Curriculum Vitae							2021
Title	Prof.	**Name**	Magdy Mostafa El Rayes			**Rank**	Professor
PO Box	800	**City**	Riyadh	**Postal Code**	11421	**Country**	Saudi Arabia
Tel. No. (Home)	---			**Tel. No. (Office)**	0114679906		
Fax No.	0114676652			**Mobile No.**	0500991132		
E-mail (1)	melrayes@ksu.edu.sa			**E-mail (2)**	melrayes@gmail.com		
University	King Saud University	**College**	Engineering		**Department**	Mechanical	
Nationality	Egyptian	**Date of Birth**	06.11.1961		**Country of Birth**	Egypt	
Languages	English (fluent) – German (fluent)						

Highest Degree	Ph.D.	**Date of Graduation**	1983
University	Channel program between Alexandria University and Technical University of Berlin-Germany	**Country**	Egypt
Academic Title	Professor	**Others (Specify)**	
Major field	Materials Science/ Manufacturing Engineering	**Specialization field**	Manufacturing Engineering/ Welding Technology

Current Research Interests(English)

Thermal Spray Coating- Non-Destructive Testing Materials characterization- Severe Plastic Deformation Processes- Welding Processes and Technologies- Materials testing- Weldability of metals.

GRANTS (CURRENT FUNDED PROJECTS)

- Characterization of Power Plant Steel using Ultrasonic Technique, **Magdy M. El Rayes [P. I]**, Abdulhakim A. Almajid [Co. I], Ehab A. El Danaf [Co. I]. **Finished**

- Application of cermet coatings in off-shore structures, **Magdy M. El Rayes [P. I]**, Khalil A. Khalil [Co. I], Elsayed M. Sherif [Co. I]. **Finished**

- Novel Nanotechnological Approach for Development and Scaling up Capacitive Deionization Seawater Desalination Units, Khalil Abdelrazek Khalil [P.I.], Nasser A. M. Barakat [Co. I], Elsayed M. Sherif [Co. I], **Magdy M. El Rayes [Co. I]. Finshed**

- Residual stress optimization in API spiral-welded pipes. Collaboration between the Centre of Excellence of Research in Engineering Materials (CEREM) and Saudi Aramco. **Finished**

- **P.I.** in a grant funded by College of Engineering Research Center, Project No. 2/426, King Saud University, King Saud University, P.O. Box 800, Riyadh 11421, Saudi Arabia. **Finished**

- **Magdy M. El Rayes [P. I]**, Ehab A. El Danaf [Co. I] in a grant funded by Center of Excellence for Research in Engineering Materials (CEREM), Project No. 430- CEREM-07, King Saud University, King Saud University, P.O. Box 800, Riyadh 11421, Saudi Arabia. **Finished**

SELECTED PUBLICATIONS

1- On the assessment of surface quality and productivity aspects in precision hard turning of AISI 4340 steel alloy: Relative performance of Wiper vs. conventional inserts, Abbas A.T, **El Rayes M.M.**, Luqman M., Naeim N., Hegab H., Elkaseer A., MATERIALS Volume 13 Issue 9 (2020)

2- WC-Co and WC-Co-Cr Coatings for the Protection of API Pipeline Steel from Corrosion in 4% NaCl Solution, El-Sayed M. Sherif, **Magdy M. El Rayes** and Hany S. Abdo, Coatings 2020, 10, 275; doi:10.3390/coatings10030275

3- Cr_3C_2-NiCr Coating for the Protection of API Steel Corrosion in Concentrated Sodium Chloride Solution, Sherif, El-Sayed M.; **El Rayes, Magdy M.**; Abdo, Hany S.; CRYSTALS, Volume 10 Issue 4 Published 2020

4- ANN Surface Roughness Optimization of AZ61Magnesium Alloy Finish Turning: Minimum Machining Times at Prime Machining Costs, Adel Taha Abbas, Danil Yurievich Pimenov, Ivan Nikolaevich Erdakov, Mohamed Adel Taha, Mahmoud Sayed Soliman and **Magdy Mostafa El Rayes**, Materials 2018, 11, 808; doi:10.3390/ma11050808

