



CURRICULUM VITAE

Of

Prof. Zeinab Abdel Hamid Abdel Aziz

1- Personal Information

Name: Zeinab Abdel Hamid Abdel Aziz

Present Occupation: Professor. Dr., Head of Corrosion Control and Surface protection department (former) and Vice of Metal technology department (former)

Employer: Central Metallurgical R & D Institute, P.O. Box 87, Helwan,

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2- Education

School/University/Other	Degree obtained	Dates (from-to)
Faculty of Science, Ain shames.	Ph.D	1990 to 1993
Faculty of Science, Cairo Univ.	M.Sc.	1985 to 1988
Faculty of Science, Cairo Univ.	B.Sc.	1980 to 1983

3- Training- Fellowships

Training attended/Technical skills acquired	Place	Dates (from-to)
Continues Education Program for 4 month in surface coating technology in “JICA”,	Nagoya, Japan	1996 (4 months)
Scientific fellowship DFG 2 months, University of Erlangen-Nuremberg, Dept. of Material. Science, Germany	Erlangen-Nuremberg-Germany	2007 (2 months) (20-6-2007 to 20-8-2007).
Training course and check to the PECVD machine to establish centre of advanced coating technology at CMRDI	United states (America), Florida, Trion technology Company	17-2-2015 to 26-2-2015

4- Employment History

Dates (from-to)	Organization	Position
Feb, 2010 till now	Central Metallurgical R & D Institute (CMRDI)	Head of Corrosion Control & Surface Protection Depart.
2009 up to 2015	CMRDI	Vice of metal technology Division
2009	CMRDI	Acting Head of powder metallurgy department
2004 till now	CMRDI	Prof. of material science and surface engineering
1999 to 2004	CMRDI	Associate Prof.
1993 to 1999	CMRDI	Researcher
1988 to 1993	CMRDI	Assistant Researcher
1987 to 1988	CMRDI	Research Assistant

5- Membership of Professional Associations

Professional body	Level of membership	Year of award
1- Egyptian Corrosion Society	Member	187 till now
2-Literal Club in England, UK	Member	1997 till now
3- Tribology International Society	Member	2001
4-Cyndicat of Scientific profession.	Member	1885 till now
5- Egyptian Association for Industrial Development	Member	2003 till now
6- Egyptian Organization for Standardization & Quality (EOS)	Member	2006 till now
7- Who is who in science and in the world From 2000-2012.	Member	2000-2012
8- The Standing Scientific Committee for Materials Science and Engineering	Member	2012-2020

6- Field of Interest

I. General Field of Specialization
Chemistry, Physical Chemistry, Materials Science and Engineering, Nanomaterials especially nano coatings

II. Fine specialization
Surface protection & corrosion control as:
- Electroplating and Electroless plating of metal and its alloys.
- High temperature coatings such as, Hot- dip, Pack cementation, Plasma spray coatings and Slurry method.
- Plasma enhanced chemical vapor deposition (PECVD)
- Composite coatings and conventional coating.
- Nano coatings
- Biomedical coating
- Through hole plating of printed circuit boards.
- Powder coatings metallurgy
- Black coatings
- Corrosion science
- diagnosis of metal failure problems of equipment and structure (Failure analysis)
- Deposition of semiconducting materials

7- PUBLICATIONS

1. S. Shawki, F. Hanna and Z. Abdel Hamid, "Throwing Power", J. Metal Finishing, 85, No.12, (1987) 59.
2. S. Shawki and Z. Abdel Hamid "Deposition of High Wear Resistance of Ni-Composite Coatings", J. Anti. -Corrosion Methods and Materials, 44, No.3 (1998) 178.
3. Z. Abdel Hamid and A.M. Gad "Mechanism of Bath Stability of Electroless Deposit by Surfactants", J. Faculty of Education, No.22, (1997) 343.

4. Z. Abdel Hamid, "Surface and Thermodynamic Parameters of Some Cationic Corrosion Inhibitors", J. Anti - Corrosion Methods & Materials, 44, No.6, (1997) 389.
5. Z. Abdel Hamid, "Improving the Throwing Power of Nickel Electroplating Baths", J. Materials Chemistry and Physics, 53, No.3, (1998) 235.
6. Z. Abdel Hamid, T.Y. Soror, H.A. El-Dahan and A.M.A. Omar, "New Cationic Surfactant as Corrosion Inhibitor for Mild Steel in Hydrochloric Acid Solution", J. Anti. -Corrosion Methods and Materials, 45, No.5, (1998) 306.
7. Z. Abdel Hamid, "Electrodeposition of Zinc-Nickel Alloys from a Chloride Bath Containing Benzyl Triethanol Ammonium Bromide", J. Anti-Corrosion Methods and Materials, 45, No.1, (1998) 31.
8. Z. Abdel Hamid and A.M.A. Omar, "The Relation Between Anionic /Nonionic Surfactant and Electrodeposition of Ni- Polytetrafluoroethylene Polymer Composite" J. Anti- Corrosion Methods and Materials", 46, No. 3, (1999) 212.
9. Z. Abdel Hamid and R.A. El- Adly, "Mechanism of Ni-P-Al₂O₃ Composite by Electroless Process", J. Plating and Surface Finishing, 86, No. 5, (1999) 136.
10. E.A.M. Gad, Z. Abdel Hamid, D.A. Ismail and R.A. EL Adly, " Corrosion Inhibition by N- (alkyloxycarbonylmethyl)- N-triethanol, Ammonium Chloride with Respect to the Surface and Thermodynamic Properties", J. Chemical Technology Biotechnology, 74, (1999) 345.
11. F. Hanna, Z. Abdel Hamid and A. Abdel Aal, "Direct Electroplating on Printed Circuit Boards", J. Metal Finishing, 99, No. 4, (2001) 51.
12. Z. Abdel Hamid, "Thermodynamic Parameters of Electrodeposition of Zn-Co-TiO₂ Composite Coatings", J. Anti- Corrosion Methods & Materials, 48, No, 4, (2001) 235.
13. Z. Abdel Hamid and I. M. Ghayad, "Characteristics of Electrodeposition of Ni-Polyethylene Composite Coatings", J. Materials Letters, 53, (2002) 238.

