

# Curriculum Vitae

Name Dr. Fouad B. Abudaia

Occupation: Professor at the Department of Materials and Metallurgical Eng. Faculty of Engineering, University of Tripoli, Tripoli-Libya

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## Education

- 2003 PhD degree in Materials and Metallurgical Engineering. The title of the thesis is: "Microstructure and Fatigue Strength of High Performance Gear Steels". University of Newcastle Upon Tyne.
- 1999-2003 PhD researcher in the field of fatigue failure at the School of Mechanical, Mechanical and Systems Engineering. University of Newcastle Upon Tyne
- 1992 MSc in Materials and Metallurgical Engineering, University of Manchester Institute of Science and Technology (UMIST). The Victoria University of Manchester-England
- 1990-1991 a postgraduate student (MSc) by examination and dissertation for the course of Metallic and Ceramic Materials. The title of dissertation is: "Deformation and Fracture of Aluminium and Aluminium alloys Metal Matrix Composites"
- 1985 BSc in Materials and Metallurgical Engineering, Faculty of Engineering, Tripoli University-Tripoli-Libya.
- 1980-1985 Undergraduate student, Department of Materials and Metallurgical Engineering, Faculty of Engineering, Tripoli University-Tripoli-Libya.

## Employment

- 2003-present time Lecturer at the Department of Materials and Metallurgical Engineering, Faculty of Engineering, Tripoli University-Tripoli-Libya. Instructor for a number of courses including Mechanical properties of materials, Mechanical behavior of materials, Failure Analysis and Fracture Mechanics, Strength of materials, Properties of materials, Physical Metallurgy, Metallurgical Thermodynamics, Welding Metallurgy.
- 2004-present Consulting Engineer at the Welding Technology Center, Tajora - Libya

- 1996-1999 Lecturer at the Department of Materials and Metallurgical Engineering, Faculty of Engineering, Tripoli University-Tripoli-Libya.
- 1992-1995 Part time lecturer at the High Technical Institute, Department of Welding, Tripoli-Libya. Courses covered include Materials weldability, Welding technology and Physical metallurgy
- 1992-1995 Supervisor of the Laboratory research centre at the research and development centre. Laboratories include the following sections:
  - i. *Mechanical testing Lab* equipped with Universal testing machine for tensile, compression and bending tests, Hardness testing of Brinell and Rockwell, Impact testing, pressure testing for vessels and tanks, deep drawing test, High frequency fatigue test, Rotary bending fatigue test and Wear testing machine.
  - ii. *NDT Lab* equipped with X-Ray radiography, Ultrasonic flaw detectors and gauge thickness equipments, Magnetic particle testing, surface roughness gauges, portable hardness measurements and coating and paint gauges.
  - iii. *Metallography Lab* equipped with Spectrometer chemical analyzer, Microhardness tester, Metallographic examinations facilities include surface preparations and optical microscopes and stereoscope
  - iv. *Chemical analysis Lab* equipped with Gas chromatography, particle size distribution measurements for powders and various chemical for titrations.
- 1985-1989 Teaching Assistant. Department of Materials and Metallurgical Engineering, Faculty of Engineering, University of Tripoli -Tripoli-Libya.

#### **Part time job**

- Member of the scientific committee at the higher vocational center for welding technology
- Member of the scientific committee at the High vocational center of casting

#### **Post Graduate tuition**

- 2006-2010 Supervision for five MSc Dissertations at the Advanced Technical Institute, Tripoli-Libya

- 2008 Combined supervision on MSc dissertation at the Mechanical and Industrial Engineering Department-Faculty of Engineering-University of Tripoli and
- Supervision for MSc dissertations at the Department of Materials and Metallurgical Eng. Faculty of Engineering-University of Tripoli
- Instructor for MSc Postgraduate courses of Welding Metallurgy and material characterization at the Department of Materials and Metallurgical Eng. University of Tripoli.
- the Coordinator of post graduate program at the Department of Materials and Metallurgical Eng. University of Tripoli.