5- Artificial Intelligence Monitoring of Hardening Methods and Cutting Conditions and Their Effects on Surface Roughness, Performance, and Finish Turning Costs of Solid-State Recycled Aluminum Alloy 6061 Chips, Adel Taha Abbas, Danil Yurievich Pimenov, Ivan Nikolaevich Erdakov, Mohamed Adel Taha, **Magdy Mostafa El Rayes** and Mahmoud Sayed Soliman, Materials 2018, 11, 808; doi:10.3390/ma11050808

6- Effect of tensile strain rate on high-temperature deformation and fracture of rolled Al-15 vol% B4C composite. Mahmoud S. Soliman, **Magdy M. El Rayes**, Adel T. Abbas, Danil Yu. Pimenov, Ivan N. Erdakov, Harri Junaedi, Materials Science & Engineering A 749 (2019) 129–136

7- Effect of Feed Rate in FSW on the Mechanical and Microstructural Properties of AA5754 Joints, **Magdy M. El Rayes**, Mahmoud S. Soliman, Adel T. Abbas, Danil Yu. Pimenov, Ivan N. Erdakov, and Mahmoud M. Abdel-mawla, Advances in Materials Science and Engineering Volume 2019, Article ID 4156176, 12 pages

8- Ultrasonic characterization of heat-treatment effects on SAE-1040 and -4340 steels, **Magdy M. El Rayes**, Ehab A El-Danaf, Abdulhakim A Almajid, Journal of Materials Processing Technology 216 (2015) 188-198.

9- Characterization and correlation of mechanical, microstructural and ultrasonic properties of power plant steel, **Magdy M. El Rayes**, Ehab A. El-Danaf, Abdulhakim A. Almajid, Materials Characterization, 100 (2015) 120-134.

10- ULTRASONIC NON-DESTRUCTIVE CHARACTERIZATION OF POWER PLANT STEEL, **Magdy M. El Rayes**, Ehab A. El-Danaf, Abdulhakim A. Almajid, TMS 2014, Feb. San Diego, USA.

11- Mechanical properties and microstructure evolution in an aluminum 6082 alloy processed by high-pressure torsion, Ehab El-Danaf , Megumi Kawasaki ,**Magdy El-Rayes** , Muneer Baig, Jabair Ali Mohammed, Terence G. Langdon, ULTRAFINEGRAINED MATERIALS, J Mater Sci DOI 10.1007/s10853-014-8266-4

12- Ehab A. El-Danaf, **Magdy M. El-Rayes**, Microstructure and Mechanical Properties of Friction Stir Welded 6082 AA in as welded and post weld heat treated conditions, Materials and Design, 46 (2013) 561-572.

13- **Magdy M. El-Rayes**, Ehab A. El-Danaf, The influence of multi-pass friction stir processing on the microstructural and mechanical properties of Aluminum Alloy 6082, Journal of Materials Processing Technology, Volume 212, Issue 5, May 2012, pages 1157-1168.

14- **Magdy M. El Rayes**, Hany S. Abdo, and Khalil Abdelrazek Khalil, Erosion - Corrosion of Cermet Coating, Int. J. Electrochem. Sci., 8 (2013) 1117 – 1137.

15- El-Sayed M. Sherif, and **Magdy M. El Rayes,** Corrosion Behavior of API 2H and API 4F Steels in Freely Aerated 4.0 % Sodium Chloride Solutions, Int. J. Electrochem. Sci., 10 (2015) 7493 - 7504

16- Ehab A El-Danaf, **Magdy M El-Rayes** and Mahmoud S Soliman, Low temperature enhanced ductility of friction stir processed 5083 Aluminum alloy, Bull. Mater. Sci., Vol. 34, No. 7, December 2011, pp. 1447–1453. Indian Academy of Sciences.

17- **Magdy M. El Rayes**, Ehab A. El Danaf, Mahmoud S. Soliman, High-temperature deformation and enhanced ductility of friction stir processed-7010 Aluminum Alloy, Materials and Design 32 (2011) 1916–1922.

18- **Magdy M. El Rayes**, Ehab A. El Danaf and Mahmoud S. Soliman, Microstructural and Mechanical Characterization of Friction Stir Welded- 1050 Aluminum Alloy, Advanced Materials Research Vols. 83-86 (2010) pp 1173-1181.

- Ehab A. El-Danaf, **Magdy M. El-Rayes**, Mahmoud S. Soliman, Friction stir processing: An effective technique to refine grain structure and enhance ductility, Materials and Design 31 (2010) 1231–1236.