- 14.S. F. Moustafa, Z. Abdel Hamid and A.M. Abd El Hay, "Copper Matrix SiC and Al₂O₃ Particulate Composites by Powder Metallurgy Technique", J. Materials Letters, 53, (2002) 244.
- 15.Z. Abdel Hamid and M.T. Abou Elkhair, "Development of Electroless Nickel – Phosphorous Composite Deposits for Wear Resistance of 6061 Aluminum Alloy" J. Materials Letters, 57, (2002) 720.
- 16.F. Hanna, Z. Abdel Hamid and A. Abdel Aal, "Optimization of Processing Parameters in Through Hole Plating", J. of Faculty of Education, No. 22, pp (2002) G 91.
- 17.Z. Abdel Hamid, "Electrodeposition of Cobalt- Tungsten Alloys from Acidic Bath Containing Cationic Surfactants", J. Materials Letters, 57, (2003) 2558.
- 18.Z. Abdel Hamid and A.M. A. Omar," Development of Electrodeposition Nickel - Polymer Composite by the Zwitterionic Surfactant", Journal of Surfactants and Detergents, 6, No. 2, (2003) 163.
- 19.Z. Abdel Hamid, M. A. Abass and N. Gomaa, "Enhancement the Properties of Austenitic Stainless Steel by Nickel Diffusion Coatings", J. Anti- Corrosion Methods & Materials, 50, No. 2, (2003) 115.
- 20.Farid Hanna and Z. Abdel Hamid, "Electrodeposition of Biomedical Coatings on Titanium alloys Substrate ", J. Pigment and Resin Technology, 32, No. 5, (2003) 319.
- 21.Farid Hanna and Z. Abdel Hamid, "Electrodeposition of Biomedical Hydroxyapatite Coatings on Titanium alloys Substrate", J. Engineering & applied Science, 50, 2 (2003) 387.
- 22.Z. Abdel Hamid, "Mechanism of Electroless Deposition of Ni-W- P Alloys by Adding Surfactants", J. Surface and Interface analysis, 35, No. 6, (2003) 496.

- 23.F. Hanna, Z. Abdel Hamid and A. Abdel Aal, "Controlling Factors Affecting the Stability and Rate of Electroless Copper Plating" J. Materials Letters, 58, (2003) 104.
- 24.S. A. El- Badry, Z. Abdel Hamid, U. M. Rashad and A. H. Saady, "Improvement of Stainless-Steel Properties with Titanium Oxides Deposited by Pulsed Ion Implantation Using DPF", First Cairo Conference of Plasma Physics & Applications (CCPPA2003),11-15 October 2003.
- 25.Saher Shawki and Z. Abdel Hamid, "Effect of Aluminum Contents on the Coating Structures and Dross Formation of Hot – Dip Galvanized Processes", J. Surface and Interface analysis, 35, (2003) 943.
- 26.S.F. Moustafa, Z. Abdel Hamid, S. S. Abdel Rehim, W. M. Rashad, "Processing of Ni/Al intermetallic and its composites using coating route", Proc. "Powder Metallurgy World Congress & Exhibition 2004", PM 2004, Vinna, Austria, Part 4, pp 163-168, 17-21 Oct., 2004.
- 27.Z. Abdel Hamid, I.M.Ghayad and K. M. Ibrahim, "Electrodeposition and Characterization of Chromium- Tungsten Carbide Composite Coatings from Trivalent Chromium Bath". First International Conference on Innovative Materials and Technologies for construction and restriction", June 2004, Italy.
- 28.S.F. Moustafa, Z. Abdel Hamid, "Synthesis of Tungsten Carbide-Base Nanocomposite Powders by a Novel Method" 4th Japanese - Mediteranean Workshop on applied Electromagnetic Engineering for Magnetic, Superconducting and Nano Materials, Cairo 2005.
- 29.Z. Abdel Hamid, I.M. Ghayad and K. M. Ibrahim, "Electrodeposition and Characterization of Chromium–Tungsten Carbide Composite Coatings from Trivalent Chromium Bath" J. Surface and Interface analysis, 37, (2005) 573.

30. Z. Abdel Hamid, W. A. Ghanem and S. A. Abo El Enin, "Process Aspects of Electroless deposition for Nickel – Zinc- Phosphorus Alloys", J. Surface and Interface analysis, 37, (2005) 792.
31. A. Abdel Aal, Khaled M. Ibrahim, and Z. Abdel Hamid, "Enhancement of Wear Resistance of Ductile Cast Iron by Ni-SiC Composite Coating", Wear, 260 (2006) 1070.
32. Omayma Abdel Gawad, M. H. Abou Tabl, Z. Abdel Hamid and S. F. Mostafa " Electroplating of Chromium and Cr-Carbide Coating for Carbon Fiber", surface and coating technology, 201 (2006) 1357.
33. A. Abdel Aal, Z.I. Zaki and Z. Abdel Hamid, "Novel composite coatings containing (TiC-Al₂O₃) powder", Materials Science and Engineering: A, 447, (2007), 87.
34. Z. Abdel Hamid, S.A. El Badry and A. Abdel Aal, "Electroless and Characterization of Ni-P-WC Composite Coating", Surf. Coat. Technol., 201 (2007) 5948.
35. O.A. Elkady, M. A. Abou Tabl, Z. Abdel Hamid and S. F. Moustafa, "Processing of Cu/Carbon Fiber Composites by Vortex and Powder Metallurgy Technique", Can. Metall. Q., 46, 4, (2007) 433.
36. Z. Abdel Hamid, S. A. El-Badry, and A. Abdel Aal, "Deposition and characterization of titanium nitride thin film" Novel Application of Surface Modification (NASM 2007) conference, 17-20 September 2007, University of Southampton, UK.
37. Z. Abdel Hamid, A. Abdel Aal, "Low Phosphorus Electroless Nickel plating on carbon fibres", Novel Application of Surface Modification (NASM 2007) conference, 17-20 September 2007, University of Southampton, UK.