#### **Institution Memberships\***

- Membership at The Welding and Joining Society (The Welding Institute - TWI)
- Membership at the International NACE.  
\*Need to be renewed

#### **Certificates**

- 2001 Welding and joining technology certificate course. by The Welding Institute (TWI).

#### **Publications**

- The effect of Arc pulsation in GTA Welding DC current on the microstructure and hardness of the weld metal of 304 L stainless steel, Fouad B. Abudaia, Moammar Elhadi Attaya and Azaldin Alhaj Kozam. Accepted for publication
- Deep Cryogenic treatment versus secondary hardening for improving wear resistance of D2 tool steel, Fouad B. Abudaia and Enas Abdalnaser Fessatwi, AL-OSTATH Issue 10 Spring 2016
- Effectiveness of cryotreatment in steel with low potential for carbide precipitation and austenite retention, Fouad B. Abudaia and Enas Abdalnaser Fessatwi, AL-OSTATH, Issue 9 Autumn 2015
- Corrosion Resistance of Kolsterised Austenitic 304 Stainless Steel Fouad B. Abudaia, Elarbi Khalil, Amel Eshiri and Khawla Daw, APMAS 4<sup>th</sup> International Advances in Applied Physics Materials Science Congress & Exhibition, April 24-27-2014 Oludeniz-TURKEY

- The Response of the HAZ to Natural Aging in Friction Welded Al-Mg-Si T6 Alloy, Fouad B. Abudaia and Khalid Marwan, ACTA PHYSICA POLONICA A, No. 2, vol. 125 (2014) p 208-210
- Resistance of Treated Stainless Steel to Cavitation Damage, Ahmed A. Alarabi and Fouad B. Abudaia, NuRER 2012 – III. International Conference on Nuclear & Renewable Energy Resources, İstanbul, TURKEY, 20-23 May 2012
- Surface Wear Resistance of 304 Austenitic Stainless steels modified by Colossal Carbon Supersaturation and TiN Coating, Fouad B. Abudaia, S.J. Bull and Adrian Oila, Journal of Material Science and Engineering B, vol.2, No.2 Feb.2012 p.103-111
- The Use of L9 Orthogonal Array with Grey Relational in Optimizing Friction Welding Parameters of AlCuBiPb Alloy for Burn off Length and Hardness. A. M. Hatab, F.B. Abudaia, H. A. Saadawi and M. E. M. Zorgani, Journal of Material Science and Engineering A, vol., No.1, Jan. (2012), p. 58-65
- Investigation and Remedies of Corrosion Problems of Copper Piping Systems at the Tripoli Medical Centre. A. Elbasir, E. Kalil, F. Abudaia and S. Mousa, Libya for Applied and Technical Science, vol. 1, No. 1, 2010
- Hardness Prediction of Steel Alloys Based on Temperature Distribution During Laser Welding. E.M. Hamza, E.L. Dekam and F. Abudaia, 1<sup>st</sup> International Conference on Welding Technologies, Gazi University Ankara Turkey, 11-13 June 2009
- Effect of tempering on the wear resistance of hardened D2 tool steel. Emad M. Almahjob and Fouad B. Abudaia. Third maritime conference (T.M.C. 2007). Faculty of engineering University of Tripoli, Tripoli, 21-22/10/2007
- Prediction of Weld Penetration in Electron Beam Welding of Carbon Steel Thick Sections. F.B. Abudaia and M. M. Abdulrhma. Journal of Engineering Research, September 2006
- On the Stabilization of Retained Austenite. F.B. Abudaia. Fourth Arab Conference on Material Science. Tripoli-Libya, September 2005
- Fatigue Produced by Spherical Indentation and Cyclic Loading. F.B. Abudaia and J.T. Evens. Materiel Science and Engineering A. June, 2005