19- Khalil Abdelrazek Khalil, Abdulhakim A. Almajid, Ehab A. El-Danaf, **Magdy M. El Rayes** and El-Sayed M. Sherif, Direct Fabrication of Yttrium Aluminium Garnet Nanofibers by Electrospinning, Int. J. Electrochem. Sci., 7 (2012) 12218 – 12226.

20- **Magdy M. El Rayes**, Ehab A. El Danaf, Mahmoud S. Soliman, Achieving Higher Ductility of 7010 Aluminium Alloy via Friction Stir Processing, Proceedings of ICAMMM 2010, 13-15 December 2010, Sultan Qaboos University, Oman.

INSTITUTIONAL & PROFESSIONAL SERVICE IN THE LAST 5 YEARS

- Manufacturing of Airplane Safe Guard using Reverse Engineering- Royal Saudi Air Force (RSAF) - King Abdullah for Research and Consultation Centre- King Saud University. 2009-2011

- Board member in the committee of vocational safety- College of Engineering- King Saud University. 2010-2013.

- Rectification of damage PE-Coating on existing Mecca – Taif Pipelines- Desalination Authority. 2011.

- Production Editor- General Authority for technical education and vocational training- Ministry of Higher Education. 2010-2012.

- Various Training courses addressed to industrial and military sections in the fields of non-destructive testing, heat treatment, metal forming processes, pipeline welding and maintenance.

PROFESSIONAL DEVELOPMENT ACTIVITIES IN THE LAST 5 YEARS
- Attending all courses (14) towards professional academic staff organized by Deanship for Skills Development, - E-learning developing skills - MINI TAB software training course.

CURRICULUM VITAE

Dr. Adel Taha Mohamed Abbas
http://fac.ksu.edu.sa/aabbas/home

Personal Data

Name: Adel Taha Mohamed Abbas

Date of birth: 7th April 1954

Email Address: atabbas1954@yahoo.com & **aabbas@ksu.edu.sa**

My Employment History

- Professor, Mechanical Engineering Department, Engineering College, King Saud University, (March, 2017-Now) Full time

- Associate Professor, Mechanical Engineering Department, Engineering College, King Saud University, (2009- 2017) Full time

- Associate Professor, Industrial Engineering Department, Faculty of Engineering, Modern Sciences & Arts University, Egypt (2006- 2009) Full time.

- Assistance Professor, Industrial Engineering Department, Faculty of Engineering, Modern Sciences & Arts University, Egypt.(2000- 2006) Full time

- Consultant of Center for Advanced Post Graduate Studies and Research in Engineering Sciences, Faculty of Engineering, Cairo University, (Part-time 1996-2009) Part Time.

- Associate Professor, Production Department, Faculty of Engineering, French University in Egypt (2008- 2009) Part time.

- Associate Professor, Mechanical Department, Faculty of Engineering, Future University in Egypt (2008- 2009) Part time.

- International instructor of CAD/CAM/CAE – UG- NX Software, USA. (2000- 2009)

- Consultant for different factories in Egypt (1992-2009)

- Referee for International Journal of Production Research (2006-Now).

- Referee for International Journal of Advanced Manufacturing Technology (2010-Now)

- Referee for International Journal of Computer Integrated Manufacturing (2008 -Now)

- Referee for International Conference of Mechanical Design & Production, Faculty of Engineering, Cairo University, (1992- Now)
- CAD/ CAM Manager MF100 (1998-2000)
- Manager for CNC Training Center at MF100 (1996-1998)
- Production Manager for Cannons and Gun mounts, MF100 (1992-1996)
- General Manager for Cannons and Gun mounts, MF100, (1988-1992)
- Manufacturing Engineer for CNC Machines, MF100 (1979-1988)

Education

Ph.D. Degree in Mechanical Design and Production, Cairo University 1992

M.S. Degree in Mechanical Design and Production, Cairo University 1985

B.S. Degree in Mechanical Design and Production, Cairo University 1977

Thesis

M.S. Degree thesis:

Assessment of Plastic Deformation and Limit Strains for Sheet Metal in Biaxial Stretching

Ph.D. Degree thesis:

Stress and Strain in Gun Barrel Autofrettage

Certifications

- Instructor Certification in Basic and Advanced Computer Numerical Control CNC Training, Hudson Valley Community College – Division of Engineering and Industrial Technology, USA 1993
- Master User Certificate in NC Programming, CAD/CAM Unigraphic, USA 2005

- Master User Certificate in Drafting CAD/CAM Unigraphic, USA 2000.
- Master User Certificate in Design CAD/CAM Unigraphic, USA 2003.
- Master User Certificate in Engineering CAD/CAM Unigraphic, USA2001.