38. Osama G. Baheig, Z. Abdel Hamid, A. Hussien, and S. F. Moustafa, "Consolidation of WC Hard Materials through Coated Powder Approach", The 7th Egyptian - Syrian Conference, (29-31 Oct. 2007) Suez, Egypt.
39. A. Abdel Aal, A. Shaaban and Z. Abdel Hamid, "Nanocrystalline soft ferromagnetic Ni-Co-P thin film on Al alloy by low temperature electroless deposition", Appl. Surf. Sci., 254 (2008) 1966.
40. A. Abdel Aal, H. Barakat, and Z. Abdel Hamid, "Synthesis and characterization of electroless deposited Co-W-P thin films as diffusion barrier layer", Surf. Coat. Technol., 202 (2008) 4591.
41. Z. Abdel Hamid, A. Abdel Aal, P. Schmuki, " Nanostructured black cobalt Coatings for solar absorber ", J. Surface and Interface analysis, 40, (2008) 1493.
42. Z. Abdel Hamid, A. Abdel Aal, "New environmentally friendly noncyanide alkaline electrolyte for copper electroplating", Surf. Coat. Technol. 203 (2009) 1360-1365.
43. Ali Shaaban, Z. Abdel Hamid, A. Abdel Aal, "Electrodeposition of Amorphous Cobalt Alloy as Barrier Layer for Microelectronics", 1st International Joint Conference on Material Science, Nanotechnology and Biotechnology-MNB 09-Future Challenges, National Research Centre, 4-6 Jan 2009.
44. Z. Abdel Hamid, A. Abdel Aal, S.S. Abdel-Rehim, M. A. Hassan, "Preparation and characterization of Ni-P coating and its composite using electrodeposition technique" 10 international on chemistry and its role in development, Department of chemistry, Faculty of science, University of Mansoura, 16-21- march 2009.
45. Z. Abdel Hamid, A. Abdel Aal, Ali Shaaban, H.B. Hassan "Electrodeposition of CoMoP thin film as diffusion barrier layer for ULSI applications", Surf. Coat. Technol., 203 (2009) 3692-3700.

46. Z. Abdel Hamid, "Electrodeposition of black chromium from environmentally electrolyte based on trivalent chromium salt", Surf. Coat. Technol. 203 (2009) 3442–3449.
47. Z. Abdel Hamid, S. El-Sheikh, and S. El Badry "Electrodeposited nickel composite coating containing nano-particulates Cr_2O_3 by conventional electroplating technique" EUROCORR 2009, 6-10 September 2009 Nice- France.
48. Z. Abdel Hamid, A. Abdel Aal, Ali Shaaban & S. Barakate, "Development of hot-dip zinc coating process using under layers", EUROCORR 2009, EUROCORR 2009, 6 - 10 September 2009 Nice- France.
49. Z. Abdel Hamid, A. Abdel Aal, & Ali Shaaban "Evaluation of electrodeposited CoMoP thin film as diffusion barriers layer for ULSI applications", EUROCORR 2009, 6 - 10 September 2009 Nice- France.
50. Ahmed Ibrahim, Z. Abdel Hamid, A. Abdel Aal, "Investigation of nanostructured and conventional alumina–titania coatings prepared by air plasma spray process", Materials Science & Engineering A, 527 (2010), 663-668.
51. Z. Abdel Hamid, A. Abdel Aal, "Effect of electroless process parameters for nickel–phosphorus coating on carbon fibers", Anti-Corrosion Methods and Materials, 57/4 (2010) 173-179.
52. Z. Abdel Hamid, A. Abdel Aal, H.B. Hassan, A. Shaaban, "Process and Performance of Hot Dip Zinc Coatings Containing ZnO and Ni-P Under Layers as Barrier Protection", Applied Surface Science, 256, Issue 13, 15 (2010) 4166-4170.
53. Z. Abdel Hamid, H.B. Hassan, A.M. Attyia, "Influence of Deposition Temperature and Heat Treatment on the Performance of Electroless Ni-B Films" Surf. Coat. Technol., 205 (2010) 2348–2354.
54. W. Li, W. M. Daoush, A. Bothate, Z. Abdel-Hamid, R. Yamanoglu, E. A. Olevsky, S. Moustafa, and R. M. German, "Influence of Powder Preparation on Consolidation Behavior and Properties of Tungsten-Copper Alloys," Advances in

Powder Metallurgy and Particulate Materials – 2010, Metal Powder Industries Federation, Princeton, NJ, 2010, Part 2, pp. 45-57.

55.H. B. Hassan, Z. Abdel Hamid,” Electroless Ni-B supported carbon for direct alcohol fuel cell applications”, International Journal of Hydrogen energy, 36, Issue 1, January 2011, Pages 849-856.

56.S.F. Moustafa, Z. Abdel Hamid, Fatma A. Morsy, N. A. Khalifa and F. Abdel Mouez: “Fabrication of copper/diamond composites for heat sink application using powder metallurgy technique”, International conference on material imperatives in the new millennium (MINM 2010) - 29.11.2010 - 02.12.2010- Cairo, Egypt.

57.H. B. Hassan, Z. Abdel Hamid, “Electrodeposited Ni-Cr₂O₃ nanocomposite anodes for ethanol electrooxidation”, International Journal of Hydrogen energy, 36 (2011) 5117- 5127.

58.Wei Li, Randall M. German, Aditya Bothate, Walid M. Daoush, Eugene A. Olevsky, Z. Abdel-Hamid, Sayed Moustafa, “Barriers of W-Cu Alloy Consolidation by Spark Plasma Sintering”, PowderMet 2011 May 18-21 2011 MPIF /APMI SAN FRANCISCO.

59.Z. Abdel Hamid, M.T. Abou El-khair, and H. B. Hassan, “Synthesis and protection of AM50 magnesium alloy and its composites using environmentally pretreatment electrolyte”, Surf. Coat. Technol, 206, issue 6 (2011) 1041-1050.

60.S.F. Moustafa, Z. Abdel-Hamid, Osama G. Baheig and A. Hussein, “Synthesis of WC hard materials using coated powders”, Advanced Powder Technology, 22 Issue 5, September 2011, Pages 596-601.

