

# Curriculum Vitae

## Ahmed Nabhan Mahmoud Elkholy, Ph.D.

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### PERSONAL INFORMATION:

**Marital Status:** Married

**Nationality:** Egyptian

**Birth Day:** 21 June 1984

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### SUMMARY OF QUALIFICATIONS

- **Ph.D.in Mechanical Engineering (Mechanical Design)**  
*"Strength and Vibration Analysis of Antifriction Bearing Defects"*  
June 2015                      Faculty of Engineering, Minia University, Egypt
- **M.Sc. in Mechanical Engineering (Mechanical Design)**  
*"Finite Element Analysis of Stresses caused by Holes and Surface Texture in Thick-walled Cylinders"*  
August 2011                      Faculty of Engineering, Minia University, Egypt
- **Preliminary postgraduate year for M.Sc. in Mechanical Engineering (Material Engineering and Mechanical Design)**  
July 2008                      Faculty of Engineering, Minia University, Egypt
- **B.Sc. in Mechanical Engineering (Production Engineering and Mechanical design) Very Good with Honors**  
July 2006                      Faculty of Engineering, Minia University, Egypt

## OCCUPATION

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- **Demonstrator** in Production Engineering and Mechanical design department, Faculty of Engineering, Minia University (December 2007 to September 2011)
- **Teaching Assistant** in Production Engineering and Mechanical design department, Faculty of Engineering, Minia University (October 2011 to July 2015).
- **Assistant Professor** in Production Engineering and Mechanical design department, Faculty of Engineering, Minia University (August 2015 till now).

## AREAS OF SPECIALTY

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Stress Analysis and Strength of Materials, Finite Element Analysis (FEA), Mechanical Design, Experimental Vibration measurements, Tribology, Lubricating oil analysis, Friction and Lubrication, and Wear.

## HONORS AND AWARDS

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- *Ranked the first among 2006 graduated students of Production Engineering and Mechanical Design Department, Faculty of Engineering, Minia University, Egypt.*
- *The scientific award for best Ph.D. thesis of Faculty of Engineering, Minia University, 2015.*
- *The scientific publication award for the academic year 2016-2017 from Minia University, Egypt.*

## TEACHING EXPERIENCE

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- **Faculty of Engineering, Minia University.**

*I have about 12` years in teaching the following courses for undergraduate (UG) students*

1. Engineering Drawing Using Computer.

2. Mechanical Drawing.
3. Design of Machine Elements.
4. Machine Design.
5. Measurement Principles
6. Material Handling Equipment.
7. Computer Applications in Engineering, MATLAB.
8. Properties of Materials and its tests.
9. Design of Jigs and Fixtures

*Teach the following modules for postgraduate (PG) students.*

1. Computer Applications in Engineering, ABAQUS.
2. Advanced Machine Design.
3. Design Process Concepts

▪ **Faculty of Engineering - Qena, South Valley University.**

*I teach the following courses for undergraduate (UG) students for the academic years 2015-2016 and 2016-2017*

1. Design of Machine Elements.
2. Stress Analysis and Strength of Material.
3. Production Engineering.
4. Mechanical Vibration analysis.

▪ **El-Minia High Institute of Engineering and Technology.**

*I teach the following courses for undergraduate (UG) students for the academic years 2015-2016 and 2016-2017*

1. Computer Applications in Engineering, Industry and Management.
2. Production Engineering.
3. Metal Forming.
4. Metal Cutting and Operations.
5. Metallurgy Physics.
6. Engineering Materials.
7. Industrial Engineering.