Courses Taught at MSA University, Cairo University , Future University and French University and King Saud University (1992-Now)

- Workshop (for Prep. Year)
- Manufacturing Processes II (Metal Cutting)
- Advanced Manufacturing, Computer Numerical Control Machines (CNC Machines) (Theory, Programming and Applications)
- Computer Aided Manufacturing (CAM)
- Computer Aided Design (CAD)
- Computer Aided Engineering (CAE)
- Computer Integrated Manufacturing
- Jigs & Fixtures Design
- Engineering Materials and Testing
- Graphic I (Engineering Drawings Part I)
- Graphic II (Engineering Drawings Part II)
- Graduation Projects (150 Projects)

Supervision: I was a Supervisor on the Following Thesis:

1-“Influence of Autofrettage on Residual Stress Intensity Factors Internally or externally Cracked Gun Barrels”, Wissam Mustafa AL- Hozwany a Thesis Submitted to the Faculty of Engineering , Cairo University in partial Fulfillment of the Requirements For Degree of Doctor of philosophy in Mechanical Engineering (1999).

2-“Modeling and Simulation of Robot working Space in an Industrial Environment”

Mohamed Fawzy Aly a Thesis submitted to the Faculty of Engineering at Cairo University in partial Fulfillment of the Requirements for Master Degree in Mechanical Engineering, 2001.

Published Papers

1- **Adel T. Abbas** , Neeraj Sharma , Saqib Anwar , Faraz H. Hashmi , Muhammad Jamil, Hussien Hegab , “ Towards Optimization of Surface Roughness and Productivity Aspects during High Speed Machining of Ti-6Al-4V 4”, Materials **(2019) , 12, 3749; https://doi.org:10.3390/ma12223749**

2- Mohamed A. Taha, **Adel T. Abbas**, Faycal Benyahia, Hamad F. Alharbi, B. Guitián3, X. Ramón Nóvoa, “ Enhanced Corrosion Resistance of Recycled Aluminum Alloy 6061 Chips Using Hot Extrusion Followed by ECAP”, Journal of Chemistry **(2019)** , Hindawi, Volume 2019, Article ID 3658507, 8 pages **https://doi.org/10.1155/2019/3658507**

3- **Adel T. Abbas**, Faycal Benyahia, Magdy M. El Rayes, Catalin Pruncu, Mohamed A. Taha, Hussien Hegab, “Towards Optimization of Machining Performance and Sustainability Aspects when Turning AISI 1045 Steel under Different Cooling and Lubrication Strategies“ , Materials **(2019)** , 12, 3023; **https://doi.org/10.3390/ma12183023**

4- **Adel Taha Abbas**, Danil Yurievich Pimenov, Ivan Nikolaevich Erdakov, Tadeusz Mikolajczyk, Mahmoud Sayed Soliman, Magdy Mostafa El Rayes, “Optimization of Cutting Conditions using Artificial Neural Networks and Edgeworth Pareto Method for CNC Face-Milling Operations on High-Strength Grade-H Steel”, International Journal of Advanced Manufacturing Technology, **(2019)** , **https://doi.org/10.1007/s00170-019-04327-4**

5- **Adel Taha Abbas**, Munish Kumar Gupta, Mahmoud S. Soliman, Mozammel Mia, Hussein Hegab, Monis Luqman, Danil Yurievich Pimenov , “Sustainability Assessment Associated with

Surface Roughness and Power Consumption Characteristics in Nano-fluid MQL Assisted Turning of AISI 1045 Steel", International Journal of Advanced Manufacturing Technology, **(2019)**, The International Journal of Advanced Manufacturing Technology , **https://doi.org/10.1007/s00170-019-04325-6**