61.H. B. Hassan, Z. Abdel Hamid, K. A. Selim, “Electrodeposition of Cu–CuO composite films from noncyanide alkaline electrolyte for glucose electrooxidation”, 8th European Congress of Chemical Engineering, 25-29 Berlin, Germany 2011.

- 62.H. B. Hassan, Z. Abdel Hamid, "Electrodeposited Cu–CuO Composite Films for Electrochemical Detection of Glucose", *Int. J. Electrochem. Sci.*, 6 (2011) 5741 – 5758.
- 63.S.F. Moustafa, Zeinab Abdel Hamid, Fatma A. Morsy, N. A. Khalifa and F. Abdel Mouez, "Fabrication and characterization copper/diamond composites for heat sink application using powder metallurgy technique", *Natural Science*, 3 (11) (2011) 936-947.
- 64.Walid. M. Daoush, E. Gordo, P. Alvaredo, El Sayed K. Maree, Sayed F. Moustafa, Zeinab Abdel Hamid, Ahmed A. Atlam, Amir A. El Sayed," Microstructure and Hardness of Fe-TiCN Cermets Fabricated by Powder blending and Powder Coating Routes Followed by Powder Metallurgy Process", *The 2012 World Congress on Advances in Civil, Environmental, and Materials Research (ACEM' 12)* Seoul, Korea, August 26-30, 2012.
- 65.Z. Abdel Hamid, H. B. Hassan, "Influence of electrodeposition parameters on the characteristics of NiMoP film in citrate electrolyte", *surface & coating technology*, 212 (November 2012) 37-45.
- 66.Z. Abdel Hamid, Sayed F. Moustafa, W. Daoush F. Abdel Mouez, and M. Hassan, "Fabrication and characterization of Solid-Phase Sintered Tungsten Heavy Alloys Using Chemical Reduction and Mechanical Alloying Methods", *Open Journal of Applied Sciences*, 3 (1) (2013) 15-27.
- 67.Z. Abdel Hamid, F. Abdel Mouez Fatma A. Morsy, and N. A. Khalifa, "Electroless Ni-Cr-B on Diamond Particles for fabrication Copper /Diamond Composites as Heat sink materials", *International Journal of Engineering Practical Research (IJEPR)*, 2 (3) (2013) 112-117.
- 68.Z. Abdel Hamid and S. M. El-Sheikh, Enhancement the properties of Ni composite electroplated using nano-chromium oxide powder, *Journal of Metallurgical Engineering*, 2 (2) (April 2013) 70-78.

- 69.H. B. Hassan, Z. Abdel Hamid, "The electrocatalytic behavior of electrodeposited Ni–Mo–P alloy films towards ethanol electrooxidation ", Surf. Interface Anal., 45 (2013) 1135–1143.
- 70.Hassan H. Elsentriecy, I. M. Ghayad, Z. Abdel Hamid, "Electroless Ni–P deposition on AZ91 D magnesium alloy pretreated by vanadate chemical conversion coatings' ', Eurocor 2013, 1-5 September 2013.
- 71.Z. Abdel Hamid and H. B. Hassan, "Impact of composition and fabrication method on the corrosion behavior of tungsten heavy alloys in aqueous solutions", Surf. Interface Anal., 45 (2013) 1830–1837.
- 72.Z. Abdel Hamid, Review Article: Composite and Nanocomposite coatings, Journal of Metallurgical Engineering (ME) Volume 3 Issue 1, (January 2014) 29-42.
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- 75.Z. Abdel Hamid, Malak T. Abou El-khair, M. Hassan Gomaa, Fatma A. Morsy, Nevien Abdel Atty khalifa, "Impact of Chemical Composition of the Substrate on the Synthesis and Behavior of Nano Hard Anodized Layers" Int. J. Nanoparticles, Vol. 7, Nos. 3/4, 2014.
- 76.Z. Abdel Hamid, Malak T. Abou El-khair, M. Hassan Gomaa, Fatma A. Morsy, Nevien Abdel Atty khalifa, "Synthesis and Behavior of Nano Hard Anodized Layers ", Eurocorr 2014, 8-12 Septamber, Piza, Italy.

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78. Ibrahim M. Ghayad, Z. Abdel Hamid, N. Gomaa “A case study corrosion failure of tube heat exchanger” Publication in 3rd international conference on corrosion mitigation and surface protraction technologies, 8 -11 December 2014, Steigenberger Hotel – Luxor, Egypt.
79. Ibrahim M. Ghayad, Ahmad Z. Farhatm, N. Gomaa, Z. Abdel Hamid, “Failure Analysis of a Screwed Bar in an Oil Well” Publication in 3rd international conference on corrosion mitigation and surface protraction technologies, 8 -11 December 2014, Steigenberger Hotel – Luxor, Egypt.
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88. M.M. Rifai, Z. Abdel Hamid, S.M. Saleh, M.M. Abdelbar, “New coatings for the protection of ornamental cast ironwork exposed in uncontrolled environment”, *Eurocorr2015, Graz, Austria, 6-10 Septamber, 2015*.
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96. Zeinab Abdel Hamid, Ibrahim Ghayad, Nasser Gomaa, Yehial Makhoulouf, "Corrosion Failure Analysis of EB2 Flange and Reducer" 5th international conference on corrosion mitigation and surface protection technologies, 11-15 December 2016, Steigenberger Hotel, Luxor, Egypt.
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100. I M Ghayad, Z. Abdel Hamid, N Gomaa, S Khodry, "Evaluation of Steam Tubes in A Thermal Power Station" 6th international conference on corrosion mitigation and surface protection technologies, 10-14 December 2017, Sonesta Hotel, Luxor, Egypt.

101. M.M. Rashad, Salwa M. Mahmoud, Z. Abdel-Hamid, H. M. El-Sayed, N.A. Khalifa, A. T. Kandil, "Structural, magnetic properties and induction heating behavior studies of cobalt ferrite nanopowders synthesized using modified co-precipitation method", Particulate Science and Technology, 2018, VOL. 36, NO. 2, 172–177.

