



CURRICULUM VITAE

Of

Dr. Mona Hasan Gomaa

1-Personal Information

Full Name: Mona Hasan Gomaa Ibrahim.

Date of Birth, Place: 01/01/1988, Egypt.

Nationality: Egyptian.

Marital Status: Married.

Address:

E-mail: monahasan@cmrdi.sci.eg, monahasan1287@yahoo.com.

Websites: <https://www.cmrdi.sci.eg>

<https://www.scopus.com/authid/detail.uri?authorId=56190027200>

<https://www.researchgate.net/scientific-contributions/Mona-Hasan-Gomaa-2166447768>

Languages:

Arabic : (Native)

English : (Excellent writing, reading and speaking)

2-Education:

1- **Doctor of Philosophy (Ph.D.)**, February 2021, Chemistry Department, Faculty of Science, Ain Shams University, Egypt.

Thesis title: “Developing of Super-hydrophobic Nano Composite Coatings for Energy Applications”.

2- **Master of Science (M.Sc.)**, June 2014, Chemistry Department, Faculty of Science, Helwan University, Egypt.

Thesis title: “Effect of Alloying Elements and Operating Conditions on the Formation of Nano and Hard Anodizing Film on Aluminum Alloys”.

3- **Bachelor of Science (B.Sc.)**, May 2009 (Very good), Major Chemistry, Chemistry Department, Faculty of Science, Helwan University, Egypt.

Research Projects

Project Title	Funding Organization	Role in Project	Year
1- Technology Development and Demonstration Satellite – TeDDSat.1 2017.	STDF	Member	2017
2-Establishment plasma enhanced and laser enhanced chemical vapor deposition unit.	STDF	Member	2012
3- Recovery of zinc from zinc dross using electro refining and pyrolytic methods.	STDF	Member	2012
4-Development of High Performance Nano-Sized Tungsten Heavy Alloy Composites by Powder Metallurgy.	US-EGYPT	Member	2009
5-Processing of Tungsten Heavy Alloys to Substitute Imports (ID 55).	STDF	Member	2009

Indoor Projects

Project Title	Funding Organization	Role in Project	Year
1-Antibacterial coatings deposition on air filters using simple coating methods.	CMRDI	PI	2021
2- Effect of alloying elements and anodizing conditions on the formation of nano porous hard anodic films on Al alloys.	CMRDI	Member	2011- 2013
3-Electrodeposition of nano- nickel by pulse current technique	CMRDI	Member	2013
4- Deposition of thin layer of high performance nano-silicon for solar cells application using plasma enhanced chemical deposition technique.	CMRDI	Member	2018
5- Development of superhydrophobic coatings for energy applications.	CMRDI	Member	2018

Conferences

1- The second International Conference in Materials Science and Engineering, Cairo, Egypt from 11-13 March 2019.

Z. Abdel Hamid, **M. Hasan Gomaa**, S. S. Abd El Rehim, M. Abdel Hamid, A. Ibrahim. “Performance of Polyaniline / Nanocomposite as a Super Hydrophobic Coating via “Electrochemical Polymerization Technique”.

2- The second International Conference, faculty of science Ain Shams University, Hurgada 23-26 October 2018.

Z. Abdel Hamid, S. S. Abd El Rehim, **M. Hasan Gomaa**. “Fabrication and Characterization of PANI/TiO₂ nanocomposite as a Superhydrophobic Coat via Electrochemical Polymerization Technique”.

3-The Third International Conference on New Horizons in Basic and Applied Science (ICNHBAS) 5-7 August, Hurghada, 2017.

Z. Abdel Hamid, S. S. Abd El Rehim, **M. Hasan Gomaa**.” Preparation of Nano Powder by Economic Method for Fabrication Self-Cleaning Coatings”.

Work and Experience

- I am working at Central Metallurgical R&D Institute (CMRDI), Helwan, Egypt, since 2009.
- As a chemist in Powder Metallurgy Department from (August-2009) to (31 December 2011).
 - Having experience in preparation of different alloys and composites by powder metallurgy technique using (Ball milling, electroless coating and atomization methods), followed by compression process, and finally sintering process.
 - Having experience to characterize and evaluate the prepared samples by the following techniques:
 - Density
 - Electrical Conductivity
 - Transfer Rapture Strength
 - Hardness
- As a chemist, Corrosion Control and Surface Protection Department from (2012) to (2016).
- Assistant Researcher, Corrosion Control and Surface Protection Department, August 2016.
- Researcher, Corrosion Control and Surface Protection Department, August 2021 till now.

Having experience in the following techniques:

- Hard Anodizing of aluminum and aluminum alloys
- Electro and Electro less coatings
- Electro polishing
- Conversion Coatings such as (Anodizing, Phosphating)
- Hot dip coatings

- Composite coatings
- Coating of ceramic powder
 - Having experience in evaluation of corrosion test by the following techniques:
 - Salt spray test
 - Potentiodynamic Polarization Test
 - Immersion Test
 - Having experience in evaluation the abrasion resistance
 - Having experience in the use of the following devices:
 - IVIUMSTAT potentiostat
 - Salt Spray
 - Nano Test Vantage
 - Thermal Conductivity
 - Adhesion test by Pull off device
 - Electrical Resistivity
 - Thickness meter
 - Microhardness tester

Research Areas

- Nanocomposite coating.
- Superhydrophobic coating.
- Electro and electro- less plating.
- Surface coating and corrosion protection.
- Powder metallurgy.
- Anodizing, Hard anodizing of AL, Al alloys.

Publications

1. Zeinab Abdel Hamid, **Mona Hasan Gomaa**, Sayed S. Abdel Rehim, Maamoun Abdel Hamid and Ahmed Ibrahim. "Synthesis and Characterization of Nanostructured Polyaniline Thin Films with Superhydrophobic Properties. Coating (9) 748, 2019.
2. Mona Hassan, Zeinab Abdel Hamid, Sayed S. Abd El Rehim, Ahmed Ibrahim, Maamoun A. Maamoun. "The Concept, Deposition Routes, and Applications of Superhydrophobic Surfaces – Review". Egypt. J. Chem. Vol. 64, No. 2 pp. 997 - 1018 (2021)
3. Z. Abdel Hamid, **Mona H. Gomaa**, H. B. Hassan. "Corrosion Performance of Copper - Diamond Composites in Different Aqueous Solutions". American Journal of Electromagnetics and Applications (2016); 4(2): 39-49. doi: 10.11648/j.ajea.20160402.15 ,ISSN: 2376-5968 ; ISSN: 2376-5984.
4. H. B. Hassan, Z. Abdel Hamid and **Mona Hassan**. "Synthesis and performance of electroless Ni–P–TiCN composite coatings on Al substrate". Surf. Interface Anal, 46 (2014) 512–520.
5. Z. Abdel Hamid, Malak T. Abou EL- Khair, **M. Hassan Gomaa**, Fatma A. Morsy and Nevien Abdel Atty Khalifa. "Impact of chemical composition of the substrate on the synthesis and behaviour of nano hard anodized layers". Int. J. Nanoparticles, 7 (2014) 3/4, 231-250.
6. 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 September 2014, Piza, taly.
7. Zeinab Abdel Hamid, Sayed Farag Moustafa, Walid Mohamed Daoush, Fatema Abdel Mouez, **Mona Hassan**. "Fabrication and Characterization of Tungsten Heavy Alloys Using Chemical Reduction and Mechanical Alloying Methods". Open Journal of Applied Sciences, 3 (2013) 15-27.