6- Magdy M. El Rayes, Mahmoud S. Soliman, **Adel T. Abbas**, Danil Yu. Pimenov, Ivan N. Erdakov, and Mahmoud M. Abdel-Mawla, "Effect of feed rate in FSW on the mechanical and microstructural properties of AA5754 joints", Advances in Materials Science and Engineering,Volume,**2019**,ArticleID4156176,12,pages **https://doi.org/10.1155/2019/4156176**

7- Mahmoud S. Soliman, Magdy M. El Rayes, **Adel T. Abbas**, Danil Yu. Pimenov, Ivan N. Erdakov, Harri Junaedi, "Effect of tensile strain rate on high-temperature deformation and fracture of rolled Al-15 Vol% B4C composite", Materials Science & Engineering A 749 (**2019**) 129–136., **https://doi.org/10.1016/j.msea.2019.02.016**

8- **Adel T. Abbas**, Adham E. Ragab, Faycal S. Benyahia, Mahmoud S. Soliman, "Taguchi Robust Design for Optimizing Surface Roughness of Turned AISI 1045 Steel Considering the Tool Nose Radius and Coolant as Noise Factors", Advances in Materials Science and Engineering, 2018, Article ID 2560253, 9 pages **https://doi.org/10.1155/2018/2560253**

9- **Adel T. Abbas**, Danil Yu. Pimenov, Ivan N. Erdakov, Mohamed A. Taha, Magdy M. El Rayes, Mahmoud S. Soliman, "Artificial Intelligence Monitoring of Hardening Methods and Cutting Conditions and their Effects on Surface Roughness, Performance, and Finish Turning Costs of Solid-State Recycled Aluminum Alloy 6061 Chips", Metals 2018, 8(6), 394; **doi: 10.3390/met8060394**

10- **Adel Taha Abbas**, Danil Yurievich Pimenov, Ivan Nikolaevich Erdakov, Mohamed Adel Taha, Mahmoud Sayed Soliman, Magdy Mostafa El Rayes," ANN Surface Roughness Optimization of AZ61 Magnesium Alloy Finish Turning: Minimum Machining Times at Prime Machining Costs", Materials 2018, 11(5), 808; **doi:10.3390/ma11050808**

11- **Adel Taha Abbas**, Adham Ezzat Ragab, Ehab Adel El-Danaf, Essam Ali Al Bahkali, " Effect of equal-channel angular pressing on the surface roughness of commercial purity aluminum during turning operation, " Proceeding of the Institution of Mechanical Engineers Part B: Journal Engineering Manufacture, May 2018, Volume 232, Number 6, pp. 995-1006 **https://doi.org/10.1177/0954405416662083**

12- Nabeel H. Harthi, Sedat Bingol, **Adel T. Abbas**, Adham E. Ragab, Mohamed F. Aly, Hamad F. Alharbi, "Prediction of Cutting Conditions in Turning AZ61and parameters optimization Using Regression Analysis and Artificial Neural Network ", Advances in Materials Science and Engineering, Volume 2018, Article ID 1825291, 10 pages **https://doi.org/10.1155/2018/1825291**

13- Adham Ezzat Ragab, Mohamed Adel Taha, **Adel Taha Abbas**, Essam Ali Al Bahkali, Ehab Adel El-Danaf, Mohamed Fawzy Aly," Effect of Extrusion Temperature on the Surface Roughness of Solid State Recycled Aluminum Alloy 6061 Chips during Turning Operation"
, Advances in Mechanical Engineering, 2017, Vol. 9(10) 1–11

journals.sagepub.com/doi/full/10.1177/1687814017734152

14- **A. T. Abbas**, D. Yu. Pimenov, I. N. Erdakov, T. Mikolajczyk, E. A. El Danaf1 M. A. Taha, "Minimization of turning time for high-strength steel with a given surface roughness using the Edgeworth–Pareto optimization method ", The International Journal of Advanced Manufacturing Technology, (2017), Volume 93, Issue 5-8, pp. 2375-2392, open access,

DOI 10.1007/s00170-017-0678-2

15- Nabeel H. Harthi, Sedat Bingol, **Adel T. Abbas**, Adham E. Ragab, Ehab A. El Danaf, Hamad F. Alharbi "Optimizing Cutting Conditions and Prediction of Surface Roughness in Face Milling of AZ61 Using Regression Analysis and Artificial Neural Network", Advances in Materials Science and Engineering, 2017, ID: 7560468. **https://doi.org/10.1155/2017/7560468**