102. Dalia A. Abd El daym, Mostafa E.Gheith, NadiaA.Abbas, LailaA.Rashed, Zeinab A. Abd El Aziz, Corrosion behavior of erbium chromium-doped yttrium-scandium-gallium- garnet (Er,Cr:YSGG 2780 nm) laser-treated titanium alloy used for dental applications at different pH conditions (in vitro study), Lasers in Dental Science, 2 (2018) 137-146, doi.org/10.1007/s41547-018-0030-7.

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Nickel/Graphene nano-sheet composite coatings on brass, Egyptian Journal of Chemistry, Volume 62, Issue 2, February 2019, Page 201-214 .

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Mild Steel in Organic Acids, *Hassanc J. Mater. Environ. Sci.*, 10 (2) (2019) 141-162.

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Role of Collagen in Bone Hardness, *Journal of Functional Biomaterials*, 11, 85, 2020.

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8- Book Chapter

Z. Abdel Hamid and M. Ibrahim, Book of Emerging Trends in Engineering Research and Technology Vol. 9, Chapter 11 “Preparation, Characterization, Performance of the Galvanized Steel Using Sn as Alloying Element to Promote the Corrosion Resistance”, pp. 108-122 (2020), Print ISBN: 978-93-90206-36-0, eBook ISBN: 978-93-90206-37-7. DOI: 10.9734/bpi/etert/v9.

9- Presentations

1.	"Advanced Materials Workshop "US – Egypt Partnership, Science & Technology Agreement" Organized by National Research Center (Egypt) & National Science Foundation (USA). “Novel Technique for Thin Film Biomedical Coatings for Hydroxyapatite on Titanium Alloy Substrate” Farid Hanna and Z. Abdel Hamid
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2.	<p>"World Tribology Congress 2001", Vienna, Austria, 3 –7 September. Presentation Title: "Development of Electrodeposition Cobalt- Tungsten Alloys from Acidic Bath Containing Cationic Surfactants" <u>Z. Abdel Hamid</u></p>
3.	<p>1st International Conference on "New Trend in Chemistry and Their Applications" Beni Suef Univ. 2- 4 Feb. 2002. Presentation Title: "Controlling Factors Affecting the Stability and Rate of Electroless Copper Plating". F. Hanna, <u>Z. Abdel Hamid</u> and A. AbdelAal.</p>
4.	<p>First Cairo Conference of Plasma Physics & Applications (CCPPA2003),11-15 October 2003. Improvement of Stainless Steel Properties with Titanium Oxides Deposited by Pulsed Ion Implantation Using DPF. S. A. El- Badry, <u>Z. Abdel Hamid</u>, U. M. Rashad and A. H. Saady.</p>
5.	<p>First International Conference on Innovative Materials and Technologies for construction and restriction", June 2004, Italy. "Electrodeposition and Characterization of Chromium- Tungsten Carbide Composite Coatings from Trivalent Chromium Bath". <u>Z. Abdel Hamid</u>, I.M.Ghayad and K. M. Ibrahim.</p>
6.	<p>"Powder Metallurgy World Congress & Exhibition 2004", PM 2004, Vinna, Austria, Part 4, pp 163-168, 17-21 Oct., 2004. Processing of Ni/Al intermetallic and its composites using coating route". S.F. Moustafa, <u>Z. Abdel Hamid</u>, S.S. Abdel Rehim, W.M. Rashad.</p>

7.	<p>4th Japanese - Mediteranean Workshop on applied Electromagnetic Engineering for Magnetic, Superconducting and Nano Materials, Cairo 2005.</p> <p>"Synthesis of Tungsten Carbide-Base Nanocomposite Powders by a Novel Method".</p> <p>S.F. Moustafa, Z. Abdel Hamid</p>
8.	<p>First Afro-Asian Conference on Advanced Materials Science and Technology, Cairo, Egypt, 13-16 Nov. 2006.</p> <p>"Processing of Cu/Carbon Fiber Composites by Vortex and Powder Metallurgy Technique".</p> <p>O.A. Elkady, M. A. Abou Tabl, <u>Z. Abdel Hamid</u> and S. F. Moustafa.</p>
9.	<p>Novel Application of Surface Modification (NASM 2007) 17-20, September 2007, University of Southampton, UK.</p> <ul style="list-style-type: none"> - Deposition and characterization of titanium nitride thin film Z. Abdel Hamid, S. A. El-Badry, and A. Abdel Aal - Low Phosphorous Electroless Nickel plating on carbon fibres Z. Abdel Hamid, A. Abdel Aal - Electroplating of Chromium and Cr-Carbide Coating for Carbon Fiber. <p>Omayma Abdel Gawad, M. H. Abou Tabl, Z. Abdel Hamid and S. F. Mostafa.</p>
10.	<p>Metals Processing and Manufacturing Conference - MPM 2007, 19-22 November, 2007, Cairo, Egypt</p> <p>" Deposition and characterization of titanium nitride thin film"</p> <p>Z. Abdel Hamid, S. A. El-Badry, and A. Abdel Aal.</p>

11.	<p>The 7th Egyptian - Syrian Conference, in petroleum and chemical eng., Faculty of Eng., Univ. of Suez Canal, Egypt, 29-31 Oct. 2007.</p> <p>"Consolidation of WC Hard Materials through Coated Powder Approach".</p> <p>Osama G. Baheig, Z. Abdel Hamid, A. Hussien, and S. F. Moustafa.</p>
12.	<p>Workshop on "Advanced Materials, Thermal Spray Coatings and Damage Tolerance" Conducted by Carlton University Ottawa, Canada and Farmingdale State University, USA. CMRDI, 19-21-May 2008.</p>
13.	<p>1st International Joint Conference on Material Science, Nanotechnology and Biotechnology – MNB 09- Future Challenges, National Research Centre, Cairo, 4-6 Jan 2009.</p> <p>"Electrodeposition of Amorphous Cobalt Alloy as Barrier Layer for Microelectronics".</p> <p>Ali Shaaban, Z. Abdel Hamid, A. Abdel Aal.</p>
14.	<p>10 Internationals on chemistry and its role in development, Department of chemistry, Faculty of science, University of Mansoura- Sharm-El Sheikh, 16-21- march 2009.</p> <p>"Preparation and characterization of Ni–P coating and its composite using electrodeposition technique".</p> <p>Z. Abdel Hamid, A. Abdel Aal, S.S. Abdel-Rehim, M. A. Hassan.</p>
15.	<p>EUROCORR 2009 THE EUROPEAN CORROSION CONGRESS, "Corrosion from the Nanoscale to the Plant" European Federation of Corrosion, Event No. 310, 6 - 10 September 2009 Nice Acropolis-France. "Electrodeposited nickel composite coating containing nano-particulates Cr₂O₃ by conventional electroplating technique"</p>

