

# CURRICULUM VITAE



## 1- Personal Data

- **Name:** Tarek Mahmoud Mohamed Belal
- **Birth Date:** 10-3-1966
- **Address:** 31 El Kady Hamza St, Ibrahimia, Alexandria, Egypt
- **Telephone:** 035917141- 01225707351
- **Marital Status:** widow and have two kids
- **E-Mail:** [tarek\\_belal@yahoo.com](mailto:tarek_belal@yahoo.com)

## 2- Education

- **B.Sc of Aviation Mechanical Engineer**  
Military Technical Collage, Cairo, Egypt July 1988      **General Grad: GOOD**  
Graduation Project “Study of Fatigue Crack on Titanium Alloys”
- **Ms Sc in Mechanical Engineering**  
Thesis: Theoretical Study to Use Natural Gas Instead of Aviation Fuel in Aircraft Propulsion  
Alexandria University 2002 Egypt
  - Study of Fuel Replacement , Fuel Storage , Fuel System and Engine Performance as Well as Engine Emissions in Different Flight Cycle Regime (Landing, Take Off , Climb, Cruise)
- **PhD in Mechanical Engineering**  
Thesis: Numerical Study on The Effects of Carbon Dioxide and Hydrogen Concentrations on a Closed Cycle Diesel Engine Performance and Pollutants  
Alexandria University 2010 Egypt
  - Study The Base Line Diesel Engine Performance, Engine Performance With CO<sub>2</sub> Add and Engine Performance With CO<sub>2</sub> and H<sub>2</sub> Add as Well as The Engine Emissions Due to Different Constitutes. The Study Includes The Mesh Study and The CFD Techniques
- **American language Diploma Institute of Defense 1992 USA**
- **TOEFL Certificate (530)**
- **English skill (Spoken -Written) Very Good**

### 3-Publications

- “Numerical Investigation on the Effect of Different Carbon Dioxide and Hydrogen Concentrations on Closed Cycle Diesel Engine Performance and Pollutants”, International Review of Mechanical Engineering (IREME), Vol. 4, N. 6, September 2010.
- “Using CFD Code to Investigate DI Diesel Engine Performance and Emissions” , Proceedings of ICFD 10; Tenth International Congress of Fluid Dynamics , December 16-19,2010, Setla Di Mare Sea Club Hotel, Ain Soukhna, Red Sea, Egypt, ICFD10-EG-3125
- “Investigating Diesel Engine Performance and Emissions Using CFD” , Scientific Research , Energy and Power Engineering Journal, pp 171-181, vol 5, number 2, 29<sup>th</sup> March 2013
- “Numerical Investigation of Ventilation Systems to Control Infection Inside Operating Rooms”, Proceedings of the 16<sup>th</sup> Int. AMME Conference, 27-29 May, 2014
- “Numerical Study on The Effect of Secondary Air Inlet Conditions on A Gas Turbine Combustor Burning Natural Gas”, Proceedings of the 16<sup>th</sup> Int. AMME Conference, 27-29 May, 2014
- “Effect of Secondary Air Configuration in Gas Turbine Combustor Firing Natural Gas”, Proceedings of the ASME 2014 International Mechanical Engineering Congress & Exposition IMECE2014, November 14-20, 2014, Montreal, Quebec, Canada
- “Numerical Study on the Effect of Natural Gas on Aircraft Turbofan Engine Propulsion”, Journal of Modern Mechanical Engineering and Technology, 2014, 1, 31-48
- Nominated by ABI (American Biographical Institute) in 2011.
- Area of concern
  - Effect of Closed Cycle Diesel Engine On Vehicle Noise
  - Renewable Energy and alternative fuels
  - Fuel and fuel consumption management
  - Waste Management Systems
  - Solar System and Renewable Energy
  - Enhance fuel consumption using brown gas
  - Apply brown gas in Diesel marine and Petrol engines

