

Curriculum Vitae

Personal Data:

Name: Hanaa Soliman El-Sayed Soliman

Date of Birth: 22/8/1982

Nationality: Egyptian

Job: Associate Professor of surface treatment and corrosion control lab in Central of Metallurgical Research and Development Institute (CMRDI)



Qualifications:

- 1- **B.Sc.** of chemistry. Faculty of Science from Zagazig University with overall grade "**very good with honor**".
Date of Graduation: May 2003.
- 2- Master Scholarship from the Academy of Scientific Research and Technology (ASRT), Egypt 2004.
- 3- Computer course (2006).
- 4- International Computer Driving License (ICDL) 2008.
- 5- **M.Sc.** of physical Chemistry, Zagazig University, 2008.
Title "**Electrodeposition of Nano-Composite Zinc Alloys Coatings**".
- 6- **Ph.D.** of physical Chemistry, Zagazig University, 2014.
Title "**Deposition of nano-composites coatings of hydroxyapatite on advanced Mg alloys for medical application**".

Experiences:

- ❖ Three years as a Master student at Central of Metallurgical Research and Development Institute (CMRDI), Helwan, Cairo (2004-2007).
- ❖ Participated in senior projects of students from Faculty of Engineering, University of Suez Canal, Egypt, entitled "**Surface Characterization of Plasma Thermal Spray coatings**", (2005).
- ❖ Participated in senior projects of students from Faculty of Engineering, University of Helwan, Egypt, entitled "**Electroless Deposition of Nickel and Nickel Copper Alloys on Plastics**", (2005).
- ❖ Participated of training program for engineers, chemists and technicians from companies (2006).
- ❖ Two year as **assistant lecturer** at the faculty of Science in **Gazan University** Kingdom of Saudi Arabia (2008-2010).

- ❖ Participated in project, entitled “**Enhancement of magnesium Implants coatings for orthopedic applications**”, (2011).
- ❖ Participated on **International conference of corrosion mitigation and surface protection technologies**, Dec.(2012)
- ❖ Doctoral Scholarship from the Academy of Scientific Research and Technology (ASRT), Egypt 2012.
- ❖ Principal investigator for a project in Central of Metallurgical Research and Development Institute (CMRDI), Helwan, Cairo, entitled “**One step approach for bio-composite coatings on magnesium alloys by micro-arc oxidation process**”, (2015).
- ❖ Two year as **lecturer** at high institute for engineering and technology in Zagazig (2014- 2016)
- ❖ **Post doctor** scholarship in Biomedical Engineering school, Southwest Jiatong University, China. (2016-2019)
- ❖ Principal investigator for a project in Central of Metallurgical Research and Development Institute (CMRDI), Helwan, Cairo, entitled “**Micro arc oxidation of Ti alloy for water treatment application**”, (2020).

Supervision:

Master Student with title "**Deposition of black chromium alloys coatings from trivalent chromium baths for solar thermal application**"(2018)

Publications:

1. **Characteristics of nano-structured Zn-Ni alloys electrodeposited from acidic bath containing organic additives**, Eltebin magazine, 90(2007)1.
2. **Surface Modification of Mg-3Zn-0.8Ca Alloy Using Dual Micro-Arc Oxidation (MAO) and Fluoridated Hydroxyapatite (FHA) Coatings**, Egypt J. Chem, 57 (2014) 97-108.
3. **Effect of Ultrasonic and Mechanical Vibration on the Corrosion Behavior of Mg-3Zn-0.8Ca Biodegradable Alloy**, Int. J. Electrochem. Sci., 9 (2014) 2005
4. **Corrosion resistance of economical environmentally friendly anodization for Mg-3Zn-0.8Ca alloy**, Eurocorr corrosion Conference (2014).
5. **Effect of nano-additives on the performance of ceramic coatings formed by micro-arc oxidation on magnesium alloys**, in “Handbook of nanoceramic and nanocomposite coatings and materials”, Elsevier Publication, USA, ISBN: 9780127999470, chapter 18, (2015) 389-401.
6. **Comparative study of micro-arc oxidation treatment for AM, AZ and MZ magnesium alloys**, Protection of Metals and Physical Chemistry of Surfaces, Elsevier Publication, 51(2015)620-629.
7. **Effect of fluoride ions modifier and ceramic Al₂O₃ particles additives on plasma electrolytic oxidation of AZ31**, Surface engineering journals, 33 (2017) 767-772.

8. **Zirconium ions integrated in 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP) as a metal organic-like complex coating on biodegradable magnesium for corrosion control**, Corrosion science journal, 144(2018)277.
9. **Ultraviolet Irradiation Assisted Liquid Phase Deposited Titanium Dioxide (TiO₂)-Incorporated into Phytic Acid Coating on Magnesium for Slowing-down Biodegradation and Improving Osteo-compatibility**, Materials Science & Engineering C, 108(2020)110487.
10. **Hydroxyquinoline/Nano-Graphene Oxide Composite Coating of Self-healing Functionality on treated Mg Alloys AZ31Mg alloy**, Surface and Coatings Technology, 385(2020)125395.
11. **In-vitro Biodegradation of Micro-Arc Oxidation on AZ31 Hybridized with Dopamine Compared to Phytic Acid**, research & development in material science, 13(2020)1385.
12. **Enhanced corrosion resistance of plasma electrolytic oxidation coatings prepared on Mg alloy ZX using Nano- Al₂O₃ and NaF incorporated electrolyte**, surface engineering,(2020).
13. **Deposition of anti-corrosion Hexamethylene diaminetetrakis (methylene phosphonic acid)/ Hydroxyapatite hybrid film on biodegradable Mg: Influence of deposition procedures**, Surface and Coatings Technology (2020)
14. **Heat treatment of Hexa-Methylene Diamine Tetra-Methylene Phosphonic Acid (HMDTMPA) coating on biodegradable Mg to improve corrosion resistance and bioactivity**, Surface engineering. (2021)

Contacts:

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