	<p>Z. Abdel Hamid, S. El-Sheikh, and S. El Badry. - Development of hot-dip zinc coating process using under layers.</p> <p>Z. Abdel Hamid, A. Abdel Aal, Ali Shaaban & S. Barakate. - Evaluation of electrodeposited CoMoP thin film as diffusion barriers layer for ULSI applications.</p> <p>Z. Abdel Hamid, A. Abdel Aal, & Ali Shaaban.</p>
16.	<p>Twelfth International Conference on Plasma Surface Engineering September 13 - 17, 2010, in Garmisch-Partenkirchen, Germany “Investigation of nanostructured and conventional alumina–titania coatings prepared by air plasma spray process” Ibrahim, Z. Abdel Hamid and A. Abdel Aal</p>
17.	<p>International conference on material imperatives in the new millennium (MINM 2010) -29.11.2010 - 02.12.2010- Cairo, Egypt. “Fabrication of copper/diamond composites for heat sink application using powder metallurgy technique”</p>
18.	<p>8 th European Congress of Chemical Engineering, 25-29 Berlin, Germany 2011. “Electrodeposition of Cu–CuO composite films from noncyanide alkaline electrolyte for glucose electrooxidation”, H. B. Hassan, Z. Abdel Hamid, K. A. Selim.</p>
19.	<p>63rd Annual Meeting of the International Society of Electrochemistry in Prague, Czech Republic, 19-24 August, 2012.</p>
20.	<p>1st International Conference on Advanced basic and Applied sciences (ABAS), Hurghada, Egypt 6-8 November - 2012. "Synthesis and Properties of Solid-Phase Sintered Tungsten Heavy Alloys Using Chemical Reduction and Mechanical Alloying Methods "</p>

21.	15 th international Conference on Aerospace Science & Aviation Technology (ASAT-15), Military Technical college , 28-30 May 2013, Cairo, Egypt
22.	EUROCORR 2013, 1- 5 September 2013 Estoril - Portugal. - Electroless Ni–P deposition on AZ91 D magnesium alloy pretreated by vanadate chemical conversion coatings - Electrodeposited Ni-Mo-P alloy as anodes for ethanol electrooxidation in alkaline medium. - Electroless Ni-Cr-B on Diamond Particles for fabrication Copper /Diamond Composites as Heat sink materials
23.	“40 th Annual Conference Scientific Challenges & Emerging technology Transfer in Modern Egypt” December 28 th – 30 th , 2013 “Applied Research in the Area of Advanced Industrial Coatings Applications” <u>Z. Abdel Hamid</u> , I. Ghayad
24.	Nanomaterials Synthesis, Fabrication and Applications Nanotech Challenges 2014, 14-17 April, 2014, Cairo, Egypt. “Impact of Chemical Composition on the Synthesis and Behavior of Nano Hard Anodized Layers” Z. Abdel Hamid, Malak T. Abou El-khair, M. Hassan Gomaa, Fatma A. Morsy, Nevien Abdel Atty khalifa,
25.	The 7 th international scientific conference of the military technical college (ISC-MTC) 27-19 May 2014.

26.	EUROCORR 2014, 8- 12 September 2014, Piza, Italy. “Synthesis and Behavior of Nano Hard Anodized Layers“, Z. Abdel Hamid , Malak T. Abou El-khair, M. Hassan Gomaa, Fatma A. Morsy, Nevien Abdel Atty khalifa,
27.	EUROCORR 2015, 8- 12 September 2014, Graz, Austria. M.M. Rifai, Z. Abdel Hamid , S.M. Saleh, M.M. Abdelbar, “New coatings for the protection of ornamental cast ironwork exposed in uncontrolled environment”.
28.	8th International Conference On CHEMICAL & ENVIRONMENTAL ENGINEERING, 19-21April, 2016. Chairman of the session “Technology and Applied of Nanomaterial” and participate by oral presentation entitled:"Synthesis and characterization of carbon nanostructures from green oil using thermal pyrolysis process"
29.	17 th INTERNATIONAL CONFERENCE ON AEROSPACE SCIENCES & AVIATION TECHNOLOGY, ASAT – 17, April 11 – 13, 2017, Cairo, Egypt and participate by oral presentation entitled "Surface Treatment of Titanium Alloys for Advanced Aerospace Applications"
30.	4 th International Conference on Advanced sciences (ICAS4), Hurghada, Egypt 7-10 November - 2017. Participate by oral presentation entitled: "Composite and nano composite coatings for improving physical and mechanical properties”
31.	9th International Conference On CHEMICAL & ENVIRONMENTAL ENGINEERING, 3-5April, 2018. Chairman of the session “Technology and Applied of Nanomaterial” and

	participated by oral presentation entitled: "Composite and nano composite coatings for improving chemical, physical and mechanical properties"
32.	EUROCORR 2018, September, 9-13 2018, ICE Krakow, Poland, participate by two oral presentations entitled: "effect of chemical composition of galvanized bath and substrate on the behavior of galvanized steel" and "Corrosion Inhibition of Bronze Alloy by Aloe Vera Extract in Neutral Media for Application on Archaeological bronze artifacts"
33.	The Arab Forum for Creativity, Innovation and Competitiveness from 1-4 October 2018 in Hurghada - Cairo
34.	EgyCorr2018, 10-13 December 2018, Hurdagha, Egypt
35.	2 nd International conference in material science and engineering (ICMSE-2019) March 2019, Cairo, Egypt رئيس جلسة والاشتراك بحث.
36.	Nanotech ME 2020, Dubai, United Arab Emirates on 24-26 February, 2020. "Challenges for High Performance of Polyaniline / Nanocomposite as Super Hydrophobic Coatings via Electrochemical Polymerization Technique"
37.	مؤتمر الملتقى العربي للإبداع والابتكار والتنافسية في الفترة من 1-4 أكتوبر 2018 بالغردقة- القاهرة
38.	10th International Conference on chemical & environmental engineering, 7-9 July, 2020. (رئيس جلسة) Shared the activities in the board of Chemical Engineering Session