16- **Adel Taha Abbas**, Mohanad M. El Ata, Adham E. Ragab, Magdy M. El Rayes, Ehab A. El Danaf, "Prediction Model of Cutting Parameters for Turning High Strength Steel Grade-H: Comparative Study of Regression Model versus ANFIS", Advances in Materials Science and Engineering, 2017, ID: 2759020**. https://doi.org/10.1155/2017/2759020**

17- **Adel Taha Abbas**, Mohamed Adel Taha , Adham Ezzat Ragab , Ehab Adel El-Danaf , Mohamed Ibrahim Abd El Aal "Effect of Equal Channel Angular Pressing on the Surface Roughness of Solid State Recycled Aluminum Alloy 6061 chips" Advances in Materials Science and Engineering, 2017,ID:5131403. **https://doi.org/10.1155/2017/5131403**

18- **Adel Taha Abbas**, Adham Ezzat Ragab, Ehab Adel El-Danaf, Essam Ali Al Bahkali
" Effect of equal-channel angular pressing on the surface roughness of commercial purity aluminum during turning operation, " Proceeding of the Institution of Mechanical Engineers Part B: Journal Engineering Manufacture, 2016, **DOI: 10.1177/0954405416662083**

19- Essam Ali Al Bahkali, Adham Ezzat Ragab, Ehab Adel El Danaf, **Adel Taha Abbas**
" An investigation of optimum cutting conditions in turning nodular cast iron using carbide inserts with different nose radius " Proceeding of the Institution of Mechanical Engineers Part B: Journal of Engineering Manufacture, 2016, Vol. 230(9) 1584–1591.

DOI: 10.1177/0954405416662085.

20- **Adel T. Abbas,** Karim T. Hamza, Mohamed F. Aly, Essam A. Al Bahkali," Multi-Objective Optimization of Turning Cutting Parameters for J-Steel Material" Advances in Materials Science and Engineering, 2016, ID: 6429160. **http://dx.doi.org/10.1155/2016/6429160**

21- **Adel Taha Abbas,** Adham Ezzat Ragab, Essam Ali Al Bahkali, Ehab Adel El Danaf, "Optimizing Cutting Conditions for Minimum Surface Roughness in Face Milling of High Strength Steel Using Carbide Inserts", Advances in Materials Science and Engineering, 2016, ID : 7372132. **http://dx.doi.org/10.1155/2016/7372132**

22- **Adel T. Abbas**, Karim T. Hamza, Mohamed F. Aly, "Multiobjective Optimization Under Uncertainty in Advanced Abrasive Machining Processes via a Fuzzy-Evolutionary Approach", ASME, Journal of Manufacturing Science and Engineering, Volume 138, Issue 7, pp. 1003-1:1003-9, 2016. **doi: 10.1115/1.4032567**

23- E.A. El-Bahkali**, A.T. Abbas**" Failure Analysis of Vise Jaw Holders for Hacksaw Machine" Journal of King Saud University, Engineering Sciences, On line January, 12, 2016, **http://dx.doi.org/10.1016/j.jksues.2015.12.007**

24- **Adel T. Abbas** " Influence of Process Parameters on the Surface Roughness during turning operation of High Strength Steel", Journal of Materials Science Research, Volume 5, No.2, PP 94-104, 2016, Published by Canadian Center of Science and Education. **http://dx.doi.org/10.5539/jmsr.v5n2p94**

25- **Adel T. Abbas** " Comparative assessment of wiper and conventional carbide inserts on surface roughness in the turning of high strength steel", Journal of Materials Science Research, Volume 5, No.1, PP 32-45, 2016 Published by Canadian Center of Science and Education.

26- **Adel T. Abbas** " Enhancement of the Capabilities of CNC Machines via the Addition of a New Counter boring Cycle with a Milling Cutter", Mechanical Engineering Research, Volume 5, No.2, PP. 45-58, 2015, Published by Canadian Center of Science and Education.

27- **Adel T. Abbas**, Karim T. Hamza, Mohamed F. Aly, "Multiobjective Optimization Under Uncertainty in Advanced Abrasive Machining Processes via a Fuzzy-Evolutionary Approach", ASME 2015, International Design Engineering Technical Conferences and Computers & Information in Engineering Conference August 2-5, 2015. Boston, Massachusetts.