## **RELEVANT EXPERIENCE**

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**\*\*\* I have about 5 years in Official Quality Assurance and Accreditation Unit, Department of Production Engineering and Mechanical Design.**

**\*\*\* MEMBER OF EDITORIAL BOARD of Journal of the Egyptian Society of Tribology (EGTRIB Journal)**

**\*\*\* I have reviewed many articles for many international journals such as**

- **Transactions of the Institute of Measurement and Control.**
- **Journal of the Egyptian Society of Tribology (EGTRIB Journal).**
- **Minia Journal of Engineering and Technology (MJET).**

## **JOB-RELATED SKILLS**

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- **Courses in Research Team Management.**
- **Courses in Scientific publishing**
- **Courses in Communication skills in different Education methods**

## **COMPUTER SKILLS**

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- AutoCAD Mechanical
- ABAQUS
- ANSYS
- MATLAB
- Solid Works
- Office tools

## **SUPERVISION THESIS**

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### ***Master Degree***

1. ***"Vibration and Tribological Behavior of Adding Nano Oxides Materials to Lithium Grease"*** Faculty of Engineering, South Valley University, Qena, Egypt – December 2017.

### ***Master Degree (under process)***

1. ***"Gearbox Fault Diagnosis using Vibration Analysis"*** Faculty of Engineering, South Valley University, Qena, Egypt.
2. ***"Mechanical and Tribological Properties of Polymeric Coating Composites Reinforced by Nano Materials"*** Faculty of Engineering, Minia University, Minia, Egypt.
3. ***"Study of the Tribo-system of Sheets Forming"*** Faculty of Engineering, Minia University, Minia, Egypt.
4. ***"Frictional Materials Reinforced by Natural Fibers"*** Faculty of Engineering, Minia University, Minia, Egypt.
5. ***"Study the Improvement of Mechanical Characteristics of Aluminum Alloys Sheets by Equal-channel Angular Rolling"*** Faculty of Engineering, Minia University, Minia, Egypt.

## **GRADUATION PROJECTS**

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1. ***"Corrosion of Aluminum 6061"***
2. ***"Design of a Router Machine"***
3. ***"Effect of Adding Nano additives to Grease on Vibration Behavior of ball Bearing"***
4. ***"Mechanical and Tribological Properties of Poly Methyl Methacrylate (PMMA) Reinforced by Nano Material"***
5. ***"Defect Size Estimation in the Outer Race of Ball Bearing Using Vibration Analysis"***
6. ***"Design Test Rig of Lubricant Oil Analysis and Experiments of the Oils Dispersing by Nano Additives"***

## LIST OF PUBLICATIONS

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1. **A.N. Elkholy**, M. A. Kamel, and M. O. Mousa, "*Finite Element Analysis of Stresses Caused by External Holes in Hydraulic Cylinders*" International Journal of Mechanical Engineering, Vol. 2(2), pp. 105-115, 2012.
2. **Nabhan A.**, Mohamed, M. K., and Mousa, M.O., "*An Investigation into the Effect of Surface Texture on the Stress generated on Thick-walled Cylinders Using FEM*" Minia Journal of Engineering and Technology (MJET), Vol. 33(1), pp. 157-163, 2014.
3. **Nabhan A.**, Nouby M., Samy A. M., and Mousa, M.O., "*Contact Stress Distribution of Deep Groove Ball Bearing Using ABAQUS*" Journal of the Egyptian Society of Tribology (EGTRIB Journal), Vol. 12(1), pp. 49-61, 2015.
4. **Nabhan A.**, Nouby M., Samy A. M., and Mousa, M.O., "*A Novel Approach for the Effect of the Bearing Housing Height on the Generated Vibration Using Dynamic Model*" Journal of the Egyptian Society of Tribology (EGTRIB Journal), Vol. 12(2), pp. 15-29, 2015.
5. **Nabhan A.**, Nouby M., Samy A. M., and Mousa, M.O., "*Bearing Fault Detection Techniques - A Review*" Turkish Journal of Engineering, Sciences and Technology, Vol. 3(2), 2015.
6. **Nabhan A.**, "*Vibration analysis of adding contaminants particles and carbon nanotubes to lithium grease of ball bearing*" The 22-nd International Conference on VIBROENGINEERING – Moscow (Russia), Vibroengineering Procedia, Vol. 8, pp. 28-32, 2016.
7. **Nabhan A.**, Nouby M., Samy A. M., and Mousa, M.O., "*Vibration analysis of deep groove ball bearing with outer race defect using ABAQUS*" Journal of Low Frequency Noise, Vibration and Active Control, Vol. 35(4). pp. 312-325, 2016.
8. **Nabhan A.**, Nouby M., Samy A. M., and Mousa, M.O., "*Multiple Defects Detection in Outer Race of Gearbox Ball Bearing Using Time Domain Statistical Parameters*" International Journal of Vehicle Structures & Systems, Vol. 8(3). pp. 167-174, 2016.
9. Khaled M. , Nouby M., **Nabhan A.**, and Abd El-Jaber, G.T., "*Design a Remote Control System for Submersible Pumps Based on GSM-SMS*" American Journal of Engineering and Technology Research, Vol. 16(2), pp. 68-79, 2016.