	titled "Chemical Engineering Applications"
39.	Workshop "For a real partnership between scientific research and the petroleum and mineral resources sector" June 23, 2021 Pyramisa Hotel - Dokki - Cairo. ورشة عمل "من أجل شراكة حقيقية بين البحث العلمي وقطاع البترول والثروة المعدنية 23 يونية 2021 فندق بيراميزا- الدقى- القاهرة.
40.	حضور و القاء محاضرة فى ورشة عمل بعنوان "مواد وتكنولوجيات تصنيع متقدمة لتنمية العالم العربى" نظمة مركز بحوث وتطوير الفلزات واتحاد مجالس البحث العلمى العربية التابع لجامعة الدولة العربية والرابطة العربية لعلوم المواد والنانوتوكولوجى التابعة لاتحاد مجالس البحث العلمى العربية فى الفترة من 10-9 نوفمبر 2021 بفندق هوليداي ان بالمعادى – القاهرة- مصر. Advanced Materials and Manufacturing Technologies for Arab Countries Department 9-10- November 2021, Holiday Inn, Maadi, Cairo, Egypt.

9- Training courses

Organize and participate the training courses in the field of coating and protection of metals for employees of different sectors such as the Military Production and the Arab Authority for the manufacturing sector and Arab Swiss Engineering Company (ASEC)
Organize and participate in courses organized by the Academy of Scientific Research
Participate and a lecturer in the training sessions organized by the Society of Mechanical Engineers "corrosion: its causes and the means of protection: in the period from 2010 to 2014.
Provide services, counseling, and failure analysis.
Development the production in coating units
Test and evaluate the efficiency and quality of the coating solutions

Assessment tests "non-destructive" to measure the efficiency of the various coatings
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Evaluation of fuel additives used in thermal power stations.
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10- Cooperation with Industry

I have experience in the cooperation with industry through study many failure analyses cases in the petroleum and electric company in Egypt. Also, I can establish plating units by different techniques and transfer technology.

11- Grants / Awards

- State Incentive prize in chemistry in 2003 (Egypt).
- Award of scientific excellence in advanced technological sciences basic science 2014.
- Medal of Science and Arts of the first class awarded from the President of the Republic 2017.
- Award of the Central Metallurgical Research and Development Institute for outstanding scientific publications for 2019.

12- Supervision of theses

Supervised on more than 40 theses in the field of surface treatments and coating powders for different Egyptian Universities, including Ph.D. and master.

No.

Ph.D. theses

1. "Electroless Deposition of Nickel as Related to the Structure Morphology and Properties of the Coatings"
Cairo University, 1996 (Tameer Yehia Soror)
2. "Ni – Coated Powder Approaches for Advanced Materials"
Ain - Shamis University, 2004 (Walied Rashad)
3. Improvement of Wettability of Carbon Fiber by in- situ Carbide Coating"
Cairo University. 2005 (Omayma Abdel Gawad)
4. Electroplating of hard nickel Alloys
Ain Shamis University, 2009 (Manal Abdel Rehim)
5. Preparation and characterization of sub-micron and nano composite coatings of nickel-cobalt alloys using electrodeposition technique”
Ismailia University, 2012 (Ibrahim Salah Ibrahim)
6. Deposition of carbon nanotubes using thermal spray pyrolysis and PECVD Techniques
Ain Shams University, 2013 (Fatma Abdel Moeiz)
7. Study on the conservation of Ornamental Ironwork in Historical Buildings, with practical application on a selected object
Faculty of Archaeology, Cairo University, 2013 (Mohamed Mohamed Abdou Abdel Bar)
8. “Efficacy of mesenchymal system cells loaded on carbon nanotubes in bone tissue engineering in rats”
Faculty of Science, Beni Suef University, 2014 (Fayez Kamal Fouda)
9. Enhancing gravure plate Characteristics by developing alternative materials

Faculty of Applied Arts - Helwan University, 2015 (Ahmed Adel
Mohamed)

10. Nanotechnology Evolution in Gas Sensor “Nano-composite Materials as Dissolved Oxygen Sensor” Chemistry Department - Faculty of Science - Ain Shams University (Khaled Elsayed)
11. Corrosion behavior and biocompatibility of erbium chromium –doped yttrium – scandium – gallium-garnet (Er, Cr:YSGG 2780 nm) laser treated titanium alloy used for dental applications (In-vitro study) - Faculty of dental Medicine (Dalia Ahmed Mohamed Al-Sayed)
12. Applications of Nanotechnology in Agricultural Mechanization, Faculty of Agricultural, (Mohamed مَبَشَّه)
13. Developing of Super-hydrophobic Nano Composite Coatings for Energy Applications
Ain Shams University (Mona Hassan)
14. Challenges for producing high efficiency lead–free perovskite for energy applications
Faculty of Science - Ain Shams University (Mohamed Fareid)
15. Partial Discharge Detection inside Transformer Oil using On-Line Nanotechnology Technique
Electrical Engineering Department, Faculty of Engineering at Shoubra Benha University, (Sameh Hassan Shawky)

M.Sc. Theses

16. "Plating on Plastics for Printed Circuit Board"
Faculty of Science, Ain Shams University, 1999 (Alsayed Abdel Aal)
17. Polishing steel and decorated by different elements
Faculty of Science, Al Azher University, (Mohamed Mohamed Abass)
18. Effect of various binder metals on tungsten carbide properties
Faculty of Engineering, Cairo University, 2006 (Osama Gabalaa Baheg)
2006.