28- E. M. Sherif, **A. T. Abbas**, H. Halfa , A. M. El-Shamy, **"**Corrosion of High Strength Steel in Concentrated Sulfuric Acid Pickling Solutions and Its Inhibition by 3-Amino-5-mercapto-1,2,3-triazole", International Journal of Electrochemical Science, Volume 10, - 1777-1791- 2015

29- **A.T. Abbas**, K.T. Hamza, M.F. Aly**"** CNC Machining Path Planning Optimization For Circular Hole Patterns via a Hybrid Ant Colony Optimization Approach" Mechanical Engineering Research, September 5, 2014, Volume 4, No 2, PP. 16-29, Published by Canadian Center of Science and Education.

30- E.M. Sherif**, A.T. Abbas**, D. Gopi, A. M. El-Shamy **"**Corrosion and corrosion inhibition of high strength low alloy steel in 2.0 M sulfuric acid solutions by 3-amino-1,2,3-triazole as a corrosion inhibitor **"** Journal of Chemistry, Volume 2014,Article ID 538794, 8 Pages, Hindawi Publishing, 2014.

31- M.F. Aly, **A.T. Abbas"** Simulation of Obstacles' effect on Industrial Robots' Working Space using Genetic Algorithm **"** Journal of King Saud University, Engineering Sciences, July 2014, No. 2 Volume 26, 2014

32- E.A. El-Bahkali**, A.T. Abbas**" Failure Analysis of Vise Jaw Holders" Proceeding of Abaqus Conference, May, 2013.

33- **A.T. Abbas,"** Enhanced CNC Machines Capabilities by Adding Circular Patterns Cycle", International Journal of Precision Engineering and Manufacturing, Vol.13 No.10, pp. 1753-1758, October 2012.

34- **A.T. Abbas,"** Reconstruction Skelton for The Lower Human Jaw Using CAD / CAM / CAE", Journal of King Saud University, Engineering Sciences, Volume 24, No.2, pp. 159-164, July 2012.

35- **A.T. Abbas**, M.F. Aly, K.T. Hamza, " Optimum Drilling Path Planning for a Rectangular Matrix of Holes Using Ant Colony Optimization", International Journal of Production Research, Volume 49, Issue 19, October,01, 2011. PP 5877-5891.

36- M.F. Aly, **A.T. Abbas**, S.M. Megahed, "Robot Workspace Estimation and Base Placement Optimization Techniques for the Conversion of Conventional Work Cells Into Autonomous Flexible Manufacturing Systems", International Journal of Computer Integrated Manufacturing ,Volume 23, No.12, December 2010, PP 1133-1148

37- **A.T. Abbas** and S.M. Megahed, "A General Algorithm For Drilling Holes Lying In A Matrix", Robotics and Computer Integrated Manufacturing. Volume21, No.3, pp. 235-239, 2005.

38- **A.T. Abbas** "A General Algorithm for Profiling and Dressing Grinding Wheels When Using a Grinding Spindle on CNC Lathe", , International Journal of Production Research, Volume 42, Number18, 2004

39- **A.T. Abbas,** "A General Algorithm For Profiling and Dressing of Complicated Shape Grinding Wheels", Robotics and Computer Integrated Manufacturing. Vol.20,Issue 4, pp 313-327,2004

40- **A.T. Abbas,** "Enhanced CNC Lathe Capability by Addition of a Grinding Spindle", International Journal of Production Research, Vol. 41 No. 12, August 15, 2003.

41- A.R. Ragab, **A.T. Abbas**, S.A. Khorshied, "Experimental Verification of the Autofrettage Process for Thick-walled Tubes",. Proc. Mech. Engineers. Vol. 215 part C, pp 727-736, 2001

42- S.M. Megahed, **A.T. Abbas**, M.F. Ali, "Introducing Industrial Robots To a Pre-Installed Manufacturing System" Proceedings of CSME 2001 Int. Conference, Concordia University, Montreal, Quebec, Canada. Nov. 22-24 2001

43- S. Megahed, **A.T. Abbas**, M.F. Ali, "Robot Workspace Estimation in Presence of Obstacles in its Accessible Region", . Proceedings of CSME 2001 Int. Conference, Concordia University, Montreal, Quebec, Canada. Nov. 22-24, 2001

44- W.M. Al-Hozwany, **A.T. Abbas**, M.M. Abo-Hamda and M.M. Megahed, "Influence of Autofrettage on Residual Stress Intensity Factors of Cracked Gun Barrels", Proceeding of the Seventh Cairo University International MDP7 Conference, 2000

45- A.R. Ragab, **A.T. Abbas**, S.Y. Khorshied, "Measurement of Residual Stresses in Thick-walled Autofrettaged Tube" Mat-tech 97, France, 1997.