### 4-Training Courses

- American Language Diploma 1991 USA (American language Diploma Institute of Defense)
- Airplane General 1992 USA (General Dynamics)
- Avionics Flight Data Recorder (FDR)Specialist 1995 EGYPT
- FDR Engineering Workstation System 1998 USA ( Lockheed Martian)
- Solaris System Administration 1998 USA (Sun Microsystems)
- Lead auditor course ISO 9001:2008 2007 BV-Egypt
- Lead Auditor course ISO 14001:2004 2008 BV-Egypt
- Lead Auditor course OHSAS 18001:2007 2007 BV-Egypt
- GHG Inventory Lead Verifier course ISO 14064 2011 BV-Egypt

- **Train of Trainer (Based on Accelerate Learning) 2011 FQC-Egypt**
- **IASP/NASP Safety Manager/Trainer 2012 EHS-Egypt**
- **Lead Auditor course ISO 50001:2011 2014 Aventa**
- **NEBOSH IGC 2015 P&Q-Egypt**
- **Lead Auditor course ISO 20000-1:2011 2015 Herms**
- **Lead Auditor course ISO 27001:2013 2015 Herms**
- **Transition Course ISO 9001:2015 2016 BV-Egypt**
- **Transition Course ISO 14001:2015 2016 BV-Egypt**
- **Lead Auditor ISO 28000 2015-PECB**
- **Certified Lead SCADA Security Professional 2015-PECB**
- **Lead Implementer ISO/TS 16949 2016-PECB**
- **Lead Implementer ISO 39000 2016-PECB**
- **Migration Course ISO 45001:2018 2018 GCB**
- **Lead Auditor Course ISO 22301:2012 2018 Herms**
- **Lead Auditor Course ISO 37001:2016 2018 PECB**
- **Lead Auditor ISO 22000:2018 2022 Herms**

## **5-Past Jobs / Positions**

- **Quality Institution for Engineering and Management Consultancy General Manager.**
- **Assistant Prof. in Pharos university faculty of Engineering , Mechanical department**
  - **(Mechanical Drawing, Internal Combustion Engine, Fluid Mechanics basic and advanced and Pump technology)**
- **Assistant Prof. in Arabic Academy for Science and Technology and Maritime Transport**
  - **(Internal Combustion Engine and Automotive Fuel Systems)**
- **Assistant Prof. in Bellbas Higher Institute of Engineering. (Manufacturing, Drawing and Fluid Mech.)**
- **Bureau VERITAS Egypt System Certification Services Training Manager**
- **Consultant for Management Systems**
- **NEBOSH Certified Translator 486/IGC/Ara/TMBM**
- **Lead Tutor for the Quality, Environmental, Occupational Health & Safety Management Systems, Information Security, Information Technology and Energy management system .**
- **Lead Auditor for the Quality, Environmental, Occupational Health and Safety Management Systems, Information Security, Information Technology and Energy Management System.**
- **Lead Tutor for PECB (ANSI Accreditation) for the Quality, Environmental, Occupational Health,**

## **Safety Management Systems and Energy Management System.**

- **Air Base Deputy Command of Maintenance (DCM)**
- **Chief Of Production Control Branch of Intermediate Shop**
- **Chief of Components Inspection and Repair Shop**
- **Chief of Production Control Office**
- **In Roll In Many Engineering Development and Planning Activities in Intermediate Shop**
- **Wing DCM**
- **Wing Chief of Maintenance Control**
- **Squadron Chief of Maintenance**
- **First Line Maintenance Engineer**
- **Airplane General Instructor**
- **FDR Instructor**
- **Aerodynamic Instructor**

## **6-Job Experiences**

- **Lecture of Production Engineering and Technology (Bellbas Institute)**
- **Lecture of Engineering Drawing (Bellbas Institute)**
- **Lecture of Descriptive Geometry (Bellbas Institute)**
- **Lecture of Fluid Mechanics (Bellbas Institute)**
- **Lecture of Internal Combustion Engine (Arab Academy, Engineering Collage)**
- **Lecturer of Fluid Mechanics and Internal combustion Engine (Pharos university)**
- **Supervise Energy Saving Project for Petrol Engines (One-year project).**
- **Supervise Energy Saving Project for Diesel Marine Engines (One-year project).**
- **Member of Supervision Committee of Master of Science Research 2012 (Banha University Faculty of Engineering)**