10. E. Nabhan, **A. Nabhan**, and N. Abd El-Aal, " *Mechanical and Structural Properties of Zinc – Sodium - Phosphate Glasses Doped with  $Cu_2O$* " American Journal of Physics and Applications, Vol. 4(6), pp. 145-151, 2016.
11. Eman Ahmed, **Nabhan A.**, Nouby M., and Abd El-Jaber, G.T., " *Influence of Adding Contaminants particles to Lithium Grease on the Frictional Coefficient*" Journal of the Egyptian Society of Tribology (EGTRIB Journal), Vol. 14(1), pp. 15-29, 2017.
12. **Nabhan A.**, Mohamed M. K., and Mousa M.O., " *Study the Effect of the Stress generated for an internally Pressurized Thick-walled Cylinders containing an Internal Radial Hole Using FEM*" International Journal of Engineering and Information Systems (IJEAIS), Vol. 2(1), pp. 134-141, 2018.
13. Eman Ahmed, **Nabhan A.**, Nouby M., and Abd El-Jaber, G.T., " *Influence of Dispersing Lithium Grease by Hybrid Nano Titanium and Silicon Oxides on Friction Coefficient*" Journal of the Egyptian Society of Tribology (EGTRIB Journal), Vol. 15(3), pp. 61-71, 2018.
14. **Nabhan A.**, Rashed A., " *Experimental and Numerical Investigation of Defect Size Estimation in Taper Roller Bearing*" Noise and vibration Worldwide, Vol. 49, pp. 1-10, 2018.
15. Rashed A., **Nabhan A.**, " *Influence of Adding Nano Graphene and Hybrid  $SiO_2 - TiO_2$  Nano Particles on Tribological Characteristics of Poly(methylmethacrylate) (PMMA)*" KGK, 2018.
16. **Nabhan A.**, Rashed A. " *Modelling and Simulation of Wheelchair Friction with Different Floors*" Journal of the Egyptian Society of Tribology (EGTRIB Journal), Vol. 15(4), pp. 51-62, 2018.

## CONFERENCE PRESENTATIONS

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1. **Nabhan A.**, " *Vibration analysis of adding contaminants particles and carbon nanotubes to lithium grease of ball bearing* "The 22nd International Conference on VIBROENGINEERING – Moscow (Russia), October, Vol. 8, pp. 28-32, 2016.
2. Rashed A., **Nabhan A.**, and Ali W. Y. " *Reducing Slip Accidents Indoor for Persons with Disabilities* " A new vision to challenge disabilities international conference, Minia University, Egypt, March, 2017
3. **Nabhan A.**, Mohamed R. El-Sharkawy, and Ali W. Y. " *Proper Selection of Floor Materials for Wheelchair Users* " A new vision to challenge disabilities international conference, Minia University, Egypt, March, 2017.
4. Rashed A., **Nabhan A.** " *Effects of  $TiO_2$  and  $SiO_2$  Nano Additive to Engine Lubricant Oils on Tribological Properties at Different Temperatures* " 20th International Conference on Aerospace, Mechanical, Automotive and Materials Engineering, Rome, Italy, October, 2018.
5. **Nabhan A.**, Rashed A. " *Monitoring of Belt-Drive Defects Using the Vibration Signals and Simulation Models* " 20th International Conference on Innovations in Engineering and Technology Research, Rome, Italy, October, 2018.

***Last Update: 10-Oct.-2018***