46- **A.T. Abbas**, "Custom Macro in CNC Part Programs" , 7th, App. Mechanics & Mech. Engineering, Technical Military College, Conference, 9-11 April 1996,Mil.Prod. Vol., pp 150-159

47- M Megahed and **A.T. Abbas**, "Influence of Reverse Yielding on Residual Stresses Induced by Autofrettage". Int. J. Mech Science, Vol. 33 No. 2, pp 139-150, 1991

48- A.R. Ragab and **A.T. Abbas**, "Assessment of Work Hardening Characteristics and Limit Strains of Anisotropic Aluminum Sheets in Biaxial Stretching". Journal of Eng. Mat. And Tech., July, 1986, Vol. 108 pp 250-259.

ADVANCED TRAINING COURSES

A- Production Of Cannon:

- Production of Cannon 122mm – Russia.
- Production of Cannon 130mm – China.
- Regunning tank T-55 at Royal Ordnance Nottingham- England.
- Production of Tube, Breech Ring, Breech Block and Minor Parts for 120 mm Gun at Watervilet Arsenal – U.S.A.
- Production of High emphasis Parts of 120 mm Gun Mount at Rock- Island Arsenal - U.S.A.
- Production of Cannon 155mm at Patria Vammas - FINLAND

B- CNC Programming:

01- CNC Training Course at Electronic Control System Co., Italy.

02- CNC Training Course at Orellikon Co., Italy.

03- CNC Training Course at Son-Rocco Co., Italy.

04- CNC Training Course at Safop Co., Italy.

05- CNC Training Course at Siemans Co., Germany.

06- CNC Training Course at Huafeng CNC Machinery Co. Ltd., China.

07- CNC Training Course at Xinging Highland Eng. Machinery, China.

08- CNC Training Course at Nanjing Machine Tool, China.

09- CNC Training Course at Gidding& Lewis Co., USA.

10- CNC Training Course at CE-Fanuc Center, USA.

11- CNC Training Course at Cincinnati Co., USA

12- CNC Training Course at Allen Bradely Co., USA

13- CNC Training Course at Binns& Berry Co., England

14- CNC Training Course at Fagor, England.

15- CNC Training Course at Emco, Austria.

C- CAD/CAM – Unigraphics, USA

01- Hybrid Modeling Fundamentals

02- Sketcher
03- Practical Application of UG
04- Design Application Using Unigraphics
05- Drafting Fundamentals
06- Sheet Metal Design
07- Freeform Modeling
08- Assembly Implementation
09- Advanced Assembly
10- Mechanism
11- GFEM Plus
12- Lathe Applications
13- Mill (1) Applications
14- Mill (2) Applications
15- Mill (3) Applications
16- Post Building Techniques
17- Progressive Die Design
18- Essential for NX Designers
19- NX Design for the Experienced CAD User with Team Center Integration
20- Classic Jack

Industrial Experience

I started my career at Military Factory MF100 since 1979. It has more than 1000 machine tools and 3,000 employees. It is concerned with the production of heavy cannons and gun mounts as well as several families of spare parts for other industries. During the period Jan., 1979 to 2000, I have the following experience:

- Material Testing and Laboratory Equipment
- Shop planning-production
- Design Jigs and Fixtures
- Reverse engineering
- Selection of machines
- Machines Installation
- Machines , Inspection & Calibration
- Purchasing Tooling and Equipment
- Quality control system
- Supervision of production process
- Preparation of part programs for all CNC machines ie: milling, boring, turning, grinding, and machining center
- Preparation of processing sheets
- Training Engineers and Technical staff of CNC processes (more than 1500 persons) Programming and setting
- Production Manager / Project Manager for more than 10 years for cannons and gun mount (23,105,120,122,130,155mm).
- Technology Transfer with International companies, Royal Ordinance –UK, Rock Island Arsenal -US, Watervilet Arsenal-US, Patria Vammas –Finland