- Some observations on standing contact fatigue. F.B. Abudaia. Proceeding of postgraduate conference. University of Newcastle Upon Tyne. Department of Mechanical Engineering. January 2002.
- Characterization of Retained Austenite in Case Carburized Gears and Its Influence on Fatigue Performance. B.A. Shaw, F.B. Abudaia and J.T. Evans. In Heat treating October 2000: Proceeding of the 20<sup>th</sup> conference. 2001, St Louis, Missouri: American Society for Metal ASM
- Characterization of Retained Austenite in Case Carburized Gears and Its Influence on Fatigue Performance. F.B. Abudaia, J.T. Evans and B.A. Shaw, Gear Technology 2003, 20(3), 12-16

### **Consultancy Work**

- Participation in investigation of drill pipes failures carried out by NELCO independent consultant for ADWOC Company, 1995
- Participation in study of feasibility of using domestic manufactured materials for electric networks for the general electric company carried out through the engineering research and consultation bureau, Tripoli University, 1999.
- Investigation of failure in suction vehicles for the National Trail Company carried out through the Advanced Centre of Technology, 2003
- Study of corrosion phenomenon in elevators components of '2870 housing unit accommodation project' carried out through the engineering research and consultation bureau, Tripoli University, 2005.
- Study of evaluation and fitness for service of the piping networks at Tripoli Medical Center collaborated with the Canadian groups Oli system and Metweld Corrosion carried out through the engineering research and consultation bureau, Tripoli University, 2006.
- Failure Analysis of Silo No 1 at the Macaroni Factory The failure investigation carried out on a silo failure at the ALJOWDA factory-Tripoli, 2008
- Investigation of failure case study of the purifier body sheet at the south tripoli mill factory-The Libyan national company for flour mills and fodders 2008
- Assessment of corrosion damage of power transmission cables Hawk 240/40 electrical conductor located at Asharara oil field for AKAKUS OIL OPERATION carried out on behave of SGS Inspection Company, 2008

- Welding Consultant for MAN INTERPRISE Company for Hotel Alwaddan project, Tripoli, 2008

### **Professional Training**

- Course on SEM and TEM for interpretation and analysis of patterns and photography for surface features, crystal structures and dislocations in metallic materials held at the University of Manchester Institute of Science and Technology (UMIST), January 1991.
- Welding and joining technology course, By The Welding Institute (TWI)-University of Newcastle upon Tyne 2001.
- Training course on casting technology, By the Egyptian metals centre held at the Industrial research centre-Tajora 1992.
- Technical training course on metal shaping including operating of milling machines, lath machines and metal cutting.
- Training course on Solid Work software held in faculty of Engineering August 2015
- 3rd School on Crystal Structure Determination from Diffraction Data: Application on Powder sample. Organized by The research unit “Chimie des Matériaux et de l’Environnement” (UR11ES25) and The Tunisian Association of Materials and Environment Sousse, Tunisia April, 8-11th 2015

### **Experience**

- Participation at the following conferences
  - Fourth Arab Conference on Material Science September 2005. Tripoli-Libya
  - The Twelfth Annual Conference “YUCOMAT 2010” Herceg Novi, September 6-10, 2010
  - The Third International Conference On Nuclear and Renewable Energy 20-23 May 2012 Istanbul–Turkey
  - APMAS 2013, 3th International Advances in Applied Physics & Materials Science 24-28 April, Antalya- Turkey
  - APMAS 2014 4th International Advances in Applied Physics & Materials Science Apr 27, 2014, Fethiye, Turkey
- Member of the scientific committee for the following conferences
  - the Fourth Arab Conference on Material Science, Tripoli-Libya, September 2005

- The first Libyan Conference on Metal Casting and Processing Technologies, 12-13 September 2017 Tripoli-Libya
- The Second Libyan Conference on Metal Casting and Processing Technologies, June 2021, Tripoli-Libya
- Issuing of Welding Procedure Specifications (WPS) and performing Procedure Qualification Records (PQR) for several projects.
- Contribution in issuing of some Libyan Standards as a sub-committees member at the Libyan National Centre for Standardization and Metrology (LNCSM).