**Thesis: Analysis of the Performance of Hospitals Ventilation Systems Using Computational Fluid Dynamics (CFD)**

- **Presenter in ASME conferences**
- **ASME Member #100107003**
- **Technical Paper Reviewer for SAE (Society of Automotive Engineer)**
- **Technical Paper Reviewer for *Engineering Applications of Computational Fluid Mechanics* Journal , Published by The Hong Kong Polytechnic University**
- **Implementing ISO 9001, ISO 14001:2015 , ISO 45001:2018 and ISO 22000 /FSSC 22000 on Pharmaceutical and Food industry (Pharco. Group and Silo Foods)**
- **Implementing ISO 55001 Asset management Standard (UAE – Ministry of Interior and Kharafi-Egypt)**
- **Lead Auditor ISO 26000:2010 ( 2014 )**

- **Implementing ISO 9001, ISO 14001 and OHSAS standards in different sectors (Marine, Oil & Gas services , offshore services, manufacturing [basic metal, wood , furniture and gases], Banking and Pharmaceutical Industry)**
- **Implementing ISM for ship management sectors (ship owner and management )**
- **implementing ISMS & ITSM in the Banking (MasterCard & Western Union activities) and Administration in Iraq and UAE and program development companies KSA)**
- **Implementing ISO 17021 for accreditation services (CPPSI- UAE, COTECNA-Egypt, Global Certification Bureau)**
- **Consultant for ISO 17020 (COTECNA-Egypt)**
- **Consultant for ISO 17065 (Bureau Veritas-Egypt)**
- **Misr Insurance Consultant.**
- **Phosphate Misr Consultant**
- **GMP+ Consultant (EverGrow)**
- **Conducting ISO 9001 audit as team leader for different industries (Petroleum , Pharmaceutical , maritime , construction, automotive, training, education, Banking ,utilities (waste water)[Egypt, Qatar, Lybia, UAE and Sudan]**
- **Conducting ISO 14001 as team leader for different industries (Petroleum, Pharmaceutical , maritime , construction ,automotive , maintenance ) [Egypt, Lybia, UAE and Sudan]**
- **Conducting OHSAS 18001 as team leader for different industries (Petroleum , Pharmaceutical , maritime , construction , automotive , maintenance) [Egypt , UAE and Lybia]**
- **Auditing as a team leader integrated management systems for different industries (Petroleum , maritime , construction , automotive , maintenance)**
- **ISO 41001:2018 for infrastructure companies (Kharafi-Egypt)**
- **Carbon foot print assessment for Marine and banking sectors(Mardiv, ABC-bank, Emirate NDB and Blom Banks)**
- **ISO 22000:2018 and FSSC 22000 consultant for SILO FOODS**
- **NFSA requirements consultant for SILO FOODS**
- **Auditor and consultant for Decree 316 for Tourism ministry for tourism's organizations ranking for SILO Tel.**
- **Assess Energy saving for Engines**
- **EnMS Internal Auditing Course**
- **Lead Tutor for ISO 9001:2015 Standard**
- **Lead Tutor for OHSAS 18001:2007 Standard**
- **Lead Tutor for ISO 14001:2015 Standard**
- **Lead Tutor for ISO 20000-1:2011 Standard**
- **Lead Tutor for ISO 27001:2013 Standard**
- **International Recognition Certified Auditor (IRCA) Registered Lead Auditor QMS 2015 # 1196896**

- **International Recognition Certified Auditor (IRCA) Registered Lead Auditor OH&S # 1196896**
- **International Recognition Certified Auditor (IRCA) Registered Lead Auditor FSMS # 1196896**
- **Inspection, Maintenance and Repair of Aircraft**
- **Managing of all Inspections, Maintenance, Repair and QA Activities for Intermediate Shop, First and Second Line Maintenance**
- **Managing of all Logistics Activities**
- **Managing of Engineering Development and Researches**
  - **Study of Time Change Technical Order from Lockheed Martian**
  - **Study of Manufacture of free bomb Holder Adaptor**
  - **Study of Oil Sample Replacement**
  - **Design of Aircraft Air-Conditioning Pressure Switch Test Instrument**
  - **Study of Torque limiter Function and Maintenance**
  - **Develop New Overall Maintenance Procedure for Torque Limiter**
  - **Design Automated Supply Control System Using BAR Code System**
  - **Landing Gear Elector-Hydraulic Switch Test Rig Modification**
  - **Aircraft Tire Drum Life Time Study**
  - **Design of Oxygen Regulator Circuit Board**
- **In Roll in preparing Intermediate shop for ISO 9001**
- **Planning of Material for Overhaul Level For Aircraft, Engines and Components**
- **Planning of Academic and Practical Training for all Personal Levels**
  - **Develop Academic Courses for Transferring General Electrical Engineers to Aviation Electrical Engineers**
  - **Develop Supply Chain Training Course and Training Records**
  - **Develop Flight Data Recorder courses**
    - **Engineers**
    - **Technicians**
- **Planning of all Inspection, Repair and Logistics Support for Aircraft, Engines and Components**
- **Instructor for Academic and Practical Training for all Personal Levels.**
  - **Aircraft General Maintenance Instructor**
    - **Engineers**
    - **Technicians**
  - **Aircraft System Instructor**
    - **Engineers**
    - **Pilots**
    - **Technicians**
  - **Flight Data Recorder Instructor**
  - **Flight Data Recorder Work Station Instructor**

- **Solaris System Administrator (Sun Microsystems Work Stations)**
- **OSHA General Industry Certified # 900148767**
- **OSHA Construction Certified # 600336903**
- **NASP/IASP Trainer ID # 507405**
- **SA 8000 2<sup>nd</sup> Party Audit on Suppliers, Coordinator and Audit Team Leader Since 2009 with Bureau Veritas Italy.**
- **Sustainability Audit for Pepsi Co , Coordinator and Audit Team Leader 2012 with Bureau Veritas USA(Audit Against Sustainability Index Requirements) ( ISO 26000:2010 & Other Pepsi Standards)**

## **7- Computer Experiences**

### **7-1 Software**

#### **7-1-1 Programming Languages**

- **MATLAB**
- **Microsoft Visual C++**
- **Microsoft Visual Basic**
- **Microsoft Visual Fortran**
- **PHP for web developing**

#### **7-1-2 Applications**

- **Microsoft Office (Word, Excel, Power Point, Access)**
- **Project Manager**
- **Fluent (Computational Fluid Dynamics Software)**
- **ANSYS 14**
- **ACAD**
- **3DMAX**
- **Photoshop**
- **Electronic Workbench**
- **Design of Barcode Applications**
- **Design of Production Control Applications**
- **Design of Planning and Training Applications**
- **Design of Logistics and Supply Applications Using Barcode**

### **7-2 Hardware**

- **PC maintenance and repair**

## **8- References**

- **Prof. Dr Alaa Sehbl**  
Faculty of Engineering, Mechanical Engineering Department  
Pharos University, Alex, Egypt  
Cell phone:00201118809660  
Email: [ashebl@gmail.com](mailto:ashebl@gmail.com)

- **Prof . Dr El Sayed Marzouk**

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Cell phone: 00966-0508140349  
Email: [emmarzouk@yahoo.com](mailto:emmarzouk@yahoo.com)

- **Prof. Dr Mohsen Osman**

Faculty of Engineering, Mechanical Engineering Department  
Alexandria University, Alex, Egypt.  
Cell phone: +20101672890  
Email: [mohsen7351@yahoo.com](mailto:mohsen7351@yahoo.com)

- **Eng. Madhat Mounier**

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- **Dr. Mohamed Farouk**

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