumina Laser Sintering Process, *Lasers Manuf. Mater. Process.* (2016) 3:174–190, Springer.
- Topology Optimization of A Pressure Chamber Design Using Computer Aided Design Software, *Proceedings of The 17th Int. AMME Conference*, 19-21 April, 2016, MTC, Cairo, Egypt
- Smart Diagnostic System for Automotive Multistage Mechanical Transmissions Using Multi-Class Support Vector Machine, *Proceedings Of The 17th Int. AMME Conference*, 19-21 April, 2016, MTC, Cairo, Egypt
- Scoring Models for Automotive Multistage Mechanical Transmissions Using Principal Component Analysis, *Proceedings of the 17th Int. AMME Conference*, 19-21 April, 2016, MTC, Cairo, Egypt
- Characterization of Direct Selective Laser Sintering of Alumina, *Int. J. Adv. Manuf. Tech.* September (2017), Springer.
- Anti-Corrosion Silica-Based Hybrid Coatings for the Protection of AA2024 Alloy, *Proceedings of the 17th Int. ASAT Conference*, 11-13 April, 2017, MTC, Cairo, Egypt.
- Influence of Laser Process Parameters on Properties of Alumina Parts Produced By SLS, *Proceedings of the 17th Int. ASAT Conference*, 11-13 April, 2017, MTC, Cairo, Egypt
- Preparation and Characterization of Modified Silica-Epoxy Hybrid Ceramic Coatings, *2nd International Journal on Design, Mechanical and Material Engineering*, 14-16 September 2017, Melbourne, Australia
- Analysis of cutting forces in micro milling, *Proceedings of The 18th Int. AMME Conference*, 3-5 April, 2018, MTC, Cairo, Egypt
- Basic course in Quality Control (ISO 9001), (Cairo, Egypt, 2005)
- Metrology and calibration courses (Fluke, South Africa, 2009)

**Attended
Training
Courses**

Special Skills

Mechanical Measurement and Control Skills

- Design and production of simple mechatronic systems.
- Calibration and measurement.
- Virtual instrumentation using LabView

Computer Skills

- MS Office.
- AutoCAD, Inventor.
- Solid works.
- Working Model.
- FEM using Ansys
- NI LABVIEW.

Languages

- Native speaker of Arabic
- Fluent in English

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**Personal
Data**

Date of Birth July 7th, 1970
Place of Birth Alexandria, Egypt
Nationality Egyptian

References

- **Prof. Dr. Nabil Abdelhamid Gadallah**

Professor, Modern Academy, Cairo-Egypt, nabilgadallah@hotmail.com

- **Prof. Dr. Mohamed Kamal Shoukry**

Professor, GUC, Cairo-Egypt, mohamed.shoukry@guc.edu.eg

- **Prof. Dr. Said Abdelkader**

Professor, AASTMT, Alexandria-Egypt, abdelkader500@hotmail.com