19. Study on processing parameters of copper/diamond composites and their effects on physical and mechanical properties
Faculty of Science, Helwan University, 2011 (Fatma Abdel Moeiz)
20. “Synthesis and properties of iron base composite through powder metallurgy”
Faculty of Engineering, Al Azher University, 2015 (Al Sayed Khaliel)
21. Effect of alloying elements and anodizing conditions on the formation of nano porous hard anodic films on Al alloys"
Faculty of Science, Helwan University, 2014 (Mona Hasan Gomaa)
22. “Corrosion inhibition of carbon steel in acidic medium using organic and inorganic inhibitors”
Faculty of Science Benha University, 2015 (Ahmed Mohamed Helal).
23. “Electrochemical studies on Ni and some Ni alloys behavior in aqueous solutions”
Faculty of Science Benha University, 2015 (Mohamed Faried)
24. Synthesis of cobalt ferrite-hydroxyapatite nanocomposites using electrodeposition technique
Faculty of Science, Helwan University, 2016 (Salwa Ahmed Mahmoud).
25. Effect of processing parameters on the quality of hot dip galvanizing of cold rolled sheet
Ain Shamis University, 2016 (Mustafa Ahmed Ebrahim).
26. Impact of incorporated carbon nano tubes on the behavior of Ni-composite coatings using Electroplating technique
Faculty of Science, Domyat University. 2014 (Ahmed Khalil)
27. “A Comparative Study for the evaluation of the efficiency of traditional and modern (green) inhibitors in the protection of archaeological bronze

artifacts, with application on a selected object”

Faculty of Archaeology, Cairo University, (Moataz Bellah EL Saied)

28. "A study on the infiltration of the metal bowls made of stainless steel during the preparation and storage of food"

Faculty of Agriculture, Al Azhar University, (Ali Hassan)

29. Electrodeposition and Characterization of NiMo and NiMo CNT composite coatings onto steel substrate

Faculty of Science- Ain Shamis University (Rania Abdel Satar)

13- Research Projects

- Process Development of Galvanized Wires Produced by Hot – Dipping Techniques at the Egyptian Copper Company, Science & Technology Cooperation Project 263 – 0140.1) 1996.

- The development of Units of-paint and chrome nickel steel furniture manufacturer- Delta Industries (IDEAL) 1997.

- Metallic coated Steel as an alternative for super alloys used in refinery and petrochemical industries" connected with "Academy of Scientific Research and Technology", 2006.

- Processing of tungsten heavy alloys to substitute imports 2009.

- Processing of new generation materials of cutting tools using powder metallurgy process, 2009.

- Development of High erformance Nano-Sized Tungsten Heavy Alloy composites by Powder Metallurgy 2009.
- Establishment plasma enhanced and laser enhanced chemical vapor deposition unit (2013).
- Recovery of zinc from zinc dross using electrorefining and pyrolytic methods (2013).
- Technology Development and Demonstration Satellite –TeDDSat.1 2017.
- Local Development of Mixed Metal Oxides Coating Technology of Brine Electrolyzers Electrodes Used in Chlor Alakali Industry (Co-PI) 2021

14- Indoor Project

1)	طلاء البلاستيك وكروت الدوائر الكهربائية بالطرق التقليدية وتطويرها باستخدام الطلاء المباشر بالكهرباء. Coating of plastic and printed circuit boards by traditional methods and developed using direct plating, 1997- 1998, (PI).
2)	ترسيب طبقة جديدة من سبيكة التنجستين بدلا من طبقة الكروم Deposition of new layer from tungsten alloy instead of chrome layer, 2000/2001 (PI).
3)	للنيكل وسبائكه تحسين خواص الترسيب الكهربائي Improvement the properties of electrodeposition nickel and its alloys, 2002/2003 (PI).
4)	خصائص سبائك التيتانيوم قبل وبعد طلائها بالمواد الحيوية والمستخدمه بالأجهزة التعويضية بجسم الإنسان Properties of titanium alloy before and after coating with biomaterial and

	used in a human body, 2003/2004 (PI).
5)	زيادة العمر الافتراضى لأسلحة القطع المصنعة من كربيدات التنجستين بطلائها بطبقة من TiC بالرش الحراري TiCN Enhancement the life time of WC tips by TiN or TiC coating using plasma spray method, 2004/2005 (PI).
6)	طلاءات المواد السيراميكية للتطبيقات الصناعية المختلفة Ceramic coatings for different applications, 2006/2007 (PI).
7)	إبتكار الكتروليتات حديثة قلووية غير سامة للترسيب الكهربى للنحاس Novel and Innovative Alkaline Non-Toxic Electrolytes for Copper Electroplating, 2007/2008 (PI).
8)	جلفنة بالغمر الساخن عالية الجودة بإستخدام طلاءات تحتية High performance Hot-dipping galvanizing using barrier layers, (PI) 2008/2009
9)	طلاءات مانعة الإنتشار لتطبيقات الدوائر المتكاملة Diffusion barriers for the ULSI applications, 2008/2009 (PI).
10)	تحضير وخواص مبردات جديدة للدوائر الالكترونية من متراكب الماس/ نحاس (Co-PI) 2008/2009.
11)	تصنيع وتحسين متراكبات الماغنيسيوم باستخدام الطلاء الكهربى Processing and Improvement the Properties of AM 50 Magnesium Metal Matrix Composites Using Protective Coating by Electroplating Technique, 2009/ 2010 (PI).
12)	دراسة عوامل التحضير لمتراكب نحاس / الماس وتأثيرها على الخواص الفيزيائية والميكانيكية Study on processing parameters of copper/diamond composites and their effects on physical and mechanical properties, 2009/2010 (PI).
13)	الطلاءات الحرارية المانعة بإستخدام تقنية الرش الحرارى بالبلازما Thermal barrier coatings using air plasma spray technique, 2010/2011, (PI).

14)	تأثير عناصر التسابك وظروف الأنودة على تكوين مسام نانومترية لطبقات الأنودة الصلدة على سبائك الألومنيوم Effect of alloying elements and anodizing conditions on the formation of nano porous hard anodic films on Al alloys, 2011/2013 (PI).
15)	تطوير طلاءات تحويرية من الفاناديوم على سبائك المغنيسيوم Improvement the conversational coatings from vanadate on Mg alloys, 2011/2012 (Co